THE ROLE OF CRISIS COMMUNICATION AND PERSONALIZATION ON CONSUMER TRUST DURING THE ENERGY CRISIS: CASE LUMME ENERGIA

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ABSTRACT

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This thesis examines how crisis communication and personalization affect consumer trust during a crisis. The European energy crisis is a major consequence of various causes, such as the COVID-19 pandemic and the war in Ukraine. The crisis has affected, and will continue to affect, consumers' perceptions of electricity companies, which leads to the topic of this thesis: what is the role of crisis communication and personalization when seeking to build and maintain consumer trust during the energy crisis? Is the impact of crisis communication and personalization moderated by relationship length? As the phenomenon itself is highly current and the crisis has not been studied very thoroughly yet, this thesis brings value to the operators in the electricity industry by advising them on how to improve their marketing and communication during and after the crisis. This study builds on the situational crisis communication theory (SCCT) that seeks to help companies manage their reputation when a crisis emerges.

The results of the study suggest that while the energy crisis has led to increasing electricity prices, the case company's customers are still mainly satisfied, especially in terms of trust in the company. The analysis explains the causes of consumer trust and how it can be improved by utilizing the methods of crisis communication and personalization. It was found that during and after the crisis, it will be increasingly important for companies to show their customers the additional value that they bring by, for example, improving and sharing expertise and developing the company's services so that they are more beneficial for the customers. Providing additional value and focusing on transparency and open dialogue will help build and maintain consumer trust. A need for change in communication was recognized in both the survey and interviews. It was found that effective crisis communication and improved service quality through personalization increase consumer trust. The moderating effect of relationship length was not supported.

This thesis is case-related, and it is funded by a Finnish electricity company Lumme Energia, whose customers were given an opportunity to share their perceptions of the company by taking part in a digital multiple-choice survey in February 2023.

Key words
Consumer trust, crisis communication, digital marketing, energy crisis, personalization

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Tässä pro gradu -tutkielmassa käsitellään sitä, miten kriisiviestintä ja personointi vaikuttavat asiakasluottamukseen energiakriisin aikana. Euroopan energiakriisi on seurausta useista tapahtumista; esimerkiksi koronapandemia ja Ukrainan sota sekä sen myötä kohonneet kaasun hinnat ovat tutkimusten mukaan merkittäviä tekijöitä kriisin taustalla. Energiakriisi on vaikuttanut ja tulee vaikuttamaan asiakkaiden kokemuksiin sähköyhtiöistä. Tämä johdattaa tutkielman aiheen äärelle: mikä on kriisiviestinnän ja personoinnin rooli, kun tarkoituksena on rakentaa ja ylläpitää asiakasluottamusta energiakriisin aikana? Vaikuttaako moderaattorimuuttuja asiakassuhteen pituus siihen, miten viestintä ja personointi vaikuttavat asiakasluottamukseen? Tämä tutkielma tuo arvoa energia-alan toimijoille, sillä aihe on erityisen ajankohtainen ja merkittävä, eikä sitä ole aiemmin tutkittu läpikotaisesti. Tutkielma tarjoaa toimijoille ohjeita markkinointi- ja viestintätoimiensa parantamiseen kriisin aikana ja sen jälkeen. Tutkimus pohjautuu tilanteelliseen kriisiviestintäteoriaan (SCCT), jonka pyrkimyksenä on auttaa organisaation maineen ylläpitämistä kriisin ilmetessä.

Tutkimuksen tulokset ehdottavat, että vaikka energiakriisi on johtanut aiempaa korkeampaan sähkön hintaan, case-yhtiön asiakkaat ovat silti pääosin melko tyytyväisiä yhtiöön erityisesti luottamuksen näkökulmasta. Tutkielma näyttää, että kriisin aikana ja sen jälkeen alalla toimivien yritysten tulee osoittaa asiakkailleen, minkälaista lisäarvoa he voivat tuoda esimerkiksi parantamalla ja jakamalla ammattitaitoaan sekä kehittämällä palveluitaan asiakkailleen hyödyllisemmiksi. Lisäarvon tarjoaminen ja avoin dialogi asiakkaiden kanssa auttavat rakentamaan ja ylläpitämään luottamusta. Viestinnän osa-alueella tarvittava muutos todettiin sekä asiakaskyselyn että asiantuntijahaastattelujen perusteella. Analyysit näyttävät, että kriisiviestintä ja palvelun laadun parantaminen personoinnin keinoin nostavat asiakasluottamusta. Asiakassuhteen pituuden merkitys moderaattorimuuttujana ei vahvistunut tutkielman analyyseissa.

Tämä tutkielma on niin kutsuttu ”case-tutkimus”, jota on rahoittanut suomalainen sähköyhtiö Lumme Energia. Yhtiön kuluttaja-asiakkaille tarjottiin mahdollisuus jakaa ajatuksiaan osallistumalla digitaaliseen monivalintakyselyyn helmikuussa 2023.

Asiasanat
Asiakasluottamus, digitaalinen markkinointi, energiakriisi, kriisiviestintä, personointi

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LIST OF ABBREVIATIONS

Theory

AI	Artificial intelligence
B2B	Business-to-business
B2C	Business-to-consumer
CLV	Customer lifetime value
CSR	Corporate social responsibility
EU	European Union
KWh	Kilowatt hour
NGL	Natural gas liquid
RE	Renewable energy
SCCT	Situational crisis communication theory
SMI	Social media influencer
TJ	Terajoule
TWh	Terawatt hour
VAT	Value added tax

Data and methodology

ANOVA	Analysis of variance
AVE	Average variance extracted
DK	"Don't know" (survey choice option)
PLS-SEM	Partial least squares equation modeling
SEM	Structural equation modeling

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1 INTRODUCTION

1.1 Background

The energy industry is in the midst of a crisis that is likely to have a long-lasting impact on the global economy. The main causes of the energy crisis are the growing demand of natural gas in Europe and the war in Ukraine. The war has led to political problems regarding Europe's dependence on Russian gas (Calanter & Zisu, 2022, p. 27). These causes combined with the COVID-19 pandemic and its consequences to the society and world economy have required major changes in various sectors since late 2019 when the virus first started spreading. Around two years after the global pandemic had started, in May 2022, the European Union (EU) presented a new external energy strategy that has six main aims. These aims include reducing the overall energy demand and securing fair competition for resources in Europe, improving energy efficiency and the development of renewable energy sources, supporting the rebuilding process of Ukraine, preparing for the integration of the union's energy market, repairing energy infrastructures, and preparing green hydrogen partnerships for the future (European Commission, n.d., d). These aims could not only enable solving the energy crisis and reducing the speed of global warming, but they might also allow avoiding similar crises from taking place later.

The importance of the topic of this thesis derives from the crisis and current geopolitical situation in Europe, which may lead to unfortunate long-term effects. One of the major challenges of the EU relates to their 2022 external energy strategy. Soon, the EU will need to solve the problem of depending on only one gas supplier, which, in the time of this major disruption, has led to broader issues, such as rapidly rising prices of energy and energy sources and the union contemplating whether to take risks in the form of short-term supply contracts and returning to fossil fuels to overcome the crisis within a shorter timeframe. (Calanter & Zisu, 2022, p. 26). This could potentially have a negative effect on the EU's chances to thoroughly implement their new external energy engagement strategy and its core aims.

The European energy crisis brings along challenges to the energy sector and companies, as well as all kinds of consumers around the world including individual households, small and medium enterprises, and top-ranking companies. Although the change can be felt at nearly any level of society, the biggest challenges could be faced by the companies operating in the energy sector. Electricity companies are seeking a balance between retaining their current customers and surviving the rapidly changing circumstances.

From an electricity company's point of view, the situation is problematic for various reasons. Some challenges to overcome include, for example, consumers' price sensitivity and lack of brand engagement and companies' difficulty differ-

entiating themselves from their competitors. Some ways to overcome these challenges could be learning new tricks on how to build and maintain consumer trust and how to stand out from other actors operating in the same field. Trust and personalization are closely tied together, as personalization requires collecting personal data from customers, and data collection requires trust (Balis, 2021). It has been suggested that personalized actions are required for achieving differentiation and competitive advantage (Lindecrantz et al., 2020).

Some research has been conducted concerning similar topics. Coulter and Coulter's (2002) research focused on trust and used the length of the relationship as a moderator. In their study, the focus was on business-to-business (B2B) relationships, whereas this study focuses on business-to-consumer (B2C) point of view. Coulter and Coulter (2002) found a connection between length of the relationship and trust, as the results of their study suggest that the stage of the relationship affects the amount of "person-related" and "offer-related" characteristics required from the company. Person-related characteristics represent features such as similarity, empathy, and politeness, whereas offer-related characteristics describe competence, customization, reliability, and promptness. It was found that the longer the relationship, the less impact the person-related characteristics have and the more impact the offer-related characteristics have. In short, in longer relationships, the offer-related factors were seen to have a stronger impact on trust and in a new relationship, the focus should be on person-related factors. Another intriguing finding from the study suggests that in the early stages of new customer relationships, communication should be conducted so that the new or potential new customers could relate to the company. These actions require personalization. (Coulter & Coulter, 2002, p. 44). Coulter and Coulter (2002, p. 46) call for research on other perspectives and on longer relationships. The findings of Coulter and Coulter's study (2002) support the hypotheses of this study, as it is hypothesized in this thesis that the length of the relationship affects consumers' perceptions of a company and its actions. This thesis combines the interests of previous studies and examines whether consumer trust during a crisis can be increased by improving personalization and crisis communication and whether the length of the customer-company relationship moderates the effect. By combining the topic areas of prior studies, this thesis provides a chance to examine the roots of consumer trust during a crisis more thoroughly.

One challenge to overcome during and after the energy crisis is differentiation from competitors. Singh et al. (2020) found that, while social media influencers (SMIs) are nowadays a common way to differentiate and increase brand awareness, they may not help companies in crisis situations. Singh et al. (2020) also found that companies' ingratiation actions are an effective strategy when responding to crisis situations, but the credibility of those actions often decreases when including an SMI. The authors explain that the presence of SMIs may make the customers feel manipulated. Instead of using influencers as a way of differentiation, companies could benefit from utilizing personalized marketing actions instead. Marketing personalization for an electricity company could mean, for

instance, utilizing geographical targeting and analyzing customers' past behavior to ensure the relevance of the provided communication (Meuer et al., 2019). Yet another way for differentiation is corporate social responsibility (CSR) that refers to a "concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis" (Commission of the European Communities, 2001). CSR can be examined from five dimensions: environmental, social, economic, stakeholder, and voluntariness (Dahlsrud, 2008). Another reason for the vitality of CSR derives from its effect on crisis communication, as the company's perceived pre-crisis reputation has an impact on how the company is perceived during and after a crisis (Hegner et al., 2016). Successful crisis communication is relevant and based on a clear plan that allows reacting to a crisis once it emerges and informing crucial stakeholders about the details related to the crisis (Amaresan, 2022; Wendling et al., 2013). Relevant communication during a crisis helps efficiently correct misinformation that may be spreading as a consequence of the crisis (Wendling et al., 2013).

1.2 Objective and research questions

Based on the foregoing, one of the aims of this study is to examine whether crisis communication, consumer trust, and personalization have a positive effect on consumers' perceptions of a company during the energy crisis and whether well-implemented crisis communication, while utilizing methods of personalization, leads to increased consumer trust. The length of the relationship is used as a moderator variable, since it has been priorly found (see, e.g., Coulter and Coulter, 2002) that relationship length has an effect on the factors that have an impact on creating and maintaining trust.

The aim of the study is to find out how crisis communication and personalization affect consumer trust during the energy crisis and whether the impact is different depending on the length of the relationship between the individual customer and the company. Another aim of the thesis is to improve the knowledge of the effects of the energy crisis and its effects on consumer trust in Finland through understanding how crisis communication and personalization affect consumer trust in times of a crisis. Simultaneously, this thesis seeks to help the case company (Lumme Energia) build on these findings so that the findings can be used to improve the company's marketing and communication in the future.

This thesis seeks to answer the following main research question (RQ1): *During the energy crisis, how should an energy company align its marketing and branding actions so that it can provide a great customer experience, build trust, and best differentiate itself from its competitors?* To help find the answer to the core research question, there are four other research questions included in this thesis:

RQ2: How will the energy crisis affect consumer trust?

RQ3: How does the length of the relationship affect customers' perception of crisis communication, personalization, and trust?
RQ4: How should an energy company implement personalization during the energy crisis?
RQ5: How will crisis communication and personalization actions affect consumer trust during the energy crisis?

1.3 Data and methodology

The data utilized in this master's thesis was collected from Lumme Energia's current customers and employees. The quantitative data was collected using structured multiple-choice surveys that were sent to respondents via e-mail**.** The quantitative data was analyzed using a data analytics software IBM SPSS Statistics and structural equation modeling (SEM) that was conducted utilizing SmartPLS 4. The qualitative data, in turn, was collected through expert interviews with five of the case company's current employees. The data and methodology are explained in more detail in the fourth chapter of the thesis.

1.4 Case company introduction

Lumme Energia Oy, hereafter referred to as "Lumme Energia", is a Finnish electricity company that was founded in 2017 (Lumme Energia, n.d., a). Both Lumme Energia and its parent company Suur-Savon Sähkö's headquarters are located in Mikkeli, Eastern Finland (Suur-Savon Sähkö, 2023). Lumme Energia operates in energy production, purchasing and selling electricity, and other business and consultation related to these. At the end of the fiscal year of 2022, there were 36 permanent employees working at Lumme Energia. (Suur-Savon Sähkö, 2023). Lumme Energia sells electricity to approximately 300,000 customers (Vironen, 2022) around Finland, serving both households and companies (Suur-Savon Sähkö, n.d.). The sources of the electricity the company sells are peat and fossil energy sources, nuclear power, and renewable energy sources. (Lumme Energia, n.d., c). Lumme Energia has an online service and mobile application called Oma-Lumme, where customers can monitor and manage their electricity bills, contracts, and consumption in real time (Lumme Energia, n.d., b).

In their business, Finnish electricity companies follow the instructions of the Finnish Energy Authority *(Energiavirasto*) and directives of the European Union. The Act (1050/2021) and Decree (1081/2021) are "Guarantees of Origin for Energy in force", which aim to verify the RED II directive of the EU. The RED II directive aims to increase the use of renewable energy sources, and the EU requires it to be executed in every member state, as the directive is seen as the only way to verify that the electricity has been produced using either renewable sources or nuclear energy (Fingrid, n.d., b). The RED II sets the EU's target for

the consumption of renewable energy sources to 32 percent by 2030, and in all member states, at least 14 percent of the energy consumed by fuel suppliers must be from renewable sources by 2030. (European Commission, n.d., d).

1.5 Structure

This thesis starts with an introductory chapter that introduces the reader to the key terms and background of the study as well as the case company, research questions and methods. The first chapter is followed by a literature review that examines Finnish consumers and the overall situation of the energy sector in Finland in the 2020's. The second chapter also explains the meaning of the energy crisis, crisis communication, consumer trust, and personalization, which are the four key concepts of the study. The third chapter introduces the theoretical and conceptual frameworks used in the study. Data collection and analysis methods are presented in the fourth chapter. The latter parts of the thesis cover the results and analysis, discussion, references and, lastly, appendices that include the translations and other materials related to the survey and expert interviews.

2 ENERGY CRISIS AND THE FINNISH ENERGY SECTOR

2.1 Energy crisis

Energy crisis is another term for the lack of energy, which is caused by the imbalance of supply and demand in the market. When there is a lack of energy, its demand is higher than what production and importation can provide at that time. (Fingrid, n.d., a). The major changes in energy and electricity prices represent some of the impacts of the emerging energy crisis. The energy crisis impacts the global economy, environment, and overall security in the EU, as the prices are increasing and the growing demand requires using more fossil fuels in energy production (Gilbert et al., 2021).

The proposed causes behind the energy crisis vary per source, although there are some similar reasons suggested in literature. Some causes presented for the rising energy prices are the war in Ukraine and Russia using their gas supplies to extort the rest of the Europe (e.g., European Council, 2022; J.P. Morgan, 2022; Kwan, 2022; Calanter & Zisu, 2022). As it has been proposed, the rising gas prices have evidently increased the cost of energy and electricity in Europe. Some sources suggest that approximately 80 percent of the total increase in electricity prices is potentially due to the rising gas prices (Energiateollisuus, 2022). Europe has been dependent on Russian gas, and since the gas pipeline between Russia and Europe has been closed, the EU is forced to switch to natural gas liquid (NGL) and coal. As a consequence, the prices of NGL and coal have increased rapidly. (J.P. Morgan, 2022). The EU is increasingly dependent on gas importation, and within the last seven years, the role of imported gas has grown from 70 percent to nearly 90 percent (Energiateollisuus, 2022). Other reasons suggested as the causes of the energy crisis include the COVID-19 pandemic (e.g., Kwan, 2022; Jaeger et al., 2022) that caused a major decrease in energy demand in the beginning of 2020 and caused disruptions on a wide scale, for example, on supply chains and maintenance work. (Jaeger et al., 2022; Gilbert et al., 2021; Vironen, 2022).

Energy prices in the EU are tied to supply and demand and the current geopolitical situation, import diversifications, weather conditions, taxation, and the costs of environmental protection. (Eurostat, 2022). According to the Finnish Energy Authority, the price of electricity in Finland consists of the price of the electricity network service, electrical energy, and taxes, with each of the components representing around one third of the total price. The service component includes delivering the electricity and maintaining electricity networks in a specific area, which is why consumers cannot tender the price of their network operator in Finland. The prices of the Finnish network service are monitored by the Energy Authority. (Energy Authority, n.d., a). In addition to the energy crisis, electricity prices in Finland have been affected by the decreasing amount of wind power

production in Europe, which has ultimately increased the prices of fossil energy sources. (Energiateollisuus, 2022). The EU aims to "deliver secure, sustainable and affordable energy" for all residents. The Union has recently focused on topics such as energy efficiency, renewable energy, and international cooperation. The aims are supported by rules, obligations, labels, and strategies that the EU member states are obligated to follow. (European Commission, n.d., a; European Commission, n.d., b). Through the measures aiming to reduce electricity use in member states, electricity prices are expected to decrease. These measures include, for example, advising member states to cut their electricity use. This was expected to decrease the union's overall electricity use by 10 percent by the end of March 2023. (European Council, 2022).

During the first half of 2022, the average price of electricity was around 0.25 euros per kilowatt hour (kWh) in the EU. In comparison, during the first half of 2008, the price was around 0.16 euros per kWh. (Eurostat, 2022). The average price of electricity in Finland was at its highest in August 2022, when electricity cost around 0.26 euros per kWh, whereas in August 2021, the price was around 0.07 euros per kWh. (Alves, 2022). It has been suggested that in December 2022, around five percent of Finnish customers paid 0.05 euros per kWh for electricity, whereas around twenty percent of customers paid a price between 0.20 and 0.40 euros per kWh. (Vironen, 2022). The price of electricity included a value added tax (VAT) of 10% between December 2022 and April 2023, which is lower than the usual VAT (24%) for electricity in Finland. The tax was temporarily lowered as a result of the Finnish government's proposition (HE 194/2022) in September 2022, as the government proposed that the VAT should be lowered from the beginning of December 2022 until the end of April 2023. (Eduskunta, 2022).

Another quite common term in research related to the energy crisis is energy poverty, which describes a situation where a household is financially not able to access the energy services and products necessary for daily life, for example, heating and warm water. (European Commission, n.d., c; Oja et al., 2013). Energy poverty appears when energy bills equal to a major part of a household's income or when the household is forced to reduce their energy consumption in a way that it has a negative impact on their health and wellbeing (European Commission, n.d., c). Some sources (e.g., Ahlvik, 2023; European Commission, n.d., c) suspect that the number of households experiencing energy poverty will increase due to the energy crisis, especially in households with lower income levels, since electricity is more expensive than before and the financial support for paying electricity bills may not be directed to the households that need it the most (Ahlvik, 2023). The EU and European Commission have created various recommendations and encouraged the EU members to create measures to help tackle the crisis and energy poverty at a national level. Some of the recommendations are the EU Commission Recommendation 2020/1563 on energy poverty, European Commission's "Fist for 55" package that was adopted in July 2021, and the commission's toolbox for initiatives that are ought to be adopted at a national level in each member state. In April 2022, European Commission (2022/589) created a "Commission Energy Poverty and Vulnerable Consumers Coordination

Group" that aims to help the EU countries find the best practices to support the energy-poor households that need it. (European Commission, n.d., c).

2.2 Finnish consumers

According to Statistics Finland (Fin. *Tilastokeskus*), the Finnish national statistical institution, there was a total of about 2.8 million permanently occupied dwellings in Finland in 2021. The average size of a dwelling was 80.7 square meters (m^2). (Official Statistics of Finland, n.d., b). Out of the 2.8 million dwellings, nearly 46 percent were one-person households, and around a third (32%) were two-person households. Households with three persons formed almost 10 percent of the total number of households, and approximately 12 percent of households consisted of four or more members. (Official Statistics of Finland, n.d., b). In 2021, nearly half (47%) of the 2.8 million dwellings in Finland were blocks of flats, almost 38 percent detached houses, approximately 13.5 percent row houses, and 1.6 percent other buildings. Around 62 percent of these different types of dwellings were owner-occupied, approximately a third of them (35%) rented, and 1.8 percent right of occupancy dwellings. (Official Statistics of Finland, n.d., b).

Research shows that the Finnish customer satisfaction towards energy companies was at a high level in 2021, as the average satisfaction was 4.28 on a scale of 1-5, with five being the highest score. A year before, the score was 4.32. It was found that customers were most satisfied with staff friendliness and their ability to take care of the customers' needs and solve their problems. (Energiateollisuus, 2021). The findings of the research showcase the essentiality of the actions that were used to measure customer satisfaction: staff friendliness, taking care of customer needs, problem-solving, availability of customer service and speed of service. The study also measured which themes had the most impact on customer experience. The three biggest themes were trustworthiness, functionality, and locality (Energiateollisuus, 2021). The themes were found to affect customer experience, which highlights their importance when considering company-customer relationships, polishing customer experiences and building loyalty.

2.3 Energy and electricity consumption in Finland

According to Statistics Finland, the total energy consumption in Finland in 2020 was around 1.28 terajoules (TJ) (Official Statistics of Finland, 2021), whereas in 2021, it was 1.36 TJ (Official Statistics of Finland, 2022). One of the potential reasons for the increase in energy consumption was the considerably colder weather than the year before (Motiva, n.d.). Statistics show that in 2021, the largest amounts of energy consumed in households were used for space heating (64.3%) and water heating (16.5%) (Official Statistics of Finland, n.d., a). Out of the total

energy consumption in 2021, approximately 42 percent was produced using renewable energy, and around a third (32%) using fossil fuels and peat (Official Statistics of Finland, 2022).

From the point of view of electricity, there was also a change between the years 2020 and 2021. In 2021, the total electricity consumption in Finland increased by about 6-7 percent from that of 2020 (Official Statistics of Finland, n.d., a; Motiva, n.d.; Fingrid, n.d., a), rising to 87.1 terawatt hours (Official Statistics of Finland, n.d., a). However, in 2022, the year when the electricity prices increased quite significantly, Finland's total electricity consumption was approximately 82 tWh. When comparing to year 2021, the electricity consumption decreased around six percent. (Finnish Energy, 2023).

It has been suggested that the energy crisis is circulating money in Finland; while customers are paying high prices of electricity to companies, the government is supporting households with their electricity bills. At the same time, the same companies may soon be paying a so-called "windfall" tax to the government. (Ahlvik, 2023). The windfall tax would be a new tax in Finland that would be aimed at electricity companies because of their high profits. The tax would be based on the EU's regulations that were introduced due to the energy crisis. (Kujanpää, 2023). These regulations aim to secure energy supplies in the EU, as well as cutting the profits of companies producing electricity. (European Council, 2022). A recent study shows that the energy crisis causes the most harm to people with low or middle income living in detached houses in areas of dispersed settlement (Fin. "*haja-asutusalue*") and who have multiple houses and, thus, multiple electricity contracts. The people who can be seen to "benefit" most from the crisis are those consuming large amounts of electricity (Ahlvik, 2023), as they are the most likely to be eligible for different kinds of assistance with electricity bills. These forms of assistance include reimbursement, tax credit, and assistance with electricity bills. If the monthly cost of electricity exceeds 90 euros, the household may be eligible for reimbursement, whereas tax credit requires an electricity bill of over 2000 euros on a four-month period between January and April 2023. (Energy Authority, n.d., b). Assistance with electricity costs requires the monthly cost of electricity to be over 400 euros (Kela, n.d.).

3 THEORETICAL FRAMEWORK

3.1 Crisis communication

Research shows that most crises have something in common. A crisis can be, for example, a natural disaster, rumor, economic crisis, or industrial crisis. Crises are unanticipated events that have a negative impact on something and that require efficient communication towards stakeholders. (Sellnow, 2013, p. 5-6; Zaremba, 2010, p. 21-22). During the past couple of years, there have been multiple major crises affecting Europe, such as the worldwide COVID-19 pandemic, the war in Ukraine, and the European energy crisis. These crises have had and will continue to have major effects on various levels, for example, economical and societal levels. Thus, they require a great deal of attention from public operators. In the hospitality industry, it was found that during the COVID-19 pandemic, the most effective actions of crisis communication were sharing the organization's preventive actions to stop the spreading of the virus, sharing praising content about the stakeholders, such as employees and customers, and informing the stakeholders about how the pandemic would change the organization and its operations (Kwok et al., 2021). Kwok et al.'s (2021) research is based on a framework called the situational crisis communication theory framework.

This study builds on the situational crisis communication theory (SCCT), which is an evidence-based framework created by Coombs and Holladay (2002; Coombs, 2007). The framework is based on the thought that reputation is a vital resource for organizations and that it can be threatened by crises. Thus, the SCCT seeks to help in recognizing and choosing the most appropriate strategies during and after a crisis to minimize any negative outcomes. In brief, the SCCT is used to manage organizational reputation in times of a crisis (Coombs & Holladay, 2002). Coombs and Holladay (2002) created a revised model of Coombs's original SCCT framework from 1995. The revised model is presented in Figure 1. The origins of the framework lie in Weiner's attribution theory (1985), where it was recognized that there are causes for different events (Coombs, 2007) and that there is a connection between the outcome and the stakeholders' reactions (Weiner, 1985).

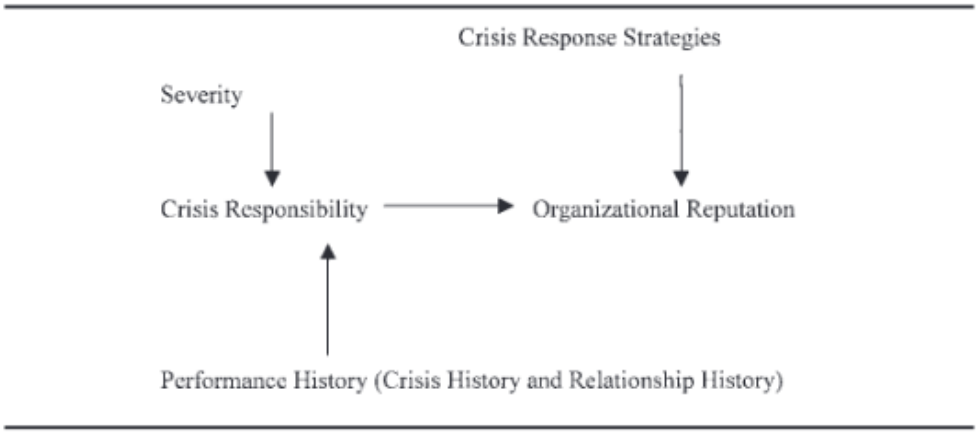

FIGURE 1. The revised model of situational crisis communication theory (Coombs & Holladay, 2002, p. 181).

According to Coombs (2007), there are three crisis types recognized in the SCCT framework. These types are victim cluster, where the organization is also a victim of the crisis; accidental cluster, where the company's actions that led to the crisis were not intentional; and preventable cluster, where the organization knowingly behaved unacceptably. Based on these descriptions, the energy crisis, from an electricity company's point of view, counts as a victim cluster crisis, which, according to Coombs (2007), is a low-responsibility crisis; the crisis was not caused by any individual company, and they could not have prevented it. Hence, it can be concluded that, if leaning on the Coombs SCCT theory, the energy crisis poses a chance of a "mild reputational threat" for electricity companies. Prior research (see, e.g., Hegner et al., 2016) calls for further examination on crisis that include "accidental" or "victim" perspectives, as it has been found that the attributes of responsibility and blame are likely the major factors in a crisis.

Coombs's (2007) illustration in Figure 2 represents the key variables and relationships considered in the SCCT. According to the crisis situation model presented in Figure 2, a crisis always generates responsibility to a level that can be predicted by identifying the crisis type. The arrow marked with an A in Figure 2 suggests that the perceived amount of crisis responsibility affects the perceived organizational reputation. Other factors to consider when predicting the organization's reputational threat are crisis history (B1 and B2) and prior relationship reputation (B3 and B4) that affect the stakeholders' perceptions. If a company has been in a similar crisis before, it is considered to have a greater responsibility and thus, the damage to its reputation is more severe. Prior reputation may have either a positive or a negative impact on how stakeholders perceive the crisis, depending on whether the reputation is strong or weak. (Coombs, 2007). It has been found that negative reputation may have an intensifying effect on the amount of perceived crisis responsibility (Coombs & Holladay, 2001). Arrow C in Figure 2 represents an idea that a stronger responsibility intensifies stakeholders' negative thoughts and minimizes positive feelings. Arrows D and E, in turn, suggest that the more negative the reputation and the stronger the negative perceptions of the

company, the less likely it is for stakeholders to support the company and the more likely there will be negative word-of-mouth about it. (Coombs, 2007).

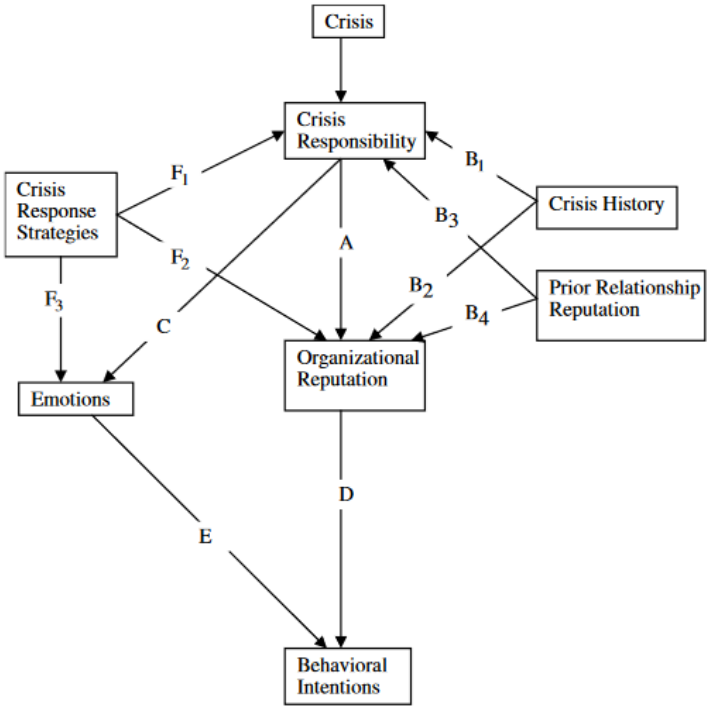

FIGURE 2. Coombs' crisis situation model of SCCT (Coombs, 2007, p. 166).

The SCCT framework provides crisis response strategies that can be used during and after the crisis to repair the organization's reputation and decrease the level of negative affect (Coombs, 2007). As for the energy crisis, there are several response strategies that could be used. These strategies are adapted from Coombs (2007) and briefly presented in Table 1. The same strategies were used by operators in a study conducted by Kwok et al. (2021), where the operators' social media communication was studied based on the SCCT framework and Coombs' (2007) crisis response strategies.

Kwok et al. (2021, p. 533) extended the original SCCT framework by adding a strategy called "prevention", which they suggest could be used in future studies conducted in similar circumstances. Prevention strategy refers to informing the stakeholders about the company's preventative procedures that have been or will be taken to cope with the crisis (Kwok et al., 2021, p. 534). Kwok et al. (2021) found that social media should be used when communicating with the stakeholders about the crisis. They recommend trying the "reminding" and "victimage" strategies to attract stakeholder attention, as well as utilizing the "ingratiation" strategy to appreciate the customers and employees and highlight how well they are coping with the crisis. The reminding strategy refers to reminding the stakeholders about the good acts that the company has done before the crisis, whereas the ingratiation strategy focuses on praising the stakeholders (Kwok et al., 2021, p. 534). In addition to these strategies, it is recommended to let the stakeholders know what the company is currently doing to deal with the crisis (prevention

strategy). Based on their findings, the authors recommend creating visual content, such as short videos and photos, to communicate with the stakeholders during a crisis. (Kwok et al., 2021). The research was conducted in the hospitality industry and the validity of the results was not tested within other industries. However, the findings and results are supported by literature and the SCCT framework. Thus, the suggested strategies (Table 1) could also be beneficial within other industries, including the energy industry.

TABLE 1. Suggested crisis response strategies for electricity companies during and after the energy crisis.

Strategy	**Actions**
"Reminding" (Coombs, 2007)	Remind the stakeholders about what good actions the organization has done in the past
"Ingratiation" (Coombs, 2007)	Praise the stakeholders and/or remind them about what good actions the organization has done in the past
"Victimage" (Coombs, 2007)	Remind the stakeholders that the organization's is a victim, too
"Prevention" (Kwok et al., 2021)	Let the stakeholders know what the company is doing to manage with the crisis

The SCCT framework supports the thought that communication affects how consumers perceive a company during a crisis (Coombs, 2007). Crisis communication consists of managing stakeholder relationships, narrating the crisis, and developing and implementing a strategy for communication (Diers-Lawson, 2020, p. 5). Well-planned crisis communication allows being better prepared for a crisis. It requires identifying both internal and external stakeholders to whom the communication should especially be addressed during a crisis. (Zaremba, 2010, p. 23). There are various ways to implement crisis communication. It can be managed through taking care of pre-crisis actions considering damage control, planning responses that can be posted on social media, and collecting and considering customer feedback whenever possible (Amaresan, 2022).

Social media is considered exceedingly important in crisis communication, as the use of online media platforms is constantly increasing. It should be noted that approximately 59 percent of the world's overall population actively used social media in July 2022, which equals approximately 4.7 billion people around the world. The average time that social media users spend on social media platforms daily was almost two and a half hours (Chaffey, 2022), which supports the idea that consumers are already on social media and may, thus, be reached on digital platforms relatively easily. It has been found that while online platforms and technological advances have changed the way people that connect and communicate, the online and offline crisis communication strategies have become even more "simultaneous and intertwined" than before (Palen et al., 2007, p. 2; Veil et al., 2011, p. 1). Research shows that it is beneficial to utilize social media as a crisis communication platform, as stakeholders are already active there and as it allows joining the conversation and effectively engaging in rumor management when needed (Veil et al., 2011).

A crisis communication plan is a recommended precaution for all companies. A solid plan consisting of pre-set guidelines can allow a company to be prepared for any unanticipated situation. The guidelines may include, for example, the very first steps for reacting to a crisis. (Amaresan, 2022). A crisis can be divided into three phases: pre-crisis, crisis, and post-crisis. The current phase of the crisis should be considered when planning actions. Before the crisis takes place, companies should monitor social media to notice any early signals of potentially emerging crisis (Wendling et al., 2013), which could be a part of the company's risk management strategy to ensure that its crisis management plan is up to date once the potential crisis emerges (Veil et al., 2011). When the crisis emerges, companies should provide relevant information to their stakeholders and be ready to respond to potential rumors and misinformation (Wendling et al., 2013). It should be noted that unless the company that the crisis concerns is available for media representatives, they will find another source to comment on the topic on social media (Veil et al., 2011), which could potentially lead to the spreading of misinformation. After the crisis, companies should carefully communicate about how the crisis affected them and how they are recovering from it (Wendling et al., 2013). It has been found that utilizing social media in crisis communication is effective, which is why social media communication is a recommended tool for crisis communication. Some important factors to consider related to social media are timing, monitoring, understanding the general norms and logic of social media (Eriksson, 2018), and collaborating with credible sources only, such as partner organizations. Cross-posting with partners increases the reach and credibility of the message. (Veil et al., 2011).

Table 2 introduces some recommended actions to be included in a crisis communication plan. The actions listed in the table have been collected from multiple sources between the years 2010 and 2022.

TABLE 2. Recommended courses of actions for a crisis communication plan.

Reference	Recommended actions
Zaremba (2010, p. 23)	1. "Prepare for crises." 2. "Identify audiences." 3. "Conceive and construct messages to be communicated to audiences." 4. "Select the media or medium to be used to relay information." 5. "Respond to feedback from internal and external audiences during crises." 6. "Evaluate the success of crisis communication efforts."
Veil et al. (2011, p. 119-120)	1. "Determine social media engagement as part of the risk and crisis management policies and approaches: –" 2. "Incorporate social media tools in environmental scanning to listen to risk and crisis bearer concerns: –" 3. "Engage social media in daily communication activities: –" 4. "Join the conversation, including rumor management, and determine best channels to reach segmented publics: –" 5. "Check all information for accuracy and respond honestly to questions: –" 6. "Follow and share messages with credible sources: –" 7. "Recognize the media is already using social media: –" 8. "Remember social media is interpersonal communication: –" 9. "Use social media as the primary tool for updates: –"

	10. "Ask for help and provide direction: –" 11. "Remember web 2.0 is not a Panacea: –"
Sellnow (2013, p. 9-12)	1. "Crises are inevitable. Crisis communicators can and must acknowledge the inevitability of crises and plan for them before they occur." (p. 9) 2. "In case after case, transparent and honest communication has been proven to be a key to effective crisis communication." (p. 10) 3. "When in doubt follow a golden-rule approach." (p. 10) 4. "An organization's culture can determine crisis communication success." (p. 11) 5. "Crisis communication requires training and skill sets that even bright executives may not possess." (p. 12)
Wendling et al. (2013, p. 17-26)	1. "Raising public awareness about risks and crises" 2. "Surveillance, monitoring, situation awareness and early warning system" 3. "Improving preparedness" 4. "Providing information and warning" 5. "Improving crisis response through mobilising volunteers" 6. "Identifying survivors and victims" 7. "Managing reputational effects" 8. "Providing incentives to collect funding and support" 9. "Learning from the crisis ex post" 10. "Improving partnerships and cooperation between national and international players, between public and private actors" 11. "Building trust" 12. "Enhancing recovery management"
Diers-Lawson (2020, p. 264-270)	1. "Understanding <insert crisis type name> crises" – a clear and brief summary of the crisis (p. 264) 2. "Activating the crisis team" (p. 265) 3. "Trigger points" – recognition of the likely triggers of the crisis (p. 265) 4. "Situational assessment"- recognition of the background of the triggers (p. 266) 5. "Stakeholder assessment" – ranking the stakeholders and explaining their major concerns (p. 266) 6. "Action recommendation" (p. 267) 7. "Crisis response strategy" (p. 268) 8. "Message samples for each of the potential strategies" (p. 270)
Amaresan (2022)	1. "Identify the goal of the plan." 2. "Identify stakeholders." 3. "Create a hierarchy for sharing information." 4. "Assign people to create fact sheets." 5. "Identify and assess example crisis scenarios." 6. "Identify and answer common questions." 7. "Identify potential risks." 8. "Create guidelines specific to social media."

As the energy sector is currently facing a major crisis, energy companies ought to pay closer attention to their communication strategies and abilities. For companies in the energy sector, some important points of focus are building a crisis communication strategy and following the recommendations on how to utilize social media as an effective tool in crisis management. In this study, crisis communication is studied from the perspective of its role, importance, and impact on consumer trust in unanticipated circumstances. Communication is needed to

build trust during and after a crisis, which is why it should be clear and based on facts. (PwC, n.d.).

3.2 Consumer trust

Prior research provides a great number of definitions for trust. Trust has been defined as something that occurs when "one party has confidence in an exchange partner's reliability and integrity." (Morgan & Hunt, 1994). Trust is a concept that has been found to be formed by three stages (Rheu et al., 2021) that are called predictability, dependability, and faith (Rempel et al., 1985). Predictability refers to the consistency of actions over time, whereas dependability represents a stage where the focus shifts from behavior and actions to the party itself, for example, a company, based on past experiences. In the stage of dependability, the other party's actions can be predicted with some confidence. Faith, in turn, represents the trustor's beliefs about how the other party will act in the future (Rheu et al., 2021; Rempel et al., 1985). Trust occurs when a party, whether an individual or a company, believes that the actions of the other party lead to positive outcomes (Anderson & Narus, 1990) and that continuing the relationship will bring about more of those positive outcomes in the future (Aydin & Özer, 2005). It has been found that consumer trust can also be built by educating customers on the products or services (e.g., Eisingerich & Bell, 2008). This study defines trust as customers having the confidence that the company is reliable, engages in action that leads to positive outcomes for the customers, and continues to act in a similar manner as the relationship continues (Morgan & Hunt, 1994; Anderson & Naurus, 1990; Aydin & Özer, 2005).

Mayer et al. (1995) proposed a model (Figure 3) that describes how trust is generated. The basis of the model is formed by the trustor's propensity, factors of perceived trustworthiness, trust, perceived risk, risk-taking in the relationship, and the outcomes of the process. Propensity is a factor that refers to the willingness or likelihood of the trustor to have trust in the trustee, or, in B2C, the consumer trusting the company. Propensity depends on the individual trustor, as there are multiple factors that may affect their willingness to trust, such as prior experiences, personality, and cultural background (Mayer et al., 1995). The three factors of perceived trustworthiness in Mayer et al.'s (1995, p. 715) model are ability, benevolence, and integrity. Ability, in some research (e.g., Xie & Peng, 2009) referred to as "competence", refers to having the skills or characteristics that allow the trustor to influence in a specific field with expertness. Benevolence, on the other hand, refers to how much the trustor believes the trustee wants to do good for them. Integrity, in turn, means that the trustee is willing to adhere to

methods and practices that the trustor accepts. Risk-taking refers to taking a risk to "engage in trusting action". (Mayer et al., 1995).

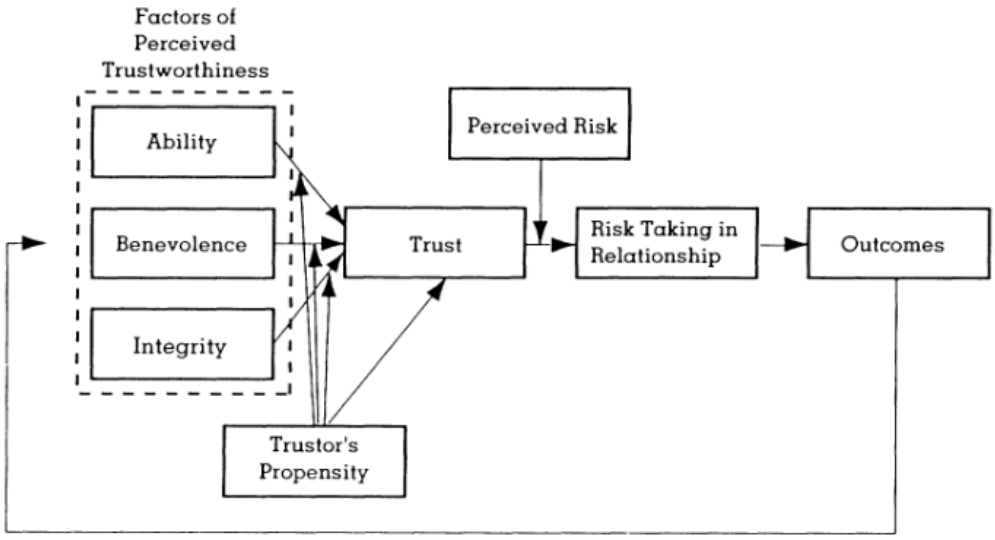

FIGURE 3. Trust creation model (Mayer et al., 1995, p. 175).

Zucker (1986; Mühl, 2014, p. 62) created a theoretical framework for trust building in 1986 and suggested that trust can be either process-based, institution-based, or characteristics-based (Zucker, 1986; Mühl, 2014, p. 62). Based on prior research on trust creation and the factors of perceived trustworthiness in Mayer and their colleagues' (1995) model (Figure 3), Cazier (2007) proposes a framework (Figure 4) for trust creation. Based on their model and prior research, Cazier also proposes a framework matrix where the cells combine research on trust creation and dimensions of trust (see Table 3). The author suggests that organizations could, or possibly should, appeal to customers from multiple cells presented in the matrix.

In a study by Xie and Peng (2009), it was examined how the "trustworthiness factors", i.e., competence, benevolence, and integrity influence consumer's willingness to forgive the company when it is seeking to repair consumer trust. In the study, competence was measured using questions regarding the company's capability of, for example, meeting the needs and expectations of its customers. Benevolence, on the other hand, was measured with questions on, for instance, whether the customers believe that the company is doing its best to care for its customers and their interests. Lastly, integrity was measured with questions such as whether the customer believes that the company is honest and has integrity and whether it has good values. The results of the study suggest that when the company successfully communicated their integrity, competence, and benevolence during a crisis, it was easier for them to rebuild trust in their relationships with the customers. (Xie & Peng, 2009). The results support and are supported by various literature, including Mayer et al. (1995) and Cazier's (2007) trust creation models (Figures 4 and 5).

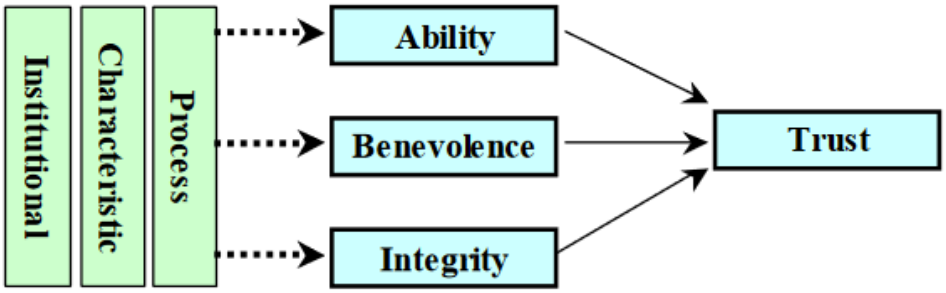

FIGURE 4. Trust creation model (Cazier, 2007, p. 48).

In Cazier's (2007) framework matrix (Table 3), in the dimension of ability, the Process/Ability cell in Table 3 represents how interactions with the company change the customer's trust in either a positive or negative way based on what the interactions are like. If a company believes that its customers' perceptions of its abilities are weak, it could build or restore trust by making sure that it is delivering the best goods and communicating that to the customers. The Institutional/Ability cell, in turn, represents a situation where trust is created through interactions with a third-party that guarantees the ability of the company to provide goods. The third party can be, for example, a well-known, unbiased organization that keeps track of companies within a specific field. In the Characteristic/Ability cell, trust towards the company is affected by how consumers perceive its characteristics. (Cazier, 2007).

In the benevolence dimension (Table 3), the cell Process/Benevolence describes how trust and goodwill within the relationship are generated over time, as the company proves that the customer is the centre of their interest and that they always guard the customer's best interest. Institutional/Benevolence, in turn, represents how trust is created with endorsements from a third-party organization. The cell Characteristic/Benevolence describes how trust is based on the company's perceived characteristics. (Cazier, 2007). In the dimension of integrity, in turn, the Process/Integrity cell refers to generating trust over time after observing whether the company's actions are wholesome and if it continuously keeps its promises. The Institutional/Integrity cell describes a similar situation, except that the trust is not necessarily generated over time, but by a "trust transfer" from a third-party organization that vouches for the company's integrity. Finally, the Characteristic/Integrity cell represents generating trust based on the company's characteristics, for example, its cultural or religious background. (Cazier, 2007).

TABLE 3. Cazier's (2007) trust creation and dimension framework.

Trust dimension	**Process-Based Trust**	**Institutional-Based Trust**	**Characteristic-Based Trust**
Ability	Process/ Ability	Institutional/ Ability	Characteristic/ Ability

Benevolence	Process/ Benevolence	Institutional/ Benevolence	Characteristic/ Benevolence
Integrity	Process/ Integrity	Institutional/ Integrity	Characteristic/ Integrity

As suggested by Cazier (2007), it may be useful for companies to utilize multiple cells of the framework matrix (Table 3) when looking to build trust in their customer relationships. For an electricity company, it could be essential to consider the following cells: 1) Process/Ability, 2) Process/Benevolence, and 3) Process/Integrity, as all three cells are a part of the process-based trust and from different dimensions of trust (Cazier, 2007; Mayer et al., 1995) and could, thus, help with the trust-building process because of their versatility in methods. Process-based trust is the most direct way of building trust, as its basis consists of previous or expected interaction. Its sources are reputation, brands, gifts, guarantees, and fairness. (Mühl, 2014, p. 12, 62; Zucker, 1986). Process-based trust is a process where the company and its customers interact repeatedly, and successful experiences generate trust and reduce uncertainty in terms of dealing with the company (Cazier, 2007; Zhang et al., 2017). Process-based trust can be created based on expected future interactions (Luo, 2002), and it is also generated when there is positive word-of-mouth between a customer and people that they know (Cazier, 2007). A summary of the recommended actions for creating process-based trust is provided in Table 4.

TABLE 4. Creation of process-based trust.

Reference	**Recommended actions**
Luo (2002)	• Repeatedly providing satisfying interactions for customers • Communication • Maintaining a good reputation • Providing customers with free gifts and advice on how to use products or services
Cazier (2007)	• Providing satisfying interactions for customers • Encouraging customers to share their good experiences with the company with their friends • Building a strong reputation through good-quality products and services • Providing good customer care • Communicating with customers and sharing how the company's service is being improved • Focusing on customer lifetime value (CLV) rather than individual transactions or interactions • Increasing consumer trust through keeping promises

Salo and Karjaluoto (2007, p. 616) created a conceptual framework for examining consumer trust online (Figure 5). The authors propose that companies should pay attention to generating and managing consumer trust in online environments to succeed, as a lack of trust is a major cause of failure, and as trust-enhancing ac-

tions online should lead to long-term relationships with customers. Salo and Karjaluoto's framework (2007, p. 616) presented in Figure 5 splits the factors of trust formation into two categories: those of external and internal factors. The authors call for research that uses their model to "enrich the usefulness" of the framework and examines how individuals experience trust online.

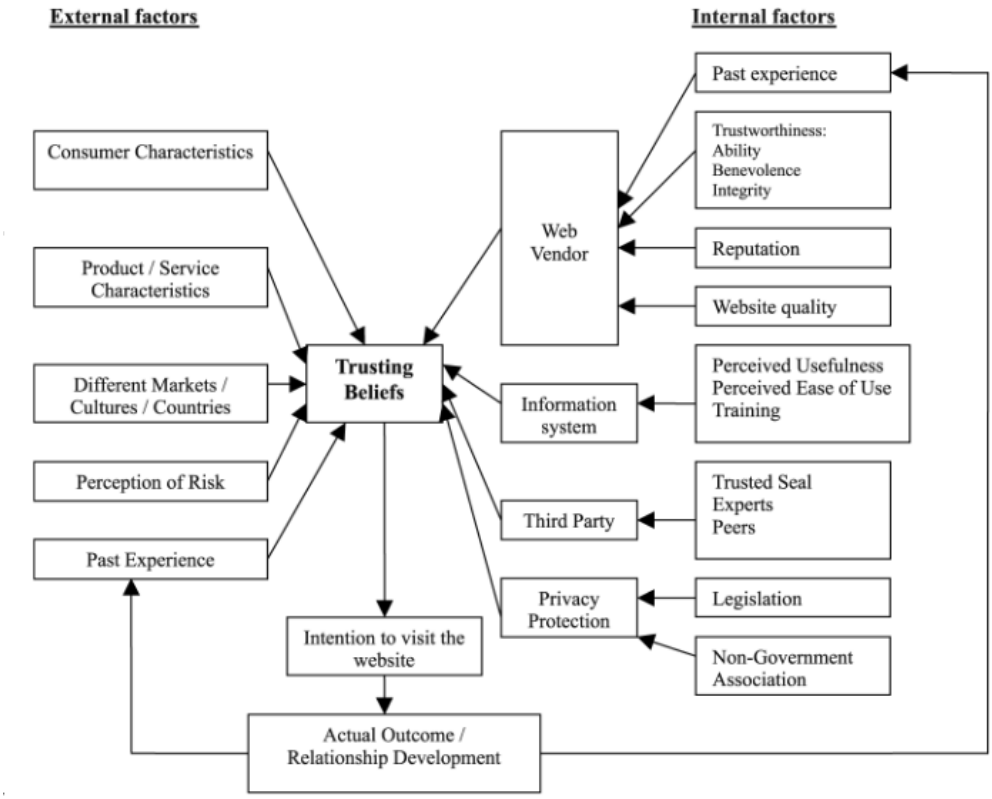

FIGURE 5. Model for examining online trust (Salo & Karjaluoto, 2007, p. 616).

As prior research shows, consumer trust is vulnerable. Crises can hurt both the company's reputation and its financial performance (Hegner et al., 2016). Research shows that crises, especially those related to or caused by the environment, have a negative impact on consumer trust and consumers' attitudes towards a company (Singh et al., 2020). Another challenge during a crisis is how it is communicated by the media. It has been found that recently, media has proved a tendency to emphasize certain crises that seem newsworthy and when the consequences are considered intriguing (Hegner et al., 2016). This requires rapid crisis communication actions from companies tied to the crisis.

It has been suggested that crisis communication strategies and relevant responses help a company to maintain and rebuild consumer trust (Wang et al., 2021). Some companies are seeking answers by relying on social media influencers (SMI) to maintain and improve consumer trust (Singh et al., 2020). According to prior research, storytelling, and corporate social responsibility (CSR) are essential ways to build consumer trust. Research shows that storytelling is an effective crisis response strategy and that it may increase consumer trust. It was

found that storytelling changed the public's perception of the causes of the crisis to be seen as more favorable to the company. (Lee & Jahng, 2020). The other common tool to build consumer trust is CSR, which can be defined as a company's deliberate acts to improve the social wellbeing of those whose lives the company and its actions impact (Weber et al., 2018, p. 4). Studies also show that trust and communication reinforce one another, and, thus, communication can be used to build process-based trust (Luo, 2002). Crisis communication and crisis management have been found to maintain customers' trust, thus, it is hypothesized that

H1: Crisis communication has a positive impact on consumer trust.

Research shows that stakeholders often perceive storytelling as transparent and trustworthy in communication. Storytelling allows sharing the company's story with the stakeholders, which creates a more realistic relationship and enables communicating the company's personality and values to the stakeholders more effectively. (Lee & Jahng, 2020). Stories are used to communicate and recognize the common ground between the participants to establish a relationship faster (Barker & Gower, 2010, p. 302) through, for example, showing the stakeholders how their values and beliefs align with those of the company. Storytelling can be seen as a way to implement CSR actions more efficiently, as it may be a helpful tool when seeking to overcome pitfalls and challenges both inside and outside the company. Thus, storytelling can additionally be perceived as a form of strategic communication towards different stakeholders (Hall et al., 2021; Gill, 2015).

Trust has been seen to emerge more often based on earlier positive interactions and a longer relationship. The idea is based on the thought that continuous interactions allow the parties to get to know each other and thereby develop trust in the relationship (Bolton, 1998, p. 173). Research shows that relationship length matters in the formation process of satisfaction and trust and, thus, Sabiote and Román (2009), for instance, suggest that the length of the relationship moderates the impact that social matters have on customers' levels of trust and satisfaction. It has been found that in longer relationships, the role of some social and financial inputs may be less significant than in shorter relationships. Research also suggests that customers sometimes perceive satisfying experiences as indicators of a trustworthy company. (Sabiote & Román, 2009). The moderating role of the length of the relationship is discussed in previous studies (see, e.g., Coulter & Coulter, 2002; Sabiote & Román, 2009). Studies have provided mostly supportive results on the length of the relationship affecting consumer trust positively. Thus, the following hypothesis is posed:

H2: The length of the relationship has a positive moderating impact on the relationship between crisis communication and consumer trust.

3.3 Personalization

Personalization is an act of tailoring experiences to match the customer preferences (Chellappa & Sin, 2005; Meuer et al., 2019), which the company can learn through collecting data on the customers (Salesforce, n.d.). Personalization may positively affect how consumers perceive a company's marketing communication. Providing customers only with relevant information is essential, as it has been found that consumers sometimes perceive marketing efforts as "intrusive"(Kotler et al., 2021, p. 118). Negative feelings hurt the relationship between the company and its customer. It has been suggested that the importance of personalization derives from customers' expectations of receiving personalized messages (Meuer et al., 2019). Personalization can be conducted through contextual advertising where digital advertisements appear automatically when the customer is looking for information related to a product or service (Kotler et al., 2021, p. 118). Various types of customer experiences can be personalized. These experiences include, for example, the use of the company's website, mobile application, and overall communication with the customer. (Salesforce, n.d.). Table 9 includes some recommended personalization actions and their outcomes.

The key to personalization is collecting data on customers to tailor the products and services to match their preferences. There are three types of customer data used for personalization purposes: data on customers' behavior, social life, and geographics. (Cloarec et al., 2022). To illustrate, this data can include the customer's location, buying behavior, number of visits on the website, past purchases, customer lifetime value (CLV), mouse movement, and demographics (Salesforce, n.d.). The data can be collected, for example, by concentrating on the customer's past behavior through the use of cookies (Cloarec et al., 2022). Data collection can be done more efficiently through automated processes driven by algorithms. After the data collection is done, it is possible to tailor the customer experience so that it best suits the customer (Meuer et al., 2019). Using artificial intelligence (AI) for personalization is another effective way to improve customer satisfaction and loyalty, and it may increase their willingness to share their personal data with the company (Kotler et al., 2021, p. 60). According to prior research, successful personalization consists of collecting relevant data, understanding when the customer wishes to be contacted, contacting customers at their preferred time, learning the most efficient ways to build personalized experiences, and utilizing the most effective data, algorithms, and infrastructure in the process (Meuer et al., 2019).

Vesanen and Raulas (2006, p. 10) created a model to describe the process of personalization by combining prior models. Their model (Figure 6) is a "continuous dynamic loop" that connects the basic elements of the construct. The basis of the model is formed by the customers, customer data, customer profiles, and marketing output. Customer data may include information regarding the customer's previous purchases, website behavior, and information about their de-

mographics. The data comes from various sources: customer interactions, external data sources, and combining external and internal customer data. After the data is collected, it is processed and transformed into customer profiles through profiling and segmenting. Vesanen and Raulas (2006, p. 10) point out that segmentation can be supported with techniques such as data-mining and fuzzy logic. By concentrating on customer profiles, customers can be differentiated based on their preferences to conduct marketing actions that are perceived in the form of providing the customer with something personalized, such as a personalized offer or sending the customer a product that matches their preferences. In an ideal situation, the marketing output is then delivered to the customer using their preferred channels, such as via e-mail or physical mail. The model represents how customers are recognized and segmented, and how interactions with customers allow collecting relevant data about them to provide products and services to fulfill their individual needs and wishes. (Vesanen & Raulas, 2006, p. 10).

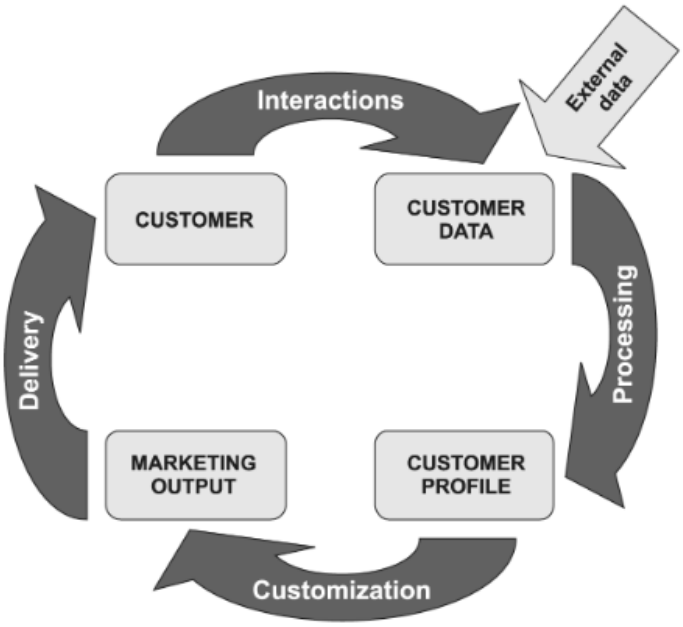

FIGURE 6. The process of personalization (Vesanen & Raulas, 2006, p. 10).

For companies, personalization is an effective way to differentiate from their competitors (Meuer et al., 2019). Some studies suggest (e.g., Chellappa & Sin, 2005) that encouraging customers to provide information may be more effective after the customers have learned to trust the company. Based on this, it can be suggested that companies should seek to build consumer trust first. It has been found that highly personalized marketing actions may cause privacy concerns in customers, which emphasizes the essentiality of maintaining and building trust. (Chellappa & Sin, 2005). Although some sources (e.g., Chellappa & Sin, 2005; Kotler et al., 2021) suggest that too much personalization might cause challenges in the form of privacy concerns, Meuer et al. (2019) found that mass marketing caused uneasiness in almost three-quarters (74%) of customers that they examined. As discussed in the previous sub-chapter, creating trust using process-

based actions is found to be effective for companies. Research shows that process-based trust is also an effective way to solve any potential privacy concerns that customers may have. (Luo, 2002). Solving the privacy concerns may lead to more successful personalization, as a strong trust between a customer and a company may encourage the customers to provide information about themselves more freely (Luo, 2002). Some recommended personalization actions and their outcomes are presented in Table 5.

TABLE 5. Recommended personalization actions and their potential outcomes.

Reference	Actions	Outcomes
Shaw (1912)	Differentiation through improving the goods (e.g., more useful product, more convenient packaging) and their identification (e.g., brand or trademark) (p. 715)	1) Better differentiation 2) More demand for the specific modified product 3) Higher price
Levitt (1980)	Differentiation through highlighting product features, e.g., visual features or "suggested" product attributes that explain how the product or service's value is better than others' (p. 83)	1) Better differentiation 2) Customers more willing to buy a modified product
Salesforce (n.d.)	Personalizing e.g., communication, online ads, website, and mobile app. Collecting data from customers and potential customers for tailoring purposes.	1) Increase in customer engagement and loyalty 2) More conversions 3) Filling customer expectations
Meuer et al. (2019)	Collecting data efficiently and recognizing the right moments for contacting customers and utilizing knowledge in communication. Utilizing automated algorithms and infrastructure in data collection.	1) Better differentiation 2) Lower customer churn 3) Filling customer expectations 4) Helps with customer acquisition
Kotler et al. (2021, p. 60)	Utilizing technology for creating customer profiles and tailored offers and providing customized content and personalized experiences. Providing customers with relevant information.	1) Positive impact on consumer perception 2) Better product fit 3) Improves customer satisfaction, loyalty, and engagement 4) May increase customers' willingness to share personal data with the company
Hart (2022)	Differentiation through improving service and/or product and its price, quality, design, features, and customization.	1) Higher value 2) Improves brand loyalty 3) Allows competition in other areas than price

Differentiation is often discussed when examining personalization. Differentiation refers to distinguishing the goods and services from those provided by others (Levitt, 1980), and attempting to increase sales by utilizing ways of differentiation (Shaw, 1912). Differentiation considers price, customer expectations, bringing new products and services to the market and creating improved products or services to create and maintain customer relationships (Levitt, 1980). In recent literature, product differentiation is described as standing out from other

products in the same category by being more appealing (MailChimp, n.d.) and, thus, catching the attention of potential customers through a stronger brand (Hart, 2022). Some advantages of differentiation include more dedicated brand loyalty, higher price points, gaining visibility, and, thus, becoming more familiar with the desired target groups (MailChimp, n.d.). Various ways to differentiate are suggested in literature. These ways include improving the product or service and its identification through trademarks and brands (Shaw, 1912), and highlighting essential product features, such as cosmetic features or "suggested" attributes that highlight the increased product value (Levitt, 1980). Some recommend improving the product to make it more useful and building a good reputation regarding product or service quality (Shaw, 1912), while others encourage focusing on the price, quality, design, features, service, and customization of the product (e.g., Hart, 2022).

Coulter and Coulter (2002) found that relationship length affects how customers perceive a company's actions. They suggest that a customer's uncertainty about the outcome of the company's services is directly connected to the level of familiarity that the customer has with the industry and the service provider. It was also found that the importance of customization, for example, was greater in longer relationships, where the customers were more tied to the company. (Coulter & Coulter, 2002, p. 44). Some studies also suggest that it has already been shown how significant benefits personalized marketing efforts bring also in the energy sector (Meuer et al., 2019). Especially when the market is highly competitive, the company should be adequate, reliable, and customize services and products to meet its long-term customers' needs (Coulter & Coulter, 2002, p. 44). It has been suggested (Coelho & Henseler, 2012, p. 349) that customization can help companies build relationships and increase the level of trust in current customers. As it has been suggested in prior research that personalization may positively impact trust, it is hypothesized as follows:

H3: The relationship between personalization and consumer trust is moderated by the length of the relationship.

H4: Personalization has a positive impact on consumer trust.

3.4 Conceptual framework

Figure 7 represents the conceptual model of this thesis. The aim of the study is to find out how crisis communication and personalization affect consumer trust during the energy crisis and whether the impact is different depending on the length of the relationship.

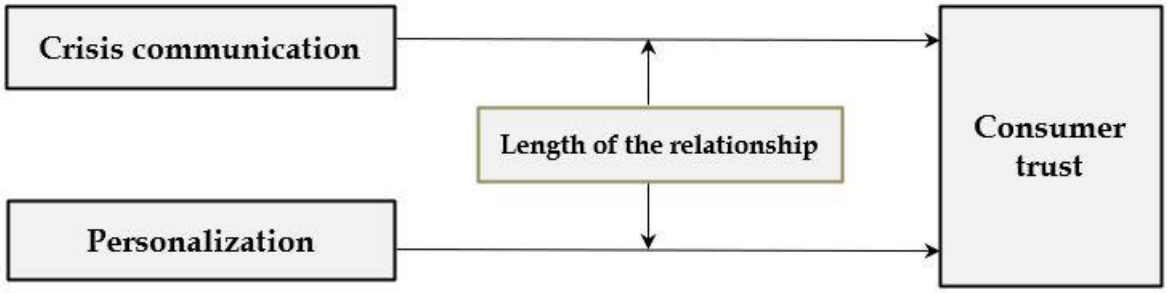

FIGURE 7. The conceptual framework of the study.

4 DATA AND METHODOLOGY

4.1 Data collection

Two kinds of data were collected for this thesis. The quantitative was collected from Lumme Energia's current customers using a quantitative, structured multiple-choice survey, where all respondents answered the same questions. As it was decided that the survey would be sent to over 150,000 current customers using the company's mailing lists, it was hypothesized that the number of respondents will be thousands. Thus, there were no open-ended questions included in the final version of the survey. The qualitative data, in turn, was collected with expert interviews that were conducted with Lumme Energia's current employees from various fields within the company.

4.2 Quantitative data

The quantitative multiple-choice survey consisted of background questions, themed questions on consumer trust, personalization, and crisis communication, and a couple of other questions on how the energy crisis has impacted and is likely to continue impacting consumer trust and habits in Finland. Using a survey was chosen as the research method here, as the idea of the study was to receive responses from the company's B2C customers from different backgrounds and around the country to get reliable and valid results that could be seen to represent the overall situation and effects of the energy crisis in Finland. The survey was conducted using an online survey tool called Webropol 3.0. As the research involved Finnish consumers and a Finnish company, the survey was conducted in Finnish. The survey can be found from the very end of the thesis, both in Finnish (original language of the survey; Appendix 1) and in English (translated from Finnish; Appendix 2). The survey was conducted anonymously, and participation was possible using a mobile device or computer.

The themed multiple-choice questions of the survey were measured on a Likert scale of 1-5. Option one represents a viewpoint of "strongly disagree" and option five "strongly agree". There was also option zero, or a "don't know" option, which was coded as a missing value when the analysis began. The last question of the survey was a question where the respondents could choose multiple options on how they would be ready to save electricity in the future if the energy crisis should continue. The themed questions were added to gain an understanding of the respondent's thoughts on Lumme Energia and energy companies in general, the point of focus being on the current customers' perceptions of the case company and its personalization and crisis communication actions, as well as the

customers' trust towards it. The respondents were also asked to choose from options on how they could save electricity in the future. More detailed information about the responses can be found in the "Results and analysis" chapter.

The survey, along with an informative newsletter, was sent to 150,937 Lumme Energia's current customers using the company's mailing lists. The survey was opened on February 15th, 2023, and the last day to participate was February 28th. The survey was set to automatically close at midnight on March 1st, 2023. During the two weeks the survey was open, it received a total of 14,311 responses (n = 14,311). Thus, the response rate was approximately 9.5 %. The aim was to get at least 150 responses from the current customers and the aim was accomplished very early after opening the survey for responses. Some of the respondents sent feedback and open responses via e-mail, and some of the feedback and responses are included in this thesis (see section 5.2.1). The language of the survey was Finnish. A translation of the survey is in Appendix 2.

The measures of the survey were adapted from previous studies (see Table 6). Consumer trust was originally measured with seven items that have previously been used by Aydin and Özer (2005), Stravinskienė et al. (2021), Yang et al. (2015), Eisingerich and Bell (2008), and Chen and Dibb (2010). Personalization was measured with six questions previously used by Carvajal et al. (2011) and Komiak and Benbasat (2006). Crisis communication, in turn, was measured with twelve items adapted from those of Kaijanto (2022), Yang et al. (2015), and Ndubisi (2007). The original scales used to measure the responses in the references were retained, and, thus, all questions were measured on a Likert scale with five options as well as the "don't know" option.

TABLE 6. Constructs, survey questions, and references.

Construct	Survey question	Reference
Consumer trust	1. I trust Lumme Energia. 2. I trust that Lumme Energia serves me well. 3. Most of my experiences with Lumme Energia have been positive. 4. I am satisfied with how Lumme Energia treats me. 5. Lumme Energia keeps its promises. 6. Lumme Energia is honest. 7. Lumme Energia does its best to help me when I need it.	• Aydin & Özer, 2005 (1-2) • Stravinskienė et al., 2021 (3-4) • Yang et al., 2015 (5) • Eisingerich & Bell, 2008 (6) • Chen & Dibb, 2010 (7)
Personalization	1. Lumme Energia aims to fulfill its customers' wishes. 2. Lumme Energia tailors its services based on the needs of its customers. 3. Lumme Energia offers products and services that interest its customers. 4. Lumme Energia understands my needs. 5. Lumme Energia understands what I want. 6. Lumme Energia considers my needs important.	• Carvajal et al., 2011 (1-3) • Komiak & Benbasat, 2006 (4-6)
Crisis communication	1. Lumme Energia has provided me with enough information on saving electricity. 2. Lumme Energia has provided me with enough information on the changes in electricity pricing.	• Kaijanto, 2022 (1-3, 5-6) • Yang et al., 2015 (7-9, 11-12)

	3. Lumme Energia has provided me with enough information on the evolution of electricity prices. 4. Lumme Energia has provided me with enough information on the electricity consumption app (Oma-Lumme). 5. Lumme Energia's communication regarding the energy crisis has succeeded well. 6. Lumme Energia's communication regarding the energy crisis has increased my trust towards it. 7. Lumme Energia listens to what its customers say. 8. Lumme Energia's communication is open. 9. Lumme Energia's communication is honest. 10. Lumme Energia's communication is relevant. 11. It is easy to understand Lumme Energia's communication. 12. It is easy to communicate with Lumme Energia.	• Ndubisi, 2007 (4, 10)

Quantitative data was analyzed with IBM SPSS Statistics and SmartPLS. SmartPLS was used to execute component-based structural equation modeling, which is based on variance and can handle a large dataset (Taheri et al., 2015, p. 191). Partial least squares equation modeling (PLS-SEM) allows analyzing complex data and inter-relationships between dependent and independent variables. It is recommended to use PLS with models that involve various independent constructs on the left and dependent variables on the right side of the model. (Hair et al., 2015, p. 442, 444). In this study, the conceptual framework (Figure 7) is built accordingly, and it involves a moderator variable. The results from the quantitative analysis can be found in sections 5.1 and 5.2.

As recommended in literature (e.g., Borg, 2017), the respondents were informed about the approximate length of the survey (5-10 minutes) in the beginning of the survey. The privacy notice was published as a direct link in the first page of the survey to allow the respondents to familiarize themselves with the information and respondents were asked to confirm that they approve the privacy notice before continuing with the survey. All respondents were over the age of 18. The survey design was created so that the themes could be recognized, as advised in literature (e.g., Borg, 2017). The first theme was trust, which was followed by themes of personalization and communication. Questions 13-15 were on a Likert scale and the respondent chose an option between numbers 1-5. As recommended in literature, the options were "strongly disagree", "somewhat disagree", "neither agree or disagree", "somewhat agree", and "strongly agree". The respondents were also presented with a neutral midpoint option. A sixth option for "don't know" (DK) was included to avoid forcing respondents to choose an option if they did not believe the option or question was applicable (e.g., Borg, 2017; Chyung et al., 2017) and to make sure respondents would not use the neutral, third option when they were not sure which answer to choose (Kulas & Stachowski, 2013). Research shows that including a DK option often leads to less guessing (Durand & Lambert, 1988; Dolnicar & Grün, 2014, p. 47). There were opinions both for and against excluding the DK option from the analyses, as removing the responses may negatively affect the statistical power of the

analyses and bias the sample, whereas keeping them as part of the analysis is the most common way to treat DK responses (Denman et al., 2018, p. 1-2). In this study, the DK answers were chosen to be excluded from the analysis and, thus, there are some missing values in the results. Although the DK options were excluded from the data, the number of responses was high.

In the survey, questions 2-13 were multiple-choice questions where the respondent chose one of the provided options. Background questions were presented to provide the researcher with background information on the respondent. Background questions included demographic questions about the respondent's age, gender, location (Tilastokeskus, n.d.), which are supported by other questions regarding, for example, the number of permanent residents in the household, size of the house or apartment, heating methods, form of residency, electricity consumption, and whether there is an electric sauna in the house or apartment. These latter questions are supported by various references, for example, Vaasan Sähkö (2020) and Vattenfall (n.d.). In the very last question, the respondents were asked about some habits that they would be ready to adopt in the future to save electricity (Lumme Energia, n.d., d; Lumme Energia, n.d., e).

4.2.1 Feedback and open responses from survey respondents

Some of the survey respondents approached the researcher of this study via e-mail to give feedback related to the survey and to the company. The feedback aimed at the company was forwarded to the company's representatives with the customers' permission. As for the survey, some respondents wished that there would have been a possibility to skip the last question regarding saving electricity or state that there are no more ways in which the respondent would or could save energy, as some respondents stated that they were doing everything possible to save electricity at this time. The need for this feedback could have been avoided by allowing the respondent to choose not to give a response to the question at all. At the time of planning and creating the survey, the reason for adding the last question was to find out which would be the most common ways that the customers would like to utilize when seeking to save electricity – even hypothetically, if there was no further need for them to consume less electricity.

Other questions that received feedback from the respondents were questions on heating methods and housing type. Based on the feedback, the survey's introductory page was edited a bit while the survey was still open, to better explain how customers with multiple houses should answer the survey. The respondents were guided so that if they had multiple electricity contracts with the case company, they could either choose one of those for filling in their background information or give a response for each contract if they so wished. For heating methods, the respondents would have liked to have a possibility to choose multiple heating options. The idea behind the heating method question was choosing the method that is mostly used for heating in their house. In this case, the respondents were not provided with enough information to choose the heating method that best represents their situation. Some respondents sent an e-mail saying that they had chosen the option "other" because they were not able

to choose multiple options and, thus, provide a more reliable response. Some respondents would have wanted to state that they do not have an electric sauna, but that they have a wood-burning sauna instead.

Some respondents wished for an opportunity to leave open-ended responses and hoped for "other, please specify" options for the background questions. There were also some questions regarding why there was not any room for open-ended feedback at the end of the survey. The reason for excluding all open-ended questions and options was the number of survey invitation recipients, which was believed to lead to thousands of responses. This belief was exceeded, which supports the reasons for choosing to exclude all open-ended text boxes from the thesis survey. As the survey was a data collection method for a master's thesis, the customers were not able to leave open feedback to the company into the survey form.

4.3 Qualitative data

Qualitative data analysis aims to provide knowledge and interpretation about the topic of the study (Vaismoradi, 2016). The qualitative data in this research were semi-structured expert interviews, where five experts were interviewed in a remote interview on Microsoft Teams. Utilizing experts' knowledge on the topic and thoughts regarding the future of the topic was essential to gain a deeper knowledge and understand the circumstances around the phenomena better. Interviews are commonly used when the research deals with a complex topic and when there is a need to use open-ended questions when collecting data (Hair et al., 2015, p. 200). Semi-structured interviews were chosen as the source of

Semi-structured interview is a type of structured interview (Mueller & Segal, 2014, p. 2), where there is a pre-planned overall structure and questions that direct the interview, yet the interviewer can still be flexibly move forward with unanticipated, unstructured questions and follow-up questions during the interview (Hair et al., 2015, p. 201; Mueller & Segal, p. 2). Other strengths of a semi-structured interviews are, for example, the reliability and comparability of results and that interview questions are prepared beforehand to secure that the most critical themes are explored in the interview (Lochrie et al., 2015, p. 119). Semi-structured interviews require that the interviewer engages in the conversation and seeks to clarify and validate the statements to ensure that there are no misunderstandings between the interviewee and interviewer (Galletta et al., 2013).

To increase data validity and reliability, it is encouraged in literature to conduct multiple interviews. Data validity is dependent on the quantity of interviews, but also on the quality of the experts interviewed, as the levels of knowledge and motivation of the interviewees may vary. (Dorussen et al., 2005). Expert interviews have been used as data sources in research with less than ten interviewees (see, e.g., Lutz et al., 2019; Von Ahsen & Gauch, 2022; Wirtz & Jerger, 2016), and in some literature, the answer to the question on required number of

qualitative interviews for a valid and reliable study was "it depends" (e.g., Baker & Edwards, 2017). In this study, five expert interviews were conducted.

Qualitative content analysis was used as the qualitative analysis method in this thesis. Content analysis refers to analyzing the contents of the analysis, which is why every word of the interview is transcribed, although pauses and tones, for example, may be left unmarked (Ruusuvuori & Nikander, 2017, p. 368), as the main focus is on transcribing the parts of the interview that are considered essential when examining the topic at hand (Braun & Clarke, 2006). Content analysis is often used with interviews, as it allows counting the frequency of words, expressions, and themes (Hair et al., 2015, p. 199), and, thus, it was the most suitable method for the qualitative data of this thesis.

Expert interviews provide a possibility to gain access to experts' knowledge and viewpoints in specific areas (Mergel et al., 2019) and get a better idea of the general situation within the examined theme (Alastalo et al., 2017, p. 184). The data gained from expert interviews is often considered "data of high quality" (Dorussen et al., 2005, p. 334), as experts tend to have a deep insight on the big picture and specifics and can, thus, provide the researcher with information that could otherwise be difficult to find and comprehend. This information can be technical knowledge, process knowledge, or explanatory knowledge. (Van Audenhove, 2007, p. 8). In this case, process knowledge was chosen as the main area for the chosen experts. Van Audenhove (2007, p. 8, 12) explains that process knowledge means that the person has information about routines and processes that they are directly participating in and recommends using a systematizing expert interview when focusing on the expert's process knowledge. This means creating a detailed list of topics before the interview, yet letting the interviewee answer the questions as thoroughly as they wish.

Semi-structured expert interviews grant the researcher a chance to ask follow-up questions during the interview (Mueller & Segal, 2014) and because of the flexibility of the interview type, the expert can give more precise answers to the proposed questions (Von Ahsen & Gauch, 2022, p. 202). The aim of expert interviews is not to examine the expert, but their knowledge and interpretations related to the topic of the study (Alastalo et al., 2017, p. 184). In the interviews, the experts were asked about pre-defined themes related to the energy crisis. The interviews consisted of questions that were planned ahead and questions and follow-up questions that came up during the interview. The interviews were recorded with the interviewees' permission. After the interviews were over, they were transcribed, and the transcriptions were sent to the interviewees to read through and comment before the analysis began. The interviewees were asked to describe the current situation and its effects on their position within the company as well as some "why", "how", "when", "where", and "who" questions, as suggested by Hair et al. (2015, p. 200).

Alastalo et al. (2017, p. 183) define experts as those who possess special information about the subject that no one or only a few others have. Similarly, Mergel et al. (2019) provide a definition according to which experts are those who can provide access to in-depth information on the topic. In this study, experts are

defined as those who are experts within their own field and work in expert positions at Lumme Energia. These experts have a broad knowledge of the energy industry as well as the company and its habits. The interviewees were picked so that they come from different areas of work within the company. Experts working in different positions can provide different points of view regarding the topic, yet they share a common background of working within the same industry and company (Van Audenhove, 2007, p. 20). The experts interviewed for this thesis work in electricity purchasing, communication, service management, B2C sales, and B2B sales tasks at Lumme Energia. Their working experience in the electricity industry varies between a year and thirty years, which allows gaining varying perspectives on the current circumstances as well as the experts' ideas regarding the future.

A total of five semi-structured expert interviews were conducted with Lumme Energia's employees to gain more knowledge on their viewpoints on the energy crisis and its effects on Finnish consumers and society, as well as Lumme Energia and the field it is operating in. The interviews took place via Microsoft Teams. The interviews were conducted and reported so that the interviewees cannot be recognized from their answers. After completing the interviews and before including the data in the thesis, a short summary of the interview was sent to each interviewee, as advised in literature (e.g., Von Ahsen & Gauch, 2022). This provided the interviewees with a possibility to revise the summarized interview and correct any potential misunderstandings and subjective thoughts before the data was included in the thesis.

Some of the interview questions were modified from a previously used interview template (Valtioneuvoston selvitys- ja tutkimustoiminta, n.d.). These questions, questions two and three in theme one and questions one and four in theme two, were related to how the energy crisis affects the company and the industry, how the companies in the industry must change their ways of working in the future, and whether the crisis offers opportunities for development, . The interviewees were first asked some background questions about their position and experience. After that, they were asked about the effects of the energy crisis for the energy industry and potential threats and opportunities that may follow, as well as its impacts on society and individual consumers. The interviewees were also asked what kinds of effects they believe the energy crisis will have on the actions required from Lumme Energia and other electricity companies in the future. The interview questions are presented in full detail in Appendix 5 (in Finnish) and Appendix 6 (in English). The interviewees' working experience within the field and their working department are not connected because of the researcher's wish to maintain the interviewees' anonymity.

4.4 Mixed methods research

Mixed methods research, also known as MMR (e.g., Heyvaert et al., 2013), or combining qualitative and quantitative data, has been examined in various studies. Migiro and Magangi (2011) explain that there are three methods that are commonly used for research purposes: qualitative, quantitative, and mixed methods. The writers describe mixed methods as a research method where the researcher combines qualitative and quantitative research to gain a deeper understanding of the research topic. Tashakkori and Creswell (2007), in turn, clarify that a study that has been conducted using mixed methods utilizes qualitative and quantitative research methods in terms of research questions, data collection procedures, data types, and data analysis, for example. Johnson et al. (2007) underline that one of the core aims of MMR is to consider a great number of different viewpoints and perspectives, especially those of qualitative and quantitative research.

Johnson et al. (2007) suggest that MMR provides "the most informative, complete, balanced, and useful research results." Heyvaert et al. (2013) support Johnson et al.'s (2007) findings and agree that when combined, the two most commonly used methods can compensate for one another's strengths and weaknesses, which may lead to clearer results and more distinct evidence and findings. The strengths of surveys are, for example, large sample sizes and, thus, more generalizable results (Harris & Brown, 2010). The weaknesses, however, include, for example, a potentially faulty survey design, biased wordings, no control over the respondent, and potential misunderstandings (Oppenheim, 1992, p. 102; Harris & Brown, 2010, p. 2). The strengths of interviews, in turn, include, for example, flexibility, as the interviewee can repeat questions and ask for more detailed answers whenever needed. Another perk is the interviewers' ability to observe the interviewee's behavior and other forms of nonverbal communication. (Tuomi & Sarajärvi, 2018). One weakness with interviews is that the collected data is based on human interaction, which may lead to different results depending on personal bias and interpretation (Adams et al., 2014, p. 127). It has been found that interviewees may offer "socially desirable" responses, whereas surveys are more likely filled with more honest responses (Richman et al., 1999, p. 755, 771).

Hesse-Biber (2010, p. 3) explains that there are five major reasons why utilizing mixed methods should be considered when planning a study. These reasons, as originally proposed by Greene, Caracelli, and Graham in "Toward a Conceptual Framework for Mixed-Method Evaluation Designs" (1989), are triangulation, complementarity, development, initiation, and expansion. The reasons include improving the credibility of the study and its findings, deepening the researcher's overall understanding of the research problem and results, creating a "synergistic effect" that is achieved through combining two methods, and allowing the results to be detailed to help shape future research (Hesse-Biber, 2010, p. 3-6).

Conducting an MMR research requires clarifying the purpose of the study, developing research questions, and defining which type of data will be collected.

(Migiro and Magangi, 2011). The aim and background of this thesis were introduced in chapter 1.1 and the research questions proposed in chapter 1.2. The data used in this thesis will be, as introduced above, both qualitative and quantitative, and, thus, the thesis will include qualitative and quantitative data. From the validity and reliability viewpoints, it is important to use multiple data sources when planning the research, structure the data collection carefully, and to use straight quotes to increase the validity of the research findings in the analysis and conclusion phase (Guest et al., 2012). Surveys can provide a large view of responses within a major number of respondents, whereas interviews provide a more detailed insight on the few interviewees' thoughts (Harris & Brown, 2010, p. 1). MMR can be conducted so that qualitative and quantitative data are collected separately and later combined in the final results of the research. Qualitative data could be collected through, for example, an interview and quantitative data could be collected using a structured survey. (Tuomi & Sarajärvi, 2018). As both qualitative and quantitative data are used in this research, it is essential to utilize mixed methods in the analysis phase.

5 RESULTS AND ANALYSIS

This chapter holds the results from the customer survey and expert interviews. Data that was collected using the survey is quantitative and, thus, it was analyzed using quantitative methods in the analysis software IBM SPSS Statistics 28.0.0.0 (later referred to as "SPSS") and SmartPLS 4 (later referred to as "SmartPLS"). Data from expert interviews is qualitative and, thus, it was analyzed using qualitative content analysis.

When the survey respondents were asked about their backgrounds, the respondents would answer questions related to their age, gender, region or geographic location, type and size of apartment, housing type, size of the household and number of rooms, heating method, type of electricity contract, length of the relationship with the case company, and whether they have an electric sauna in their apartment. In the background question regarding the respondent's current region, the Åland Islands was not included as an option. The operator and owner of the grid in the Åland is Kraftnät Åland (Fingrid, n.d., c), and, thus, electricity companies operating on the Finnish mainland do not sell or deliver electricity to Åland. It is required for each country to have at least one Transmission System Operator (TSO) in charge of the main grid, and Kraftnät Åland is the second TSO in Finland, operating alongside Fingrid. (Kraftnät Åland, n.d.). Hence, Åland was not included from the region options in the survey. All eighteen other regions of Finland were provided as options.

According to the descriptive statistics, most of the respondents live in regions of Uusimaa (17.2%), Southern Savonia (16.7%) and Lapland (10.3%). Most respondents (61.2%) stated that there is an electric sauna in their apartment, and a majority (78.8%) of them answered that they have a fixed-term electricity contract, while rest have either a contract that is valid until further notice (10%), market-based contract (10.9%), or some other kind of contract (0.3%). The electricity contract types are presented in Figure 8. A majority of the respondents (85.8%) stated that they own the house that they live in, while around 11% of respondents stated that they live in a rented house. A total of 3% of respondents live either in a right of occupancy apartment or in some other kind of apartment (1.5% each). A detailed summary of the respondents' background information can be found in Appendix 3.

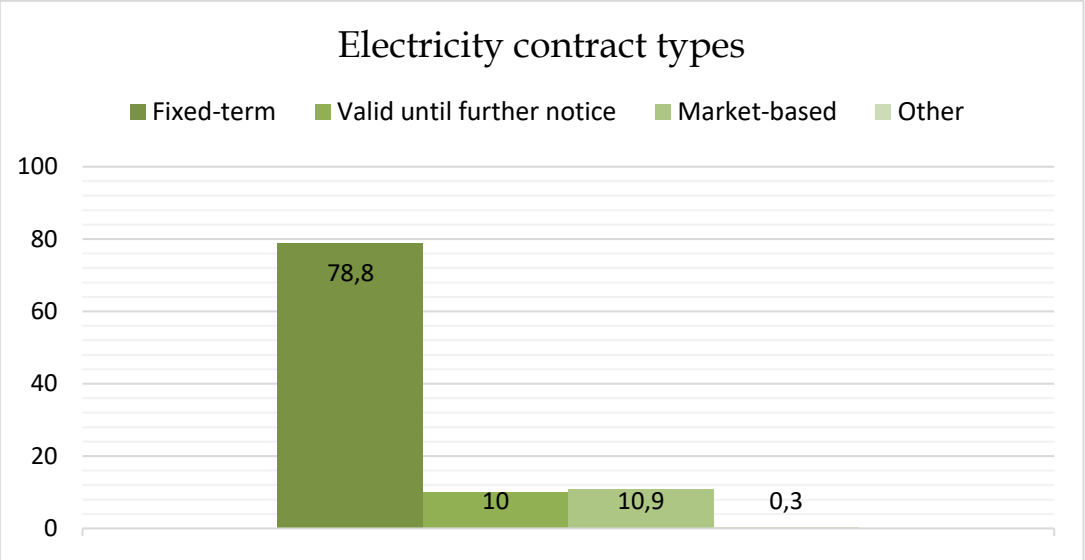

FIGURE 8. The distribution of the respondent's electricity contract types.

In the last survey question, the respondents were asked how they could decrease their electricity consumption in the future. The respondents were able to pick as many options as they wanted. The most common responses (see Figure 9) were shutting down unnecessary electronic devices (75.5%; n = 10,955) and lights (73.5%; n = 10,515), favoring LED light bulbs (67.1%; n = 9,603), and washing full loads of dishes and laundry (60.1%; n= 8,599). With a quite clear difference, the least common habits for the respondents were reducing the ventilation at home (12.4%; n = 1,781), lowering the temperatures for washing dishes and laundry (19.5%; n = 2,785), using colder water when showering (23.2%; n = 3,318), and shortening the time spent in the sauna (25.7%; n = 3,676).

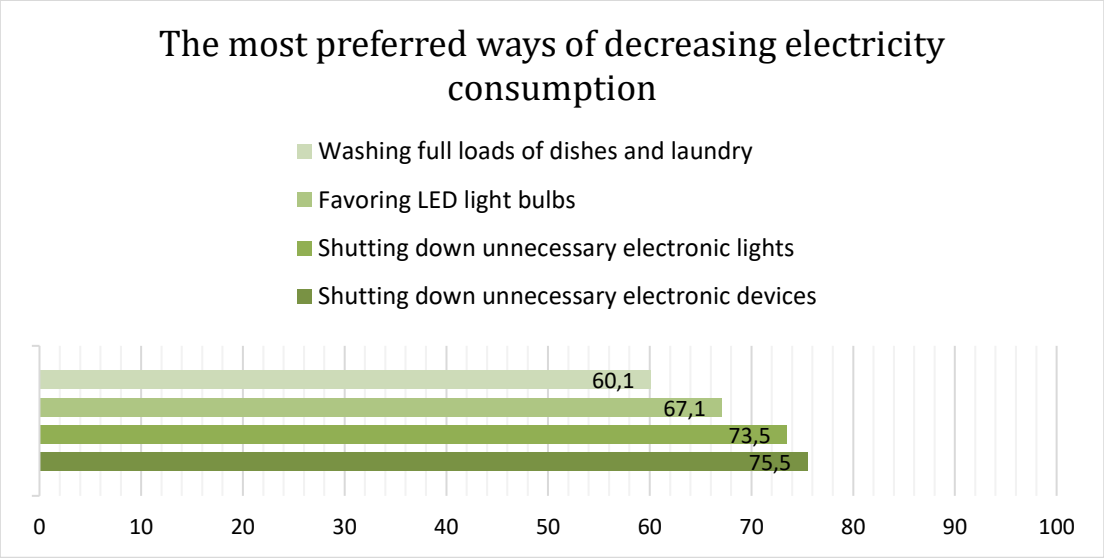

FIGURE 9. The respondents' most preferred ways of decreasing electricity consumption at home in the future.

5.1.1 Measurement model

Assessing the results of the structural equation model (SEM) begins with the analysis of the measurement model. First, the indicator loading values and their significances are analyzed. The loadings should get values higher than 0.7, $t > 1.96$, and $p < 0.05$. (Hair et al., 2015, p. 447). Factor loadings describe how much of the variance of the variable can be explained with the factor. Factor loadings can vary between -1 and 1. The closer to 1 the value is, the greater part of the variable's variance can be explained with the factor. (Karjaluoto, 2007). As all factor loadings values (Table 7) of the analysis were higher than 0.7, no indicators needed to be removed from the analysis.

TABLE 7. Factor loadings.

Crisis communication	**Factor loading**
COM 3	0.770
COM 4	0.761
COM 5	0.793
COM 6	0.775
COM 7	0.726
COM 8	0.754
COM 9	0.701
COM 10	0.732
Consumer trust	
TRU 1	0.812
TRU 2	0.747
TRU 3	0.768
TRU 5	0.834
TRU 6	0.856
TRU 7	0.844
Personalization	
PER 1	0.736
PER 2	0.833
PER 3	0.776
PER 4	0.709
PER 5	0.853
PER 6	0.853
Relationship length	
RLE 1	1.00

Correlation coefficients (k), or the values of correlation, also vary between -1 and +1. When $k < 0$, correlation is negative and when $k > 0$, correlation is positive. Positive correlation means that when the value of the variable X increases, the value of Y increases as well. If $k = 0$, there is no correlation between the variables. (Karjaluoto, 2007). In this analysis, correlation between the latent variables (Table 8) suggests that consumer trust (TRU) strongly correlates with crisis communication (0.638) and personalization (0.560) and vice versa, whereas the length of the relationship (RLE) only minorly correlates with the other latent variables (0.002; 0.040; 0.016). Table 8 shows that crisis communication and consumer trust are more tied to personalization (0.637; 0.638) than the length of the relationship

(0.002), and that the correlating effect of relationship length is negative. Crisis communication and consumer trust are more tied to personalization than relationship length, although the effect of each of the variables is positive. Crisis communication and personalization are closely tied to consumer trust, whereas the length of the relationship is very little positively tied to consumer trust. When relationship length is moderating the relationship between personalization and crisis communication, the connection is strong and positive (0.645).

As crisis communication correlates strongly and positively with personalization and consumer trust and vice versa, it can be concluded that when, for example, the value of crisis communication increases, the values of personalization and consumer trust increase, as well. However, as the correlation between relationship length between the other variables is weak, yet positive, there is nearly no correlation between the variables. When relationship length is moderating the correlation between crisis communication and personalization, its effect is strong (0.645). Thus, when the values of crisis communication and personalization increase, as relationship length is moderating the relationship, the value of relationship length also increases.

TABLE 8. Correlations between the latent variables.

	COM	**RLE**	**PER**	**TRU**	**RLE x COM**	**RLE x PER**
COM	1.000	0.002	**0.637**	**0.638**	-0.043	-0.030
RLE	0.002	1.000	0.040	0.016	-0.046	-0.043
PER	**0.637**	0.040	1.000	**0.560**	-0.029	-0.065
TRU	**0.638**	0.016	**0.560**	1.000	-0.032	-0.035
RLE x COM	-0.043	-0.046	-0.029	-0.032	1.000	**0.645**
RLE x PER	-0.030	-0.043	-0.065	-0.035	**0.645**	1.000

The next steps in assessing the SEM results are analyzing construct validity and construct reliability (Hair et al., 2015, p. 447). The reliability and validity of the constructs were measured by utilizing the variables' outer loadings values, construct reliability and validity, and discriminant validity. A total of five indicator values were removed from the analysis one by one, as SmartPLS indicated that the values were problematic. The removed questions were questions 1, 2, 11, and 12 from theme communication and question 4 related to consumer trust. Once these questions were removed, there were no more problematic indicator values left.

Composite reliability (ρc) and Cronbach's alpha (α) were used to measure the reliability and validity of the constructs (Table 9). Both values were > 0.7 in all variable groups, which indicates that there were no problems with the remaining constructs' internal consistencies. It is recommended in the literature to address and report composite reliability, as it provides more accurate values than Cronbach's alpha. (Hair et al., 2015, p. 447). Convergent validity was measured using the values of the average variance extracted (AVE). The AVE value of each

variable was > 0.5, which indicates that each latent construct included in the analysis sufficiently explains the variances of its indicator variables (Hair et al., 2015, p. 448; Henseler et al., 2015).

TABLE 9. Construct reliability and validity: Cronbach's alpha, composite reliability, and AVE.

	Cronbach's alpha (α)	**Composite reliability (rho_a)**	**Composite reliability (rho_c)**	**Average variance extracted (AVE)**
Crisis communication	0.890	0.892	0.912	0.565
Personalization	0.883	0.887	0.911	0.633
Consumer trust	0.895	0.896	0.920	0.658

The last recommended step when analyzing the measurement model was assessing the discriminant validity, which measures the construct's level of distinctiveness (Hair et al., 2015, p. 448). The Fornell-Larcker test was used for this purpose. It was found that the square root of AVE (see Table 9) was lower than the factors' correlations between the construct and other constructs of the model (Table 10) and, thus, discriminant validity was not evidenced in the model (Hair et al., 2015, p. 448). The lack of discriminant validity may indicate that all constructs of the model may not capture a purely unique phenomenon (Hair et al., 2021, p. 89). Although the Fornell-Larcker test has been commonly used in research before, recent literature shows that the test does not always recognize problems with discriminant validity if the indicator loadings of a construct are nearly the same (Hair et al., 2021, p. 78, 86).

TABLE 10. Discriminant validity of the constructs; the Fornell-Larcker test.

	Crisis communication	**Relationship length**	**Personalization**	**Consumer trust**
Crisis communication	**0.752**			
Relationship length	0.002	**1.000**		
Personalization	0.367	0.040	**0.795**	
Consumer trust	0.638	0.016	0.560	**0.811**

5.1.2 Structural model

The analysis of the structural model begins with bootstrapping, which is used to evaluate the statistical significance and relevance of the indicators (Hair et al., 2019, p. 10), as well as the values and significance of the path coefficients. The values typically vary between -1 and +1. Bootstrapping can also be used to interpret whether the construct has an effect on another construct. (Hair et al., 2019, p. 13). In PLS-SEM, hypotheses are tested with bootstrapping (Streukens & Leroi-Werelds, 2016, p. 626). The hypotheses are measured by looking at the path coefficients and *t*-values of the constructs. The standard deviation, *t*-values, and *p*-

values of the analysis are presented in Table 11. It was found that the *t*-values related to the relationship between crisis communication and consumer trust, and personalization and consumer trust were high and *p*-values 0.00 in both cases (Table 11).

TABLE 11. Standard deviation, *t*-values and *p*-values.

	Standard deviation	***t*-values**	***p*-values**
COM → TRU	0.010	**46.387**	**0.00**
PER → TRU	0.010	**25.669**	**0.00**
RLE x COM → TRU	0.011	0.130	0.896
RLE x PER → TRU	0.011	0.267	0.790

Table 12 shows that hypotheses H_1 and H_4 are empirically supported, as their *t*-values exceed 1.65 and $p < 0.01$. Due to their low *t*-values and low significance ($p > 0.05$), hypotheses H_2 and H_3 are not supported. It can be concluded that a standardized unit increase in crisis communication and personalization will result in an increase of 0.48 (crisis communication) and 0.26 standardized unit (personalization) in consumer trust (Hair et al., 2015, p. 449). The hypotheses of this study and the results of the hypothesis testing are summarized in Table 13.

The results of the bootstrapping procedure indicate that crisis communication (COM) and personalization (PER) have a significant positive effect on consumer trust (TRU), since in both cases the *t*-value is high, and the *p*-value < 0.01. It was found that the length of the relationship (RLE), however, does not have a significant positive effect on consumer trust. The length of the relationship as a moderating variable does not provide high *t*-values or significant *p*-values, either, which indicates that its significance and effect on consumer trust is low. Both the R-squared (R^2) value and R-squared adjusted value of the analysis were 0.447 and, thus, it can be concluded that the proposed research model explains approximately 44.7% of consumer trust. According to Hair et al. (2019, p. 15), an R-squared value of 0.5 or higher is considered a moderate value.

TABLE 12. Hypotheses and their path coefficients, *t*-values, and *p*-values.

	Path coefficients	***t*-values**	***p*-values**
H_1: Crisis communication → Consumer trust	**0.475**	**46.387****	**0.00**
H_2: RLE x COM → Consumer trust	-0.001	0.130	0.896
H_3: RLE x PER → Consumer trust	-0.003	0.267	0.790
H_4: Personalization → Consumer trust	**0.257**	**25.669****	**0.00**

* = $p < 0.05$.

** = $p < 0.01$.

TABLE 13. Summary of the hypotheses.

Hypothesis	
H_1: Crisis communication has a positive impact on consumer trust.	The independent variable has a significant effect on the dependent variable ($p < 0.01$ and $t > 1.65$). *H_1: Supported*
H_2: The length of the relationship has a positive moderating impact on the relationship between crisis communication and consumer trust.	The independent variable does not have a significant effect on the dependent variable. *H_2: Not supported*
H_3: The relationship between personalization and consumer trust is moderated by the length of the relationship.	The independent variable does not have a significant effect on the dependent variable. *H_3: Not supported*
H_4: Personalization has a positive impact on consumer trust.	The independent variable has a significant effect on the dependent variable ($p < 0.01$ and $t > 1.65$). *H_4: Supported*

5.2 Additional analyses

5.2.1 Cross-tabulation

Cross-tabulation is a way to measure the dependance between two variables. It can be used either with two nominal variables or a nominal and ordinal variable (Karjaluoto, 2007). In this study, cross-tabulation was used to find out the relationships between the variables representing the respondent's apartment type, heating method, type of electricity contract, and the length of relationship with Lumme Energia. The test used to measure statistical significance in cross-tabulation, or the Chi-Square, was used to examine whether the differences noticed in the results are considerable enough to confirm that the measured differences are statistically significant (Mamia, 2005). The conditions of the Chi-Square test are that a maximum of 20% of the expected count < 5 and the minimum expected count > 1 (Karjaluoto, 2007, p. 17). In the analyses conducted for this thesis, the length of the relationship was set as the dependent variable and housing type and heating method as independent variables. The conditions were fulfilled in the analyses (Tables 14-17) and, thus, the analyses are valid.

Table 14 shows that approximately 65% of the respondents living in "other" types of dwellings have the longest relationships with the case company. In turn, those respondents who have the shortest relationships with Lumme Energia live in blocks of flats (3.5%). Most of Lumme Energia's customers live in detached houses (60.3%) and least in semi-detached houses (3.5%). In the feedback that was sent to the researcher via e-mail, some respondents clarified that they picked "other" type of apartment as their apartment type, as there was no other option for a summerhouse.

Based on the Chi-Square test, there is a dependency between the length of relationship and the type of dwelling, as the value of the test is 148.06 and $p < 0.001$. It should be noted that the dependency is not very strong, as the value of the contingency coefficient (C) < 0.3 (as $C = 0.085$). If the value of the $C < 0.3$, the dependency is weak and if $C > 0.6$, the dependency is strong. (Karjaluoto, 2007, p. 18).

TABLE 14. Cross-tabulation: length of relationship x apartment type.

Length of the relationship 1 = Less than half a year 2 = 0,5-1 years 3 = 1-2 years 4 = 2-3 years 5 = Over 3 years		**Apartment type** A = Detached house, B = Rowhouse, C = Semi-detached house, D = Block of flats, E = Other					**Total**
		A	**B**	**C**	**D**	**E**	
1	**Count**	149	42	9	87	6	293
	% of total	1.0	0.3	0.1	0.6	0.0	2.0
	% within apt. type	1.7	2.2	1.8	**3.2**	1.1	2.0
2	**Count**	315	99	12	166	27	619
	% of total	2.2	0.7	0.1	1.2	0.2	4.3
	% within apt. type	3.6	5.2	2.4	**6.0**	5.2	4.3
3	**Count**	1,608	365	113	603	78	2,767
	% of total	11.2	2.6	0.8	4.2	0.5	19.3
	% within apt. type	18.6	19.3	**22.5**	21.9	14.9	19.3
4	**Count**	1,539	355	133	532	73	2,632
	% of total	10.8	2.5	0.9	3.7	0.5	18.4
	% within apt. type	17.8	18.7	**26.5**	19.3	13.9	18.4
5	**Count**	5,022	1,033	235	1,370	340	8,000
	% of total	35.1	7.2	1.6	9.6	2.4	55.9
	% within apt. type	58.2	54.5	46.8	49.7	**64.9**	55.9
Total	**Count**	8,633	1,894	502	2,758	524	14,311
	% of total	60.3	13.2	3.5	19.3	3.7	100.0

TABLE 15. Chi-Square: length of relationship x apartment type.

	Value	df	Asymptotic significance
Pearson Chi-Square	148.016[a]	16	< 0.001
Likelihood ratio	144.437	16	< 0.001
Linear-by-linear association	47.678	1	< 0.001
N of valid cases	14,311		
Contingency coefficient	0.101		< 0.001

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 10.28.

Table 16 presents the findings from the cross-tabulation between the length of the relationship and heating method. The analysis shows that for most of the respondents, the main heating method is electrical heating (group A; 40.6%), and the least common options were air-source heat pump (2.2%) and some other heating method (1.7%). Out of the respondents with electrical heating, nearly two thirds (57.3%) stated that they have been Lumme Energia's customer for over three years. The most recent customers (group 1) represented two percent of the overall number of respondents, and they are mostly respondents that have district heating in their apartment. Based on the result of the Chi-Square test, there is a dependency between the length of the relationship and heating method (Chi-Square = 103.649; $p < 0.001$), although the value of the contingency coefficient ($C = 0.101$) suggests that the dependency is weak, as $C < 0.3$ (Karjaluoto, 2007, p. 18).

TABLE 16. Cross-tabulation: length of relationship x heating method.

Length of the relationship 1 = Less than half a year 2 = 0,5-1 years 3 = 1-2 years 4 = 2-3 years 5 = Over 3 years		**Heating method** A = Electrical heating, B = District heating, C = Geothermal heating, D = Air-source heat pump, E =Air-to-water heat pump, F = Wood heating, G = Oil heating, H = Other								**Total**
		A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	
1	**Count**	95	116	32	8	8	22	9	3	293
	% within method	1.6	**2.8**	2.2	2.6	1.5	1.7	1.4	1.2	2.0
	% of total	0.7	0.8	0.2	0.1	0.1	0.2	0.1	0.0	2.0
2	**Count**	231	227	45	12	17	48	30	9	619
	% within method	4.0	**5.6**	3.1	3.9	3.2	3.7	4.8	3.6	4.3
	% of total	1.6	1.6	0.3	0.1	0.1	0.3	0.2	0.1	4.3
3	**Count**	1,108	830	318	67	94	209	99	42	2,767
	% within method	19.1	20.4	**22.3**	21.7	17.9	16.3	15.7	16.9	19.3
	% of total	7.7	5.8	2.2	0.5	0.7	1.5	0.7	0.3	19.3
4	**Count**	1,045	788	246	65	108	207	125	48	2,632

	% within method	18.0	19.3	17.2	**21.0**	20.5	16.1	19.8	19.3	18.4
	% of total	7.3	5.5	1.7	0.5	0.8	1.4	0.9	0.3	18.4
5	**Count**	3,332	2,112	788	157	299	798	367	147	8,000
	% within method	57.3	51.9	55.1	50.8	56.8	62.1	28.3	**59.0**	55.9
	% of total	23.3	14.8	5.5	1.1	2.1	5.6	2.6	1.0	55.9
Total	**Count**	5,811	4,073	1,429	309	526	1,284	630	249	14,311
	% of total	40.6	28.5	10.0	2.2	3.7	9.0	4.4	1.7	100.0

TABLE 17. Chi-Square: length of relationship x heating method.

	Value	**df**	**Asymptotic significance**
Pearson Chi-Square	103.649[a]	28	< 0.001
Likelihood ratio	102.828	28	< 0.001
Linear-by-linear association	9.975	1	0.002
N of valid cases	14,311		

a. 0 cells (0,0%) have expected count less than 5. The minimum expected count is 5.10.

5.2.2 Analysis of variance – One-way ANOVA

Variance analysis is used to explore the dependency of one or multiple independent variables on one or multiple independent variables. Variance analysis is conducted by testing the differences between average values. (Karjaluoto, 2007, p. 30). In this study, one-way analysis of variance (ANOVA) was used to compare whether the type of electricity contract and apartment type affect customers' perceptions of Lumme Energia's crisis communication, personalization, and their level of trust towards the company. The Eta^2 value of a one-way ANOVA analysis can range between 0 and 1, and values higher than 0 represent a stronger explanatory power. (Mattila, n.d.).

First, consumer trust was used as the dependent and apartment type as the independent variable to compare the effect of apartment type on consumer trust (Table 17). The mean square between the groups was 12.900, F-value 12.040 and significance < 0.001. If $p < 0.05$ and $F > 1$, the null hypothesis representing the similarity of the group average values can be rejected (Karjaluoto, 2007, p. 32). In this case, $p < 0.001$ and $F = 14{,}593$, and, thus, the null hypothesis is rejected. As the null hypothesis representing the similarity of the group's average values was rejected, the analysis suggests that there are differences in how consumers living in different apartments perceive the trustworthiness of the company (Mattila, n.d.). The ANOVA analysis shows that, in terms of consumer trust, the mean of block of flats ($M = 4.17$, $SD = 0.87$) is higher than that of detached house ($M = 4.15$, $SD = 0.90$), row house ($M = 4.15$, $SD = 0.89$), detached house ($M = 4.04$, $SD = 0.94$), and other apartment type ($M = 3.86$, $SD = 0.87$). The mean square between groups was 12.406 and within groups 0.850.

The Eta^2 value of the first ANOVA was 0.074 and Eta squared value 0.006. As the Eta^2 value is approximately 0.07, it is considered low and thus, the explanatory power of the variable is low. The value shows that approximately 7% of the variance of consumer trust can be explained by the apartment type. The *p*-value of the test represents a statistically significant result. The Bonferroni's test for post-hoc comparisons shows that there are statistically significant differences between apartment types, such as detached houses, row houses, blocks of flats, and "other" types of apartments, for example, summerhouses. The significance is present especially between "other" types of apartments and when they are compared to all other apartment types, as all the differences are statistically significant ($p < 0.001$; see Table 19). The results of the Bonferroni's test for post-hoc comparisons (Table 19) show that the mean values between a semi-detached house and "other" type of apartment (p=0.001; 95% C.I. = [0.0392, 0.3154]) differ significantly, while differences and levels of significance between other types of apartments are smaller.

TABLE 18. The effects of apartment type on consumer trust (one-way ANOVA).

	N	**Mean (*M*)**	**Std. deviation (*SD*)**	**F-value**	***p*-value**	**Mean square between groups**	**Mean square within groups**
Detached house	6,354	4.04	0.94				
Row house	1,392	4.15	0.89				
Semi-detached house	358	4.15	0.90				
Block of flats	1,996	4.17	0.87				
Other	371	3.86	0.95				
Total	10,472	4.08	0.92	14.593	< 0.001	12.406	0.850

TABLE 19. Bonferroni's test: apartment type x consumer trust.

	Mean difference	Significance	Lower bound	Upper bound
Detached house				
Row house	-0.10644*	**< 0.001**	-0.1830	-0.0298
Semi-detached house	-0.10742	0.320	-0.2480	0.0332
Block of flats	-0.12478*	**< 0.001**	-0.1912	-0.0584
Other	0.17737*	**0.003**	0.0392	0.3154
Row house				
Detached house	0.10644*	**< 0.001**	0.0298	0.1830
Semi-detached house	-0.00098	1.000	-0.1544	0.1524
Block of flats	-0.01834	1.000	-0.1544	0.0721
Other	0.28378*	**< 0.001**	-0.1087	0.4349
Semi-detached house				

Detached house	0.10742	0.320	-0.0332	0.2480
Row house	0.00098	1.000	-0.1524	0.1544
Block of flats	-0.01736	1.000	-0.1659	0.1312
Other	0.28476*	**< 0.001**	0.0931	0.4764
Block of flats				
Detached house	0.12478*	**< 0.001**	0.0584	0.1912
Row house	0.01834	1.000	-0.0721	0.1087
Semi-detached house	0.01736	1.000	-0.1312	0.1659
Other	0.30211*	**< 0.001**	0.1559	0.4483
Other				
Detached house	-0.17734*	**0.003**	-0.3154	-0.0392
Row house	-0.28378*	**< 0.001**	-0.4349	-0.1327
Semi-detached house	-0.28476*	**< 0.001**	-0.4764	-0.0931
Block of flats	-0.30211*	**< 0.001**	-0.4483	-0.1559

*) The mean difference is significant at the 0.05 level.

Next, trust was used as the dependent and the type of electricity contract as the independent variable to examine whether contract type affects consumer trust (Table 20). The mean square between the groups was 168.940, F-value 162.522 and significance < 0.001. The Eta^2 value of the analysis was 0.182 and Eta squared value 0.034. Hence, approximately 18% of the variance in consumer trust can be explained by the consumer's type of electricity contract. The *p*-value represents a statistically significant result (Bobbitt, 2021) and as $p < 0.05$, the null hypothesis was rejected. Thus, it can be concluded that there are differences in how consumers with different electricity contracts perceive the company's trustworthiness (Mattila, n.d.). The Bonferroni's test (Table 21) shows that the mean values between a fixed-term contract and "other" kind of contract differ significantly (p=0.001; 95% C.I. = [0.2094, 1.0588]), while other differences are smaller and less significant. The analysis (Table 20) shows that the mean value of responses from customers with a fixed-term contract is higher (M = 4.17, SD = 0.87) than that of other types of electricity contracts.

TABLE 20. The effects of type of electricity contract on consumer trust (one-way ANOVA).

	N	**Mean (*M*)**	**Std. deviation (*SD*)**	**F-value**	***p*-value**	**Mean square between groups**	**Mean square within groups**
Fixed-term contract	8,203	4.1653	0.87480				
Valid until further notice	1,089	3.7431	1.07396				
Market-based contract	1,148	3.7682	0.95765				
Other	32	3.5313	1.38943				
Total	10,482	4.0759	0.92441	122.868	< 0.001	101.452	0.826

TABLE 21. Bonferroni's test: type of electricity contract x consumer trust.

	Mean difference	Significance	Lower bound	Upper bound
Fixed-term contract				
Valid until further notice	0.42216*	**< 0.001**	0.3448	0.4995
Market-based contract	0.39714*	**< 0.001**	0.3216	0.4727
Other	0.63406*	**< 0.001**	0.2094	1.0588
Valid until further notice				
Fixed-term contract	-0.42216*	**< 0.001**	-0.4995	-0.3448
Market-based contract	-0.02502	1.000	-0.1265	0.0764
Other	0.21190	1.000	-0.2182	0.6420
Market-based contract				
Fixed-term contract	-0.39714*	**< 0.001**	-0.4727	-0.3216
Valid until further notice	0.02502	1.000	-0.0764	0.1265
Other	0.23692	0.875	-0.1928	0.6667
Other				
Fixed-term contract	-0.63406*	**< 0.001**	-1.0588	-0.2094
Valid until further notice	-0.21190	1.000	-0.6420	0.2182
Market-based contract	-0.23692	0.875	-0.6667	0.1928

*) The mean difference is significant at the 0.05 level.

The next one-way ANOVA analysis was conducted so that crisis communication was set as the dependent variable. The type of apartment was used as the independent variable in the analysis to compare its impacts on crisis communication. The results of the one-way ANOVA analysis between crisis communication and the type of the apartment are presented in Table 22. The mean square between the groups was 8.600, F-value 11.163, and p-value < 0.001. Again, the null hypothesis of the analysis can be rejected, and it can be concluded that consumers that live in different types of apartments or dwellings perceive a company's crisis communication actions differently. The means and standard deviations of different apartment types are presented in Table 22. The highest mean value is that of the respondents living in semi-detached houses (M = 3.86, SD = 0.82) and the lowest value that of the respondents living in "other" type of apartment (M = 3.61, SD = 0.91).

The Eta^2 value of the analysis was 0.071 and Eta squared value 0.005. Thus, it can be concluded that the type of apartment explains around 7% of the variance in customers' perceptions related to crisis communication. The results of the Bonferroni's test (Table 23) show that the mean values between a detached house and row house (p < 0.001; 95% C.I. = [-0.1890, -0.0313]), and row house and "other" type of apartment (p < 0.001; 95% C.I. = [0.0857, 0.4004]) differ significantly, while the differences and levels of significance between other types of apartments are smaller.

TABLE 22. The effects of apartment type on crisis communication (one-way ANOVA).

	N	Mean	Std. deviation	F-value	*p*-value	Mean square between groups	Mean square within groups
Detached house	5,472	3.7389	0.88336				
Row house	1,190	3.8490	0.87596				
Semi-detached house	320	3.8622	0.81975				
Block of flats	1,648	3.8509	0.86419				
Other	309	3.6060	0.91323				
Total	1,939	3.7740	0.87972	11.163	< 0.001	8.600	0.770

TABLE 23. Bonferroni's test: apartment type x crisis communication.

	Mean difference	Significance	Lower bound	Upper bound
Detached house				
Row house	-0.11014*	**< 0.001**	-0.1890	-0.0313
Semi-detached house	-0.12336	0.146	-0.2651	0.0184
Block of flats	-0.11200*	**< 0.001**	-0.1812	-0.0427
Other	0.13290	0.096	-0.0112	0.2770
Row house				
Detached house	0.11014*	**< 0.001**	0.0313	0.1890
Semi-detached house	-0.01322	1.000	-0.1684	0.1420
Block of flats	-0.00186	1.000	-0.0956	0.0919
Other	0.24303*	**< 0.001**	0.0857	0.4004
Semi-detached house				
Detached house	0.12336	0.146	-0.0184	0.2651
Row house	0.01322	1.000	-0.1420	0.1684
Block of flats	0.01136	1.000	-0.1392	0.1619
Other	0.25625*	0.003	0.0597	0.4528
Block of flats				
Detached house	0.11200*	**< 0.001**	0.0427	0.1812
Row house	0.00186	1.000	-0.0919	0.0956
Semi-detached house	-0.01136	1.000	-0.1619	0.1392
Other	0.24489*	**< 0.001**	0.0921	0.3977
Other				
Detached house	-0.13290	0.096	-0.2770	0.0112
Row house	-0.24303*	**< 0.001**	-0.4004	-0.0857
Semi-detached house	-0.25625*	0.003	-0.4528	-0.0597
Block of flats	-0.24489*	**< 0.001**	-0.3977	-0.0921

*) The mean difference is significant at the 0.05 level.

The next analysis was conducted between crisis communication and electricity contract (Table 24). The mean square between the groups was 38.931, F-value 51.151, and *p*-value < 0.001. As the null hypothesis is rejected, the analysis shows

that the type of electricity contract affects how crisis communication is perceived. The mean of the fixed-term contract (M = 3.83, SD = 0.86) was the highest mean value of the ANOVA. The Eta^2 value was 0.130 and Eta squared value 0.017; thus, the type of electricity contract explains approximately 13% of the variance in how crisis communication is perceived. The values of the Bonferroni's test for post-hoc comparisons (Table 25) are quite high, as it was found that the type of electricity contract explains around 13% of the variance in how customers perceive crisis communication. The biggest differences are seen between "other" type of contract and fixed-term contract (p < 0.001; 95% C.I. = [-1.0914, -0.1689]).

TABLE 24. The effects of type of electricity contract on consumer trust (one-way ANOVA).

	N	**Mean**	**Standard deviation**	**F-value**	***p*-value**	**Mean square between groups**	**Mean square within groups**
Fixed-term contract	6,952	3.8335	0.85832				
Valid until further notice	940	3.6095	0.94956				
Market-based contract	1,022	3.5346	0.88080				
Other	25	3.2033	1.30150				
Total	8,939	3.7740	0.87972	51.151	< 0.001	38.931	0.761

TABLE 25. Bonferroni's test: type of electricity contract x personalization.

	Mean difference	Significance	Lower bound	Upper bound
Fixed-term contract				
Valid until further notice	0.22403*	**< 0.001**	0.1440	0.3040
Market-based contract	0.29894*	**< 0.001**	0.2218	0.3761
Other	0.63018*	0.002	0.1689	1.0914
Valid until further notice				
Fixed-term contract	-0.22403*	**< 0.001**	-0.3040	-0.1440
Market-based contract	0.07491	0.345	-0.0291	0.1790
Other	0.40615	0.130	-0.0604	0.8727
Market-based contract				
Fixed-term contract	-0.29894*	**< 0.001**	-0.3761	-0.2218
Valid until further notice	-0.07491	0.345	-0.1790	0.0291
Other	0.33124	0.364	-0.1348	0.7973
Other				
Fixed-term contract	-0.63018*	**0.002**	-1.0914	-0.1689
Valid until further notice	-0.40615	0.130	-0.8727	0.0604
Market-based contract	-0.33124	0.364	-0.7973	0.1348

*) The mean difference is significant at the 0.05 level.

In the next analysis, personalization was set as the dependent variable. When the relationship between personalization and apartment type was analyzed, it was found that the mean square between groups was 13.672, F-value 14.725, and $p < 0.001$ (Table 26). Thus, it can be concluded that there is a difference in the perceptions of personalization between customers that live in different kinds of apartments. The mean value of block of flats ($M = 3.74$, $SD = 0.93$) was the highest value of the test, whereas the mean of "other" type of apartment ($M = 3.42$, $SD = 1.04$) was the lowest.

The mean square between the groups was 13.672 and mean square within groups 0.929. The Eta^2 value of the test was 0.079 and Eta squared value 0.006, which indicates that approximately 7.9% of the variance in how customers perceive the company's personalization is explained by the type of the apartment. The values are low and, thus, the explanatory power of apartment type on personalization is quite low. The Bonferroni's test (Table 27) shows that the biggest differences between apartment types are in those relationships that include the "other" type of apartment, as all the differences are high and significant (see Table 27). Other significant differences can be noticed between detached house and row house ($p < 0.001$; 95% C.I. = [-0.2142, -0.0453]), and detached house and block of flats ($p < 0.001$; 95% C.I. = [-0.2132, -0.0660]).

TABLE 26. The effects of apartment type on personalization (one-way ANOVA).

	N	**Mean**	**Std. deviation**	**F-value**	***p*-value**	**Mean square between groups**	**Mean square within groups**
Detached house	5749	3.6042	0.97405				
Row house	1250	3.7340	0.95836				
Semi-detached house	339	3.7109	0.92005				
Block of flats	1767	3.7438	0.92486				
Other	338	3.4241	1.04213				
Total	9443	3.6449	0.96640	14.725	< 0.001	13.672	0.929

TABLE 27. Bonferroni's test: apartment type x personalization.

	Mean difference	Significance	Lower bound	Upper bound
Detached house				
Row house	-0.12978*	**< 0.001**	-0.2142	-0.0453
Semi-detached house	-0.10669	0.476	-0.2579	0.0445
Block of flats	-0.13960*	**< 0.001**	-0.2132	-0.0660
Other	0.18016*	**0.008**	0.0287	0.3316
Row house				
Detached house	0.12978*	**< 0.001**	0.0453	0.2142

Semi-detached house	0.02309	1.000	-0.1426	0.1888
Block of flats	-0.00982	1.000	-0.1098	0.0902
Other	0.30994*	**< 0.001**	0.1441	0.4758
Semi-detached house				
Detached house	0.10669	0.476	-0.0445	0.2579
Row house	-0.02309	1.000	-0.1888	0.1426
Block of flats	-0.03291	1.000	-0.1933	0.1275
Other	0.28685*	**0.001**	0.0789	0.4948
Block of flats				
Detached house	0.13960*	**<.001**	0.0660	0.2132
Row house	0.00982	1.000	-0.0902	0.1098
Semi-detached house	0.03291	1.000	-0.1278	0.1933
Other	0.31976*	**<.001**	0.1591	0.4804
Other				
Detached house	-0.18016*	**0.008**	-0.3316	-0.0287
Row house	-0.30994*	**<0.001**	-0.4758	-0.1441
Semi-detached house	-0.26685*	**0.001**	-0.4948	-0.0789
Block of flats	-0.31976*	**<0.001**	-0.4804	-0.1591

*) The mean difference is significant at the 0.05 level.

Lastly, the effects of the type of electricity contract were analyzed (Table 28). The highest mean value was that of the fixed-term contract (M = 3.72, SD = 0.94). The mean square between groups was 62.182, F-value 68.000, and p-value < 0.001. The Eta^2 value was 0.145 and Eta squared value 0.021. The values suggest that the type of electricity contract explains 14.5% of the variance of perceived personalization. With the Bonferroni's test (Table 29), significant differences between fixed-term and valid until further notice contract (p < 0.001; 95% C.I. = [0.2162, 0.3851]), and fixed-term and market-based contract (p < 0.001; 95% C.I. = [0.2708, 0.4350]) were found. Another significant difference was found between fixed-term and "other" type of contract (p = 0.002; 95% C.I. = [-1.1835, -0.1919]).

TABLE 28. The effects of type of electricity contract on personalization (one-way ANOVA).

	N	**Mean**	**Standard deviation**	**F-value**	***p*-value**	**Mean square between groups**	**Mean square within groups**
Fixed-term contract	7,314	3.7198	0.93610				
Valid until further notice	1,018	3.4191	1.07879				
Market-based contract	1,085	3.3668	0.96018				
Other	26	3.0321	1.27019				
Total	9,443	3.6449	0.96640	68.000	< 0.001	62.183	0.914

TABLE 29. Bonferroni's test for post-hoc comparisons between types of electricity contracts.

	Mean difference	Significance	Lower bound	Upper bound
Fixed-term contract				
Valid until further notice	0.30064*	**< 0.001**	0.2162	0.3851
Market-based contract	0.35294*	**< 0.001**	0.2708	0.4350
Other	0.68771*	0.002	0.1919	1.1835
Valid until further notice				
Fixed-term contract	-0.30064	**< 0.001**	-0.3851	-0.2162
Market-based contract	0.05230	1.000	-0.0578	0.1624
Other	0.38707	0.249	-0.1141	0.8882
Market-based contract				
Fixed-term contract	-0.35294*	**< 0.001**	-0.4350	-0.2708
Valid until further notice	-0.05230	1.000	-0.1624	0.0578
Other	0.33477	0.467	-0.1660	0.8355
Other				
Fixed-term contract	-0.68771*	**0.002**	-1.1835	-0.1919
Valid until further notice	-0.38707	0.249	-0.8882	0.1141
Market-based contract	-0.33477	0.467	-0.8355	0.1660

*) The mean difference is significant at the 0.05 level.

5.2.3 Summary of the quantitative analysis

When assessing the PLS-SEM measurement model, it was found that the correlations between the latent variables consumer trust, crisis communication and personalization were strong. It was also found that relationship length correlated with other latent variables only weakly and its correlating effect with other relationships was either low or negative (Table 8). The only relationship that the length of the relationship moderated positively and strongly was that between personalization and crisis communication. Construct validity and reliability were measured using composite reliability, Cronbach's alpha, and the average variance extracted. The constructs were found to be valid and reliable.

Based on the analysis of the PLS-SEM structural model, it was found that hypotheses H_1 and H_4 were empirically supported, whereas H_2 and H_3 were not (Table 12). The hypotheses were tested by looking at the *t*-values, *p*-values, and path coefficients. The analysis shows that crisis communication and personalization significantly impact consumer trust, whereas relationship length does not impact consumer trust in a significant, positive way. Relationship length as the moderator variable has a low and insignificant impact on consumer trust.

In SPSS, cross-tabulation and one-way analysis of variance (ANOVA) were conducted as additional analysis to bring added value to the case company and offer them knowledge on what kinds of differences there are between their different customer segments. It was found in the cross-tabulation (see section 5.2.1) that there is a dependency between length of the relationship and apartment type, although the dependency is quite weak. Cross-tabulation shows that there is also a dependency between relationship length and heating method, yet that dependency is weak, as well.

One-way ANOVA (section 5.2.2) was used to comprehend if the type of electricity contract and apartment type impact customers' understanding of the company's crisis communication, personalization, and trustworthiness. In the first part of the ANOVA analysis, it was found that customers living in different types of apartments perceive the company's trustworthiness differently, especially if they live in a semi-detached house instead of "other" type of apartment, such as a summerhouse. When examining the impacts of other demographics on the customer's perception of crisis communication, it was found that apartment type also has an effect on it. While it was found that apartment type explains approximately 7% of the variance in consumer trust, around 18% of it is explained by type of the electricity contract.

The second ANOVA analysis shows that the type of electricity contract impacts how customers perceive a company's level of crisis communication. The difference was significant between customers living in detached houses and customers living in row houses. It was found that also the type of electricity contract affects customers' perceptions on crisis communication. Apartment type explains approximately 7% and type of contract around 13% of variance related to crisis communication. The last part of the ANOVA analysis shows that personalization is affected by apartment type and type of electricity contract. Apartment type explains 7.9% of the variance in customers' perceptions of personalization, whereas type of the electricity contracts explains approximately 14.5% of personalization.

5.3 Results from the expert interviews

Five expert interviews were conducted with Lumme Energia's employees via Microsoft Teams. The length of each interview was around 30-45 minutes. The interviews were recorded and after the interviews, the recordings were transcribed utilizing Microsoft Word's transcription tool, which allows transforming the audio file into written form. In this case, content was the main point of focus, which is why content analysis was used as a base for transcribing the recordings (see, e.g., Ruusuvuori & Nikander, 2017, p. 368). Thematic content analysis means transcribing the interview word-by-word, including filler words, such as "um", and "like". After transcribing the content of the interview, the data was anonymized by removing all personal information and sensitive information from the transcription. (Ruusuvuori & Nikander, 2017, p. 368, 375). After utilizing the transcription tool, the text was manually proofread and sent to the interviewee. Once the interviewee had given their consent about the content, the scripts from the interview were read through one more time, after which thematic content analysis was conducted. As the interviews were conducted in Finnish, they required translating. Thus, the included citations are not purely in the interviewees' own words, however, the content has been stored as well as possible.

The experts that were interviewed each work in different fields within the company. As the interviews include the viewpoint of experts working in electricity purchasing, communication, service management, B2C sales, and B2B sales tasks, it is crucial to note that their viewpoints may vary from one another's. Another point to note is that the working experience within the field varies between one to thirty years between the interviewees. Despite the differences, the interviewees are experts within the industry and complete their daily work tasks in the case company, which is affected by the emerging crisis in a crucial way. In the beginning of each interview, the interviewee was familiarized with the topic of the thesis as well as offered a possibility to ask questions related to the thesis or the interview. The interviewee was informed about recording the interview and all interviewees gave their consent for that. They were informed about the anonymity of the interviews that are included in the thesis and about their opportunity to read through the transcript before the analysis begins. The interviewees were also informed about these details before the interview started, as they were required to fill out a consent form regarding the interview and were provided with an informative form regarding the study as well as the privacy notice of the interview. All three themes of the interview (energy crisis and electricity companies, energy crisis and the future, energy crisis and individuals) were introduced to the interviewee as the interview progressed. At the end of the interview, the expert was offered a chance to add anything related to the topic.

When asked about how the energy crisis has affected their daily tasks, the experts agreed that the crisis has had quite a concrete effect on their work. These concrete effects include the rush in the form of an increased number of customer contacts, the need to be more concise and focused when monitoring the electricity market, and the customers' increased level of awareness towards electricity. The expert working in communication stated that the prioritizing and point of focus in communication switched towards electricity prices when the energy crisis emerged, as the prices started rising and customers became more intrigued by the possibilities related to electricity consumption and monitoring the current electricity prices. The possibility to monitor electricity pricing and consumption is offered to customers through Lumme Energia's mobile app called OmaLumme that was, as stated by the experts, already being planned before the crisis. The experts noted that the process was sped up as a consequence of the crisis, as the company noticed that its customers needed and wished for such an application when the crisis emerged.

During the interviews, all five interviewees mentioned customers' increased awareness related to electricity and its price, and the growing number of market-based electricity contracts. The seven other most frequently emerged themes were the building of more solar power or panels, customers wishing to get an opportunity to monitor their electricity consumption and electricity price, the existing thought of a "greedy electricity company", increasing efficiency in energy production, increasing levels of wind power, customer service being congested, and customers being more careful with making new electricity contracts during the energy crisis. Table 29 provides a list of the nine most frequently emerged themes during the interviews.

TABLE 30. The most frequently emerged themes during the expert interviews.

Theme	**Number of experts discussing the theme**
Increased awareness	5
Increased number of market-based contracts	5
More solar power or solar panels	4
Customers wishing to monitor their electricity consumption and price	4
"Greedy electricity companies"	4
Efficiency in energy consumption	3
More wind power	3
Congested customer service	3
Customers more careful with contracts	3

The first theme of the interviews was the energy crisis and electricity companies. The interviewees were asked what kinds of effects they believe the energy crisis has on Lumme Energia or electricity companies in general. The experts brought up themes such as customers becoming electricity producers in addition to being electricity users, changes in risks for both electricity companies and their customers, and increased number of contacts in customer service. One of the interviewees was wondering whether companies are able to provide their customers with enough clear information about the reasons behind the electricity prices and the crisis itself. They added that as a consequence of the crisis and customers becoming more aware of electricity and its pricing, companies have an essential role in serving customers and helping them with understanding how they can pay more attention to their electricity consumption in the future.

> Expert 5: "—and then, of course, the customer understanding of the high prices, that, like, do they remember where this crisis has derived from and, and, and then, like, is this some scam by electricity companies or what is this. And why me, —"

Many of the experts brought up that it was unnatural for electricity companies to face a need to remove some types of electricity contracts from the market, which was required as a consequence of the crisis. One expert noted that the energy crisis did not hit Finland as badly as was foreseen in terms of prices, yet some customers made longer contracts with electricity companies at a quite high price. They added that this is likely to reduce the trust of those customers in electricity companies, as the contracts cannot be changed before they expire. The expert suggests finding new opportunities for providing value to the customers to show them that the company is trustworthy and worth the price.

> Expert 1: "But how could we, maybe, like, reclaim the trust, could be that we could add our own expertise and, like, serve the customers better at the next, next stage."

Two of the experts mentioned the importance of increasing their own credibility and expertise both in sales and customer service. Lumme Energia has been publishing informative posts on the overview of electricity prices (s*ähkön hintakatsaus*) and their customers have a possibility to join a mailing list where the updated information is shared. One of the experts refers to the overview as the company's act to share information transparently to their customers and as a way to showcase their expertise.

> Expert 4: "—it [the overview of the electricity prices] has been very popular, and it has been, like, cited in many, and, like, even in the news, like, [I have] seen that, that, it has been referred to."

The second theme of the expert interviews was the energy crisis and the future. When the experts were asked if electricity companies should change their ways of working after the energy crisis, the experts agreed that they should. Expert 1, for example, stated that the next actions should be considered carefully instead of operating like companies used to before the crisis. They also mentioned that the change of habits does not only concern electricity companies, but companies in other fields, as well, to ensure being prepared for potential future changes affecting them. Expert 2 called for questioning why electricity companies were not prepared for such risks that the energy crisis had on them. They added that it did not require that much for the electricity prices to increase rapidly and the same could have been caused by any other turmoil in the world. Expert 3 mentioned that the number of such electricity contracts where the customer pays for their electricity, not only based on their consumption, but also based on when they are consuming the electricity, is increasing. The flexible pricing allows paying less for electricity when the overall consumption on a national level is low and, in turn, requires paying a somewhat higher price at peak hours. Expert 3 stated that the new type of electricity contract is a combination of the traditional fixed-term contract and market-based contract, and it benefits both the customers and the company by lowering the risks related to pricing. Expert 5 answered that it is likely that the importance of services will increase, as customers have learned more about electricity consumption as a consequence of the higher prices and will be more careful with their electricity solutions in the future. They believe that electricity companies have a vital role in serving customers and increasing their level of understanding of electricity consumption. Expert 4, in turn, suggested that the ways of working may not need radical changes, but transparency and dialogue with customers should be continued.

The experts were asked whether they see any opportunities in the energy crisis, especially from the viewpoint of electricity companies. Expert 1 pointed out that the crisis has a positive effect on Finland's self-sufficiency regarding electricity, as, for example, households have supplied their houses with an exceeding number of solar panels and more parks with solar panels have been built. All experts also mentioned that the awareness of consumers in Finland has exceeded rapidly, which they see as a positive outcome of the crisis. Some experts believe

that the increased level of awareness will lead to positive changes related to energy efficiency and saving electricity and, hence, less peaks in electricity prices and less burden on the overall electricity consumption. The experts see energy efficiency as a benefit to individual customers, companies, society, and the environment.

> Expert 2: "Well, clearly, like, people are a lot more aware of the electricity market today. And even though the electricity bill and electricity contract have not, like, been considered very much before, it feels like today there are a lot more people who have had to find out about things last winter, about how these things go."

> Expert 1: "Well, probably, these, like, consumers in general, have started thinking, and companies as well, of course, about these, like, things, related to energy efficiency. And, well, actually, let's say that even more, perhaps, companies [think about] especially these energy efficiency related things, consumers more of the things related to electricity saving."

> Expert 3: "—of course, especially, well, like, the increase in energy efficiency is, like, indeed, from a societal and environmental and all points of view absolutely a good, good, thing."

The last theme of the interviews was energy crisis and consumers. A common theme in the experts' responses was the increased awareness among consumers and, thus, more careful approach on electricity solutions, increased interest towards solar panels, and the need for services that allow monitoring their own electricity consumption and prices. Another change noticed in the behavior of consumers was their interest towards market-based electricity contracts. The experts were asked how they believe the energy crisis is affecting customers' trust towards Lumme Energia or electricity companies in general. Many of the interviewees answered that they believe the crisis has had a negative impact on consumer trust, as it has been noticed that the consumers' thoughts on electricity companies have turned towards being more negative and some consumers believe that the price of electricity increased due to the greediness of electricity companies. Expert 3 pointed out that some companies, including Lumme Energia, stopped selling fixed-term contracts as a result of the prices that were considerably higher than before and, in turn, encouraged customers to make market-based contracts, as they believed that it was the best option at that time.

> Expert 3: "—we did not think that it was responsible to, like, engage people for like two years in around a thirty-cent price, and, like, that is why we did not even sell those contracts, —" "Well, now, of course, Finland was saved, mainly because of the mild weather, that the considerably high prices did not appear at all. So, the encouragement [to make market-based contracts] was even better, —"

The experts highlighted the customers' increased level of awareness and how it led to a situation where customers wished for an opportunity to have a way to monitor electricity-related matters, such as their consumption and pricing. The need led to a faster development of Lumme Energia's OmaLumme service that

expert 4 describes as a service that enables monitoring their own electricity consumption slightly more closely and comparing it to that of other households and customers of the company.

> Expert 4: "We were first just, like, piloting [the OmaLumme service] and, well, then it came really fast that we need to get it, like, for everyone. That it was already, like, on its way, but that it like sped up, —"
>
> Expert 5: "Then, then that, as the winter was approaching, there was discussion on electricity sufficiency, the potential threat of an electricity shortage. In a very different way, way, that, the monitoring of electricity consumption began to interest, interest customers, or we wanted to talk about our opportunities, the OmaLumme service. We started developing that, or, in fact, we had already somewhat decided to start developing it, but the speed became, like, a lot faster as we saw that now really, really the customers' need for that, that they need, need to, like, more careful than before, to monitor [their electricity consumption] is becoming really concrete."

Another point related to pricing from the experts was that it is possible that the consumers in Finland were not sufficiently informed about the causes of the rising electricity prices. Expert 2, for example, stated that electricity companies' communication should be open and honest, as now it has seemed like the media may not be sufficiently aware of the reasons behind the higher prices. Expert 5 noted that once the communication on national level, for example, by electricity companies and the media, was focused on sharing the same information, consumers took it with an adequate seriousness and started saving electricity.

To summarize the findings from the expert interviews, it can be stated that experts consider the biggest opportunities and positive outcomes of the energy crisis in Finland to be the consumers' increased level of awareness, the faster building of new solar and wind parks, the increasing number of solar panels in households, and customers' interest towards monitoring their electricity consumption and saving electricity. Some negative outcomes of the crisis are the consumers' perceptions of electricity companies becoming more negative, and electricity companies' customer services being congested. The experts stated that an exceeding number of customers are waiting for the prices to decrease, and many customers are currently leaning towards preferring market-based electricity contracts. In some interviews, it was pointed out by the experts that the energy crisis may still not be over, as the electricity price is affected by many factors, such as the temperatures in the winter, war in Ukraine, the overall situation in Europe, and the building of new solar and wind parks to increase the self-sufficiency of electricity in Finland. Some experts stated that it looks like the crisis is over, at least momentarily, as Finland's gas storage is full and Olkiluoto's third nuclear reactor running.

Expert 1 noted that it could be beneficial to switch the overall focus away from the price-centric thought towards a direction where the company differentiates itself by improving its communicating towards its customers and sharing what more it has to offer than simply electricity. These improvements could be related to, for example, services, expertise and offering what the customers need and expect from the company. The expert added that these changes will require understanding the customers' expectations and letting the customers share their

ideas and what they wish and expect from the company. A couple of the experts mentioned the bankruptcies of electricity companies in Finland that were, at least partially, caused by the energy crisis. It is likely that the bankruptcies that consumers have seen also affect their trust, since, as presented by one of the experts, the bankruptcy of an electricity company also affects its customers, as that means that they need to rapidly switch to a new operator whose prices may be higher and terms different. Thus, maintaining trust requires clear communication and dialogue with stakeholders.

Combining the knowledge gained from the expert interviews with data from the customer survey, it can be noted that while the experts believed that the consumer trust towards electricity companies has suffered a major decrease, the survey results show that the situation may not be as hopeless as it has seemed. The high mean values of the customer survey show that while there are things that can be improved, customers seem to have understood the severity of the situation during the crisis when it was predicted that measures related to electricity shortage should be taken. As the crisis has affected, and will continue to affect, the whole energy industry, it may be so that the customers are still willing to trust if the company proves to be trustworthy and transparent.

The main research question of this thesis is the following: *During the energy crisis, how should an energy company align its marketing and branding actions so that it can provide a great customer experience, build trust, and best differentiate itself from its competitors?* In the interviews, the experts were asked about the threats and opportunities that result as a consequence of the energy crisis. The questions related to the impacts of the crisis on the experts' personal job tasks, company, industry, and customers' trust towards electricity companies. Besides these topics, the experts were asked what kinds of positive or negative changes they recognize and what kinds of opportunities the post-crisis circumstances may offer. It was found when analyzing the interviews that the experts would recommend improving the expertise of the company's employees and communicating that expertise to the stakeholders, improving the app where customers can, for example, monitor their electricity consumption, and communicating openly with the customers also about topics that may be less favorable to the company to improve the customer experience, build trust, and differentiate from competitors. The experts agreed that consumers becoming more aware is a positive outcome of the crisis and it provides an opportunity for electricity companies to develop new products and services. The increased awareness was also seen as a minor threat by some experts since it may make the customers of electricity companies more demanding.

6 DISCUSSION

6.1 Findings and conclusions

The aim of this thesis was to examine how consumer trust is affected by crisis communication and personalization during the energy crisis and whether the length of the relationship between the company and its customers moderates that. One main research question and four sub-questions were created for the thesis (see section 1.2).

The main research question (RQ1) and sub-question RQ2 were answered in the expert interviews (see section 5.3). The experts believed that during and after the energy crisis, companies will be required to show how they can bring additional value to the customer through, for example, improving their expertise and sharing it with customers, developing ways for customers to monitor and manage the electricity consumption of their household, prioritizing open dialogue with stakeholders and, thus, building and maintaining trust. These ideas align with the literature and prior research that were used to build the theory parts of this thesis. The results from the customer survey show that while the change has affected how customers perceive electricity companies in Finland, the customers' average answers related to consumer trust were quite high; they varied from 3.88 to 4.30, on a scale from one to five. While there were some missing answers ("don't know" answers), the number of respondents that picked an answer between one and five was quite high in consumer trust related questions. The lowest response rate was in question seven, where n = 11,267, as the overall survey n = 14,311. The current level of customers' trust in the case company seems encouraging, yet the experts recognized a need to change the ways that customers are communicated to and with. Some solutions from the viewpoint of consumer trust could include, for example, engaging customers in more dialogue, improving services related to collecting and analyzing customer feedback, and providing a platform where two-way communication is easy to implement from both the customer's and the company's point of view.

RQ3 relates to how customers perceive a company's crisis communication, personalization, trust, and whether the perception is moderated by the length of the relationship. It was found in the PLS-SEM analysis (see section 5.1) that the correlation between length of the relationship and other variables was positive but weak, as the correlation between the variables was close to none. Using the length of the relationship as a moderator in the model provided low *t*-values and *p*-values and its effect on consumer trust was found to be low and not significant. However, the analyses show that although the correlation was weak, the analyses and the model themselves were valid, as the proposed research model of this study explains approximately 44.7% of consumer trust.

The lowest mean values (see Appendix 4) of the themes examined with the customer survey were found in the theme of personalization, where the mean

values varied between 3.55 and 3.83. The respondents were least happy with the case company's tailoring of its product and service offering. The two other lowest values were reported in the questions that measured the customers' perceptions of whether the company considers the needs of its customers important and whether it understands what its customers want. RQ4 suggests finding ways to personalize during and after the energy crisis. The question was answered by the experts and literature. It was found in the expert interviews that as electricity companies may not be able to compete in product selection or price, they could utilize dialogue, finding out what kind of information is relevant for each customer segment and providing them with that, developing the mobile app further by finding out what customers want, and coming up with solutions that support fulfilling those wishes. Providing relevant information is also supported and encouraged by Kotler et al. (2021, p. 60). One of the experts suggested seeking to differentiate through other means than price and switching the attention from price towards the quality of service, as the core product of the electricity companies does not differ significantly. Improving the quality of service could mean improving the knowledge of customer expectations and tailoring the products based on those. Learning about the customer needs in terms of personalization can happen through collecting data about their behavior and demographics with, for example, automated algorithms and technology (see, e.g., Meuer et al., 2019; Kotler et al., 2021, p. 60).

RQ5 requires examining if and how crisis communication and personalization impact consumer trust during the crisis. The answer in RQ5 can be found in literature and by judging and concluding the results of the customer survey and statements by the interviewed experts. The experts suggest that continuing with clear and honest communication towards customers leads to successful trust creation after the energy crisis. Some of the experts would recommend changing the company's services so that they would meet the customers' needs and expectations in terms of, for example, sharing the employees' expertise and teaching the customers about energy consumption. Vesanen & Raulas (2006, p. 10) introduced the steps that are part of the process of personalization (see Figure 6). These steps include, for example, creating customer profiles based on customer data and utilizing those profiles when interacting with the customers. This aligns with the experts' wishes to focus on customizing the customer interaction so that it is relevant and adds value to their experiences with the company. It was found in the quantitative analysis of the three themes of the customer survey that customers were least satisfied with the theme personalization. This, together with literature and the expert interviews, suggests that the company should focus more on personalization, as it was found in the analysis of the hypotheses that personalization improves consumer trust.

It was found in the PLS-SEM analyses that hypotheses H_1 and H_4 were supported and, hence, positive dependencies between crisis communication and consumer trust (H_1) as well as personalization and consumer trust (H_4) were found. The supported hypotheses were the following: "Crisis communication has a positive impact on consumer trust" (H_1) and "Personalization has a positive

impact on consumer trust" (H_4). The contents of the confirmed hypotheses were also supported by the findings from the expert interviews, where the experts highlighted the importance of improving the quality and quantity of communication to build and maintain customers' trust in the company, and the need to improve the mobile application OmaLumme that is offered for customers to allow them to monitor and manage their electricity consumption and price. H_1 is also supported by literature, since it has been found that maintaining and rebuilding trust can be supported through communication (Luo, 2002; Cazier, 2007) and especially crisis communication (Wang et al., 2021). In turn, the dependency between personalization and consumer trust, as suggested in H_4, has been found to derive from, for example, the fact that trust is considered a prerequisite for customers providing information that can be used to personalize products and services, and solving customers' potential concerns related to privacy can lead to more successful personalization (e.g., Luo, 2002). Previous studies (e.g., Coelho & Henseler, 2012) have found that the potential effects and success of service customization depend on the quality of the relationship between the company and its customers, which includes the level of consumer trust. Coelho and Henseler (2012, p. 347), for example, suggest that the connection between consumer trust and customization is "synergistic". Thus, the findings regarding H_4 also align with previous studies and literature, and it can be confirmed that personalization positively affects consumer trust.

Hypotheses two and three that relate to the moderating effect of relationship length were not supported based on the results from the customer survey. The hypotheses were the following: "The length of the relationship has a positive moderating impact on the relationship between crisis communication and consumer trust." (H_2) and "The relationship between personalization and consumer trust is moderated by the length of the relationship" (H_3). Some previous studies (e.g., Coulter & Coulter, 2002; Sabiote & Román, 2009) suggest that the length of the relationship has a moderating effect on consumer trust. In this thesis, such an effect was not found. Some of the reasons behind the two rejected hypotheses could be differences between industries, rapidly changing circumstances around energy companies, and the differences between the perceptions of B2B and B2C customers. The difference between industries and its effect on whether relationship length impacts trust has also been suggested by Sabiote and Román (2009, p. 448). Coulter and Coulter (2002), in turn, examined the moderating role of relationship length in the B2B context, whereas this thesis research was conducted in the B2C context. In this thesis and in these circumstances, the moderating effect of relationship length was not confirmed.

As it was concluded in the theory section of this thesis that the energy crisis is a low-responsibility, victim cluster crisis for electricity companies (Coombs, 2007; see section 3.1), the results from the customer survey can be explained with help of the SCCT framework (Coombs, 2007). Based on the SCCT, the high averages and mean values of the survey could be explained by, for example, the strong reputation that the case company had prior to the crisis and that the company has not faced a similar crisis before (Coombs, 2007). As the

framework suggests, crisis communication has an effect on stakeholders' perceptions of a company during and after a crisis. Amaresan (2022) encourages companies to focus on monitoring the crisis and social media channels and keeping communication clear and transparent. The list of actions that are recommended when creating a crisis communication plan (Table 2) are supported by the findings of the expert analysis. The experts recommended actions such as focusing on clear communication and open dialogue, increasing trust-building actions, and seeking to identify potential risks in advance. These actions are supported by the actions suggested in literature (see Table 2).

This study was built on the situational crisis communication theory (SCCT), which emphasizes the role of a positive reputation and the importance of finding the most appropriate strategies during a crisis (Coombs & Holladay, 2002). According to the SCCT, the impact of the crisis on a company depends on its perceived crisis responsibility, which is affected by various factors (see Figure 2; Coombs, 2007). It was found in this study that although the energy crisis led to increasing electricity prices, the customers of the case company were still mostly satisfied with the company, and they perceive it as a trustworthy company despite the crisis. Based on the SCCT and the findings of this thesis, it can be concluded that Lumme Energia's strong prior reputation has had a positive impact on how the stakeholders perceive its crisis responsibility and trustworthiness, as the SCCT is based on the idea that the stronger the positive reputation, the more likely the stakeholders will support it in times of a crisis. To maintain a positive reputation, the company could improve their crisis response strategies and seek to build a stronger relationship with its customers, as those factors are considered essential in the SCCT (Coombs & Holladay, 2002; Coombs, 2007). More detailed recommendations for the company and its future actions can be found in 6.1.2.

6.1.1 Theoretical implications

This thesis combines topics from previous studies and examines the changes in consumer trust during and after the emergence of the energy crisis. The findings of this study align with existing theories, and they are supported by literature and prior studies. The supported hypotheses (H_1 and H_4) align with the theory, as earlier studies have found that communication and trust reinforce each other, which is why communication is an efficient tool for building trust (Luo, 2002). Earlier studies (e.g., Luo, 2002; Cazier, 2007) show that trust can be built by focusing on efficient and relevant communication, reputation management, good customer care, and communicating about the company's recent and future developments. Hypothesis four, in turn, suggests that personalization has a positive effect on trust. Previous studies (e.g., Coulter & Coulter, 2002) have found that the relationship between customers' level of trust and customization are connected, as especially in a longer relationship, customization was found to be exceedingly important to the customers. Another study (Meuer et al., 2019) shows that in the energy sector, the company's customized services and products are the way for them to meet the needs and expectations of their long-term customers.

Studies (e.g., Coelho & Henseler, 2012) suggest that customization helps companies build and maintain relationships, as customization has been found to improve consumer trust.

The hypotheses that were not supported in this study provide information about how relationship length affects relationships between consumer trust, personalization, and crisis communication. Prior to this study, there were findings that agreed and findings that disagreed with the proposed hypotheses that were not supported in the analyses of this study. It can be suggested based on the analyses of this thesis that the impact of crisis communication and personalization on consumer trust is not always moderated by the length of the relationship. The relationships were examined in the context of the energy industry and B2C market, which could explain why a moderating effect was not found.

The expert interviews were conducted as part of this thesis to gain a deeper understanding of the phenomenon and its effects on consumers. It was found in the qualitative analysis that the interviews enriched the extant findings of the prior studies that were used as references in this thesis, as the experts' statements align with literature and the recommendations from previous studies. Some of the experts mentioned similar topics in the interviews that were also introduced in prior research and literature. Expert two, for instance, questioned why companies had not prepared for potential risks related to electricity pricing or sufficiency before the energy crisis emerged. It was found in the theory chapters of this thesis that an essential part of any company's risk management strategy is to make sure that its crisis management plan is updated regularly so that it is completed and up to date once a crisis emerges (Veil et al., 2011). This supports the expert's thoughts on risk management and that risks should be considered before they become a crisis. The findings from the expert interviews support prior findings on, for example, the process of trust-building, the importance of transparent crisis communication, and the essentiality of communicating relevant information to customers. Tables 2 and 5, for example, consist of recommended actions related to crisis communication and personalization provided in the literature, and those actions were supported by the experts in the interviews. These recommended actions include, for example, being prepared for crises, responding to feedback, communicating actively, building trust, improving and personalizing products and services, and providing customers with information that is relevant to them.

6.1.2 Managerial implications

Based on the findings of this study, Lumme Energia should emphasize crisis communication and personalization in their actions to build consumer trust and create and maintain strong relationships with current and potential B2C customers. The relationships between crisis communication and consumer trust, as well as personalization and consumer trust, were found to be positive, which highlights the importance of well-planned and well-executed crisis communication and personalization actions.

Based on the customer survey results, it was found that the case company's customers did not believe that the company tailors its services to match its customers' needs or that it understands what its customers want or considers their needs important. In terms of communication, the customers were the least happy with the amount of information that the company has provided them with about the evolution of electricity prices, and the customers were not fully satisfied with how the company listens to what its customers are saying. The results also indicated that the customers believe that Lumme Energia's communication could be more open. These results should be considered when creating plans for future communication and personalization.

Although the results of the survey were mainly positive, there are changes that the company could make to improve their performance in terms of crisis communication and personalization. First of all, Lumme Energia should ensure that they have a crisis communication plan that is up to date. Table 2 presents recommended actions for creating a successful crisis communication plan. These actions include, for example, identifying the company's most crucial audiences, monitoring social media, answering comments on digital platforms, building trust, and improving their level of preparedness for potential crises and learning to identify risks and crises early on. Some crisis response strategies and actions related to those strategies are presented in Table 1. Previous studies recommend focusing on communication and recognizing whether the communication is aimed at new stakeholders or those who already have a long history with the company. When the communication is aimed at new customers, the focus should be on highlighting the company's person-related characteristics, such as similarity and empathy, whereas with older customers, it is more effective to utilize offer-related characteristics, such as customization, reliability, competence, and promptness (Coulter & Coulter, 2002). Recognizing the relationship length and building trust is particularly important now that electricity companies have gained new customers and lost older customers due to the energy crisis and changing electricity prices and contract types.

From the personalization point of view, Lumme Energia should focus especially on personalizing their communication, website, mobile app, and providing customers with information that is relevant to them. Improving the level of personalization in communication and on the website, for example, is likely to lead to better differentiating, fulfilling customer expectations, and ensuring a better product and service fit for the customers. A list of recommended actions and outcomes based on literature and prior studies can be found in Table 5. As it was found in the quantitative analysis that the customers were not satisfied with how they believe the company tailors its services to best serve its customers and fulfill their needs, it would be beneficial for Lumme Energia to create a plan on how to personalize their products, services, customer experience, and communication in the most effective way and how to communicate that to their customers so that they can see the company's effort. Improvements related to personalization and communication will likely require improving and increasing both the quality and

the quantity of dialogue and interaction with customers. To achieve the best results in terms of personalization and communication, Lumme Energia should consider the feedback from its customers and employees and use that as one tool for improving their products and services. Listening to customer feedback and communicating how it is being considered when planning new actions will likely lead to increased trust, as well. Prior studies agree with the importance of personalization and recommend utilizing actions such as geographical targeting and analyzing customers' past behavior to be able to communicate relevant information to the stakeholders (Meuer et al., 2019). As found in this study, providing relevant information to stakeholders is likely to lead to increased consumer trust.

In terms of consumer trust, the main point of focus should be on generating process-based trust, which is based on customers' past experiences related to interaction and expected interaction with the company. Some actions recommended to take in order to create process-based trust are focusing on relevant and transparent communication, creating satisfying customer interactions, maintaining a good reputation, providing good quality customer service, and keeping the promises that are made to customers. These and more recommended actions to create trust in B2C relationships are presented in Table 4. The descriptive statistics of the customer survey (Appendix 4) show that customers were the least happy with Lumme Energia's customer service and its perceived ability and willingness to help its customers when help is needed. By contrast, the statistics show that customers were especially happy with their experiences with the company. Although the results are encouraging, the company should not forget about focusing on building and maintaining a stronger reputation as a trustworthy company in the sector to keep its customers satisfied and improve the customers' trust in it. As was mentioned in the previous paragraph on personalization and communication, building a good reputation and increasing consumer trust will require more efficient communication and customer service. As it was found that consumer trust, personalization, and communication impact one another (see section 5.1.2), an increase in crisis communication and personalization will result in an increase in consumer trust. Thus, it should be noted that actions that are taken to improve crisis communication and personalization will also improve the customer's trust towards Lumme Energia.

6.2 Evaluation of the study

6.2.1 Limitations and future research

Some limitations of this study include the constantly changing prices and rapidly changing overall situation in the energy sector between fall 2022 and summer 2023, and the amount of relevant and irrelevant data available. Lumme Energia, like many other electricity companies, made changes in their pricing in early 2023, which may have affected the customers' opinions about the company and the

energy crisis in general. Also, the available selection of different kinds of electricity contracts has changed over the time period during which this thesis and research related to it were conducted. In spring 2023, the prices of electricity began decreasing and the crisis seemed to be ending, at least momentarily, as was indicated by some of the experts that were interviewed for this thesis.

It was found based on the customer survey feedback that the wording of the survey was not as unambiguous as it could have been, as there was a possibility of misunderstanding in some of the background questions. The misunderstandings that the respondents indicated by sending the researcher an e-mail were related to the respondent's apartment type and its heating method. Some respondents that have an electricity contract with the company at their summerhouse stated that they had chosen the option "other" as the apartment type, and those with multiple heating methods in their apartment had to choose one of the methods, as choosing multiple options was not possible. The respondents were not offered a chance to choose multiple options, as the idea was to have them choose the main heating method of the dwelling. This was not communicated to the respondents clearly enough, which should be noted when examining the results of the analysis related to heating methods. It should also be noted that based on the respondents' feedback, the apartment type option "other" should be considered to represent the responses from customers with a contract at their summerhouse.

Other limitations that should be noted derive from the fact that although the thesis itself was written in English, the survey and the expert interviews were conducted in Finnish. Thus, the survey and communication related to it has been translated from Finnish into English for this thesis, and the translations could cause some changes in the meanings of some words or sentences. While the content of each survey question and interview question was kept as similar as possible, there is a possibility of misunderstandings or minor errors in translations. The original, untranslated survey can be found in Appendix 1 and untranslated interview questions in Appendix 5.

It should also be noted that the sample size of the survey was quite large, which could impact the statistical differences (Faber & Fonseca, 2014) of the results. The number of respondents (n = 14,311) represented around 9.5% of the respondents that received the survey (150,937) and approximately 4-5% of the company's current B2C customer base that consists of around 260,000 households. As a great sample size can cause differences in analysis related to, for example, significance and null hypotheses (Faber & Fonseca, 2014), it should be noted that the findings of this study are backed up by literature and previous findings to verify the validity of the results.

In this study, only the B2C context was considered. In the future, it could be useful to conduct a study on a similar topic in a B2B context to learn how crises affect relationships between businesses. The expert interviews within this study only included interviews from within the company ("inside experts"), or those who are more or less directly involved with the crisis and the industry. In the future, it could be beneficial to compare the responses of inside and outside

experts, outside experts being, for example, researchers that are familiar with the examined topic. (Von Soest, 2022). In the future, it could also be useful to conduct qualitative research on how the energy crisis affected consumers' willingness to engage in other kinds of services provided by electricity companies and whether the energy crisis had an effect on that. This could include, for example, customers' interest in buying more services from electricity companies related to green energy solutions, such as solar panels and wind power, and exploring what kinds of services they expect from electricity companies in the future. This could help companies in the electricity industry develop new ways to utilize electricity and help customers understand electricity consumption better. The need for additional services was also brought up by some experts in the interviews, as they stated that they have noticed a change in customers' needs related to electricity solutions and a shift in their interest in electricity in general.

Another intriguing viewpoint could be examining the impacts of the energy crisis over a longer period of time. It may be that the crisis will lead to major changes in the ways in which consumers purchase and consume electricity, and there have already been signs of consumers wishing to become more self-sufficient in terms of the electricity that they need in their own houses. A study on the effects of the energy crisis on consumer behavior could provide companies in a wide array of fields with knowledge on how crises are perceived by consumers and customers and what kinds of precautions should be made before the crisis emerges. The viewpoint of crisis communication is particularly interesting at present, as the world has suffered from multiple crises within a short period of time. If a study was conducted over a longer period of time, essential information about the long-term effects of crises and how those crises affect consumers and companies could be acquired.

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7 APPENDICES

Appendix 1: Survey questions

Energiakriisin vaikutus suomalaisiin kuluttajiin

Tässä kyselyssä perehdytään Lumme Energian asiakkaiden kokemuksiin Lumme Energiasta ja sähkön hinnan muutoksista. Kyselyn toteuttaja on maisteriopiskelija Jyväskylän yliopistossa. Vastauksia käytetään anonymisoituna aineistona pro gradu -tutkielmassa, joka toteutetaan yhteistyössä Lumme Energian kanssa.

Vastaathan myös kyselyn taustakysymyksiin (kysymykset 2-13) sen asunnon näkökulmasta (esim. koti, vapaa-ajan asunto), jossa sinulla on sopimus Lumme Energian kanssa. Jos sinulla on useita sopimuksia Lumme Energian kanssa, voit vastata taustakysymyksiin valitsemasi asunnon näkökulmasta.

Ethän kirjaa henkilötietoja vastauksiisi. Vastaukset ovat anonyymeja ja ne käsitellään luottamuksellisesti. Vastaajaa ei voi tunnistaa vastauksistaan. Kyselyyn vastaaminen on vapaaehtoista ja vastaamisen voi keskeyttää milloin tahansa.

Viimeinen päivä osallistua kyselyyn on 28.2.2023. Vastaamiseen kuluu noin 5-10 minuuttia. Kyselyn tietosuojailmoitus löytyy täältä. Osallistumalla kyselyyn hyväksyt tietosuojailmoituksen.

Kiitos osallistumisestasi!

Lahjakorttiarvonta:
Kyselyyn vastanneet voivat halutessaan osallistua arvontaan, jossa arvotaan kolme 50 euron arvoista K-ryhmän lahjakorttia. Kun olet täyttänyt kyselyn ja valinnut "Lähetä", ohjaudut pian automaattisesti toiselle lomakkeelle. Jos haluat osallistua arvontaan, täytä yhteystietosi lomakkeelle. Jos et halua osallistua arvontaan, poistu täyttämättä tietojasi.

Arvontalomakkeen tiedot eivät yhdisty kyselyvastauksiin. Arvonnan säännöt löytyvät arvontalomakkeelta.

1. **Vahvistan hyväksyväni kyselyn tietosuojailmoituksen.**
   - Kyllä

2. **Ikä**

- 18-24
- 25-34
- 35-44
- 45-54
- 55-64
- 65-74
- 75-84
- 85 tai vanhempi

3. Asuinpaikka
- Etelä-Karjala
- Etelä-Pohjanmaa
- Etelä-Savo
- Kainuu
- Kanta-Häme
- Keski-Pohjanmaa
- Keski-Suomi
- Kymenlaakso
- Lappi
- Pirkanmaa
- Pohjanmaa
- Pohjois-Karjala
- Pohjois-Pohjanmaa
- Pohjois-Savo
- Päijät-Häme
- Satakunta
- Uusimaa
- Varsinais-Suomi

4. Sukupuoli
- Nainen
- Mies
- Muu
- En halua sanoa

5. Talouden koko
- 1 henkilö
- 2 henkilöä
- 3-4 henkilöä
- 5-6 henkilöä
- 6+ henkilöä

6. Talotyyppi
- Omakotitalo
- Rivitalo
- Paritalo

- Kerrostalo
- Muu

7. Huoneiden lukumäärä

- Yksiö
- Kaksio
- 3 huonetta
- 4 huonetta
- 5+ huonetta

8. Asunnon koko

- Alle 20 m2
- 20-39 m2
- 40-59 m2
- 60-79 m2
- 80-99 m2
- 100-119 m2
- 120-139 m2
- 140-159 m2
- 160-179 m2
- 180-199 m2
- 200 m2 tai suurempi

9. Asumismuoto

- Omistusasunto
- Asumisoikeusasunto
- Vuokra-asunto
- Muu

10. Onko asunnossasi oma sähkösauna?

- Kyllä
- Ei

11. Asunnon lämmitysmuoto

- Sähkölämmitys
- Kaukolämpö
- Maalämpö
- Poistoilmalämpöpumppu
- Ilma-vesilämpöpumppu
- Puulämmitys
- Öljylämmitys
- Muu

12. Minkälainen sähkösopimus sinulla on tällä hetkellä?

- Määräaikainen sopimus
- Toistaiseksi voimassa oleva sopimus

- Pörssisähkö
- Muu

13. Kuinka pitkään olet ollut Lumme Energian asiakas? (Valitse vaihtoehto, joka kuvaa tilannettasi parhaiten)

- Alle puoli vuotta
- 0,5-1 vuotta
- 1-2 vuotta
- 2-3 vuotta
- Yli 3 vuotta

14. Luottamus. Valitse tilannettasi parhaiten kuvaava vaihtoehto.

1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = Ei samaa eikä eri mieltä, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä, 0 = En osaa sanoa

Luotan Lumme Energiaan.
Luotan siihen, että Lumme Energia palvelee minua hyvin.
Kokemukseni Lumme Energian kanssa ovat olleet pääosin positiivisia.
Olen tyytyväinen siihen, miten Lumme Energia kohtelee minua.
Lumme Energia pitää lupauksensa.
Lumme Energia on rehellinen.
Lumme Energia tekee parhaansa auttaakseen minua kun tarvitsen apua.

15. Personointi. Valitse tilannettasi parhaiten kuvaava vaihtoehto.

1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = Ei samaa eikä eri mieltä, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä, 0 = En osaa sanoa

Lumme Energia pyrkii täyttämään asiakkaidensa toiveet.
Lumme Energia mukauttaa palveluitaan asiakkaidensa tarpeista riippuen.
Lumme Energia tarjoaa tuotteita ja palveluita, jotka kiinnostavat sen asiakkaita.
Lumme Energia ymmärtää tarpeeni.
Lumme Energia ymmärtää mitä haluan.
Lumme Energia pitää tarpeitani tärkeinä.

16. Viestintä. Valitse tilannettasi parhaiten kuvaava vaihtoehto.

1 = Täysin eri mieltä, 2 = Jokseenkin eri mieltä, 3 = Ei samaa eikä eri mieltä, 4 = Jokseenkin samaa mieltä, 5 = Täysin samaa mieltä, 0 = En osaa sanoa

Olen saanut Lumme Energialta riittävästi tietoa sähkön säästämisestä.
Olen saanut Lumme Energialta riittävästi tietoa sähkön hinnan muutoksista.
Olen saanut Lumme Energialta riittävästi tietoa sähkön hintakehityksestä.
Olen saanut Lumme Energialta riittävästi tietoa sähkönkäytön seurantapalvelusta (OmaLumme).

Lumme Energian viestintä energiakriisiin liittyen on onnistunut hyvin.
Lumme Energian viestintä energiakriisin aikana on vahvistanut luottamustani sitä kohtaan.
Lumme Energia kuuntelee, mitä sen asiakkaat sanovat.
Lumme Energian viestintä on avointa.
Lumme Energian viestintä on rehellistä.
Lumme Energian viestintä on ajankohtaista.
Lumme Energian viestintää on helppo ymmärtää.
Lumme Energian kanssa on helppo kommunikoida.

17. Onko energiakriisi muuttanut luottamustasi Lumme Energiaa kohtaan?

- Kyllä, heikentänyt luottamusta
- Ei muutosta
- Kyllä, vahvistanut luottamusta

18. Onko energiakriisi muuttanut luottamustasi sähköyhtiöitä kohtaan ylipäätään?

- Kyllä, heikentänyt luottamusta
- Ei muutosta
- Kyllä, vahvistanut luottamusta

16. Energiakriisin pitkittyessä voisin pienentää sähkönkulutustani esimerkiksi näillä tavoilla (voit halutessasi valita useamman vaihtoehdon):

- Sisälämpötilan laskeminen
- Tarpeettomien laitteiden sammuttaminen
- Tarpeettomien valojen sammuttaminen
- Led-lamppujen suosiminen
- Täysien tiski- ja pyykkikoneellisten peseminen
- Tiski- ja pyykkikoneen pesulämpötilojen madaltaminen
- Ilmanvaihdon pienentäminen
- Suihkujen lyhentäminen
- Viileämmän pesuveden käyttäminen suihkussa
- Saunomiskertojen vähentäminen
- Saunomiskertojen lyhentäminen
- Oman sähkönkulutuksen seuraaminen sähkönmyyjän tarjoamassa palvelussa

Appendix 2: Survey translation

The Impacts of the Energy Crisis on Finnish consumers

This survey aims to learn about the experiences of Lumme Energia's customers on Lumme Energia and changes in electricity prices. The researcher is a master's degree student at the University of Jyväskylä. The survey responses will be used as an anonymized data source in a master's thesis that is conducted in cooperation with Lumme Energia.

Please also answer the background questions of the study (questions 2-13) from the viewpoint of the apartment (e.g., home, summer house) where you have an electricity contract with Lumme Energia. If you have multiple contracts with Lumme Energia, you may answer the background questions from the viewpoint of your chosen apartment.

Please do not include your personal information in the responses. All responses are anonymous and will be handled anonymously. The respondent cannot be recognized from their responses. Participating in the survey is voluntary and the respondent can stop answering at any point.

The last day to participate in the survey is 28.2.2023. Responding should take approximately 5-10 minutes. Thank you for your participation!

The privacy notice of the survey can be found here. By participating in the survey, you accept the privacy notice.

Gift card drawing:
Respondents of the survey may take part in a drawing, where three K-Group gift cards worth 50 euros each will be drawn. After you have filled in the survey and clicked "Send", you will soon be redirected to another form. If you wish to participate in the draw, fill your contact information in the form. If you do not want to participate, close the contact form without filling in your contact information.

The contact information from the other form will not be connected to survey responses. The rules of the drawing are on the contact form.

1. **I confirm I accept the privacy notice of the survey.**
    a. Yes

2. **Age**
    a. 18-24, …, 85 or older

3. **Place of residence**

4. **Gender**
    a. Female
    b. Male
    c. Other
    d. Prefer not to specify

5. **Size of the household**

6. **Type of apartment**
    a. Detached house
    b. Row house
    c. Semi-detached house
    d. Block of flats
    e. Other

7. **Number of rooms**
    a. One bedroom
    b. Two bedrooms
    c. 3 rooms
    d. 4 rooms
    e. 5+ rooms

8. **Size of the apartment**
    a. Smaller than 20 m2 → 200 m2 or bigger

9. **Housing type**
    a. Owner-occupied house
    b. Right of occupancy housing
    c. Rented home
    d. Other

10. **Does your apartment include your own electric sauna?**
    a. Yes
    b. No

11. **Heating method**
    a. Electrical heating
    b. District heating
    c. Geothermal heating
    d. Air-source heat pump
    e. Air-to-water heat pump
    f. Wood heating
    g. Oil heating
    h. Other

12. **What kind of an electricity contract do you have at the moment?**

a. Fixed-term contract
b. Valid until further notice
c. Market-based contract
d. Other

13. How long have you been Lumme Energia's customer? Choose the option that best describes your current situation.

a. Less than half a year
b. 0,5-1 years
c. 1-2 years
d. 2-3 years
e. Over 3 years

14. Trust. Choose the option that best describes your current situation.

1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Strongly agree, 0 = Don't know

a. I trust Lumme Energia.
b. I trust that Lumme Energia serves me well.
c. Most of my experiences with Lumme Energia have been positive.
d. I am satisfied with how Lumme Energia treats me.
e. Lumme Energia keeps its promises.
f. Lumme Energia is honest.
g. Lumme Energia does its best to help me when I need it.

15. Personalization. Choose the option that best describes your current situation.

1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Strongly agree, 0 = Don't know

a. Lumme Energia aims to fulfill its customers' wishes.
b. Lumme Energia tailors its services based on the needs of its customers.
c. Lumme Energia offers products and services that interest its customers.
d. Lumme Energia understands my needs.
e. Lumme Energia understands what I want.
f. Lumme Energia considers my needs important.

16. Communication. Choose the option that best describes your current situation.

1 = Strongly disagree, 2 = Somewhat disagree, 3 = Neither agree nor disagree, 4 = Somewhat agree, 5 = Strongly agree, 0 = Don't know

a. Lumme Energia has provided me with enough information on saving electricity.
b. Lumme Energia has provided me with enough information on the changes in electricity pricing.
c. Lumme Energia has provided me with enough information on the evolution of electricity prices.
d. Lumme Energia has provided me with enough information on the electricity consumption tracking app (OmaLumme).
e. Lumme Energia's communication regarding the energy crisis has succeeded well.
f. Lumme Energia's communication during the energy crisis has increased my trust towards it.
g. Lumme Energia listens to what its customers say.
h. Lumme Energia's communication is open.
i. Lumme Energia's communication is honest.
j. Lumme Energia's communication is relevant.
k. It is easy to understand Lumme Energia's communication.
l. It is easy to communicate with Lumme Energia.

17. Has the energy crisis changed your level of trust towards Lumme Energia?
   a. Yes, weakened
   b. No change
   c. Yes, strengthened

18. Has the energy crisis changed your level of trust towards electricity companies in general?
   a. Yes, weakened
   b. No change
   c. Yes, strengthened

19. If the energy crisis extended, I could do this, for example, to reduce my electricity consumption (you may choose multiple options):
   a. Reducing indoor temperature
   b. Shutting down unnecessary electronic devices
   c. Shutting down unnecessary lights
   d. Using LED light bulbs when possible
   e. Washing full loads of dishes and laundry
   f. Lowering the washing temperatures of dishes and laundry
   g. Reduce the ventilation at home
   h. Taking shorter showers
   i. Taking colder showers
   j. Going to the sauna less often
   k. Shortening the time spent in the sauna
   l. Following the household's electricity consumption in the service provided by the electricity provider

Appendix 3: Summary of the survey respondents' background information

	n	%
Age		
18-24	145	1.0
25-34	647	4.5
35-44	1,360	9.5
45-54	2,243	15.7
55-64	3,727	26.0
65-74	4,451	31.1
75-84	1,629	11.4
85+	109	0.8
Total	14,311	100.0
Gender		
Female	5,199	36.3
Male	8,974	62.7
Other	22	0.2
Prefer not to say	116	0.8
Total	14,311	100.0
Region		
South Karelia (Pohjois-Karjala)	278	1.9
South Ostrobothnia (Pohjois-Pohjanmaa)	239	1.7
Southern Savonia (Etelä-Savo)	2,384	16.7
Kainuu	1,092	7.6
Kanta-Häme	454	3.2
Central Ostrobothnia (Keski-Pohjanmaa)	63	0.4
Central Finland (Keski-Suomi)	1,066	7.4
Kymenlaakso	248	1.7
Lapland (Lappi)	1,478	10.3
Pirkanmaa	1,012	7.1
Pohjanmaa	69	0.5
North Karelia (Pohjois-Karjala)	297	2.1
North Ostrobothnia (Pohjois-Pohjanmaa)	715	5.0
Northern Savonia (Pohjois-Savo)	551	3.9
Päijät-Häme	518	3.6
Satakunta	531	3.7
Uusimaa	2,465	17.2
Southwest Finland (Varsinais-Suomi)	851	5.9
Total	14,311	100.0
Housing type		
Owner-occupied house	12,276	85.8
Right of occupancy housing	209	1.5
Rented home	1,618	11.3
Other	208	1.4
Total	14,311	100.0
Type of apartment		
Detached house	8,633	60.3

Row house	1,894	13.2
Semi-detached house	502	3.5
Block of flats	2,758	19.3
Other	524	3.7
Total	14,311	100.0
Size of the household		
1 person	3,585	25.1
2 people	7,803	54.5
3-4 people	2,437	17.0
5-6 people	434	3.0
Over 6 people	52	0.4
Total	11,311	100.0
Number of rooms		
1 bedroom	489	3.4
2 bedrooms	1,999	14.0
3 rooms	2,802	19.6
4 rooms	3,872	27.0
5+ rooms	5,149	36.0
Total	14,311	100.0
Size of the apartment		
Smaller than 20 m2	8	0.1
20-39 m2	526	3.7
40-59 m2	1,614	11.3
60-79 m2	2,066	14.4
80-99 m2	1,983	13.9
100-119 m2	2,333	16.3
120-139 m2	2,093	14.6
140-159 m2	1,268	8.9
160-179 m2	873	6.1
180-199 m2	551	3.8
200 m2 or bigger	996	7.0
Total	14,311	100.0
Heating method		
Electrical heating	5,811	40.6
District heating	4,073	28.5
Geothermal heating	1,429	10.0
Air-source heat pump	309	2.1
Air-to-water heat pump	526	3.7
Wood heating	1,284	9.0
Oil heating	630	4.4
Other	249	1.7
Total	14,311	100.0
Type of electricity contract		
Fixed-term contract	11,280	78.8
Valid until further notice	1,428	10.0
Market-based contract	1,562	10.9
Other	40	0.3
Total	14,311	100.0
Length of the relationship		

Less than half a year	293	2.1
0,5-1 year	619	4.3
1-2 years	2,767	19.3
2-3 years	2,632	18.4
Over 3 years	8,000	55.9
Total	14,311	100.0
Is there an electric sauna in your apartment?		
Yes	8,753	61.2
No	5,558	38.8
Total	14,311	100.0

Appendix 4: Descriptive statistics

	N	Mean	Std. deviation
Consumer trust			
Q1	13,942	4.09	0.981
Q2	13,992	4.10	0.969
Q3	14,140	4.30	0.960
Q4	13,964	4.11	1.058
Q5	13,016	4.20	0.966
Q6	12,645	4.09	1.008
Q7	11,267	3.88	1.072
Personalization			
Q1	12,151	3.82	1.001
Q2	10,846	3.55	1.061
Q3	12,626	3.83	0.968
Q4	12,079	3.70	1.043
Q5	11,832	3.68	1.045
Q6	11,447	3.60	1.085
Crisis communication			
Q1	13,850	4.15	0.940
Q2	13,697	3.83	1.114
Q3	13,479	3.62	1.137
Q4	13,601	4.10	1.016
Q5	12,904	3.70	1.044
Q6	12,877	3.52	1.097
Q7	10,468	3.40	1.077
Q8	12,603	3.82	0.984
Q9	11,910	3.83	0.994
Q10	13,472	4.04	0.904
Q11	13,756	4.05	0.938
Q12	12,320	3.81	1.058

Appendix 5: Interview questions

Taustakysymykset:

1. Mikä on työnkuvasi?
2. Kauanko olet työskennellyt energia-alalla?

Teema 1: Energiakriisi ja sähköyhtiöt

1. Miten energiakriisi on vaikuttanut työtehtäviisi?
2. Miten energiakriisi vaikuttaa Lumme Energiaan?
3. Miten energiakriisi vaikuttaa toimialaanne?

Teema 2: Energiakriisi ja tulevaisuus

1. Miten Lumme Energian tai sähköyhtiöiden tulee muuttaa toimintatapojaan tulevaisuudessa? Tarvitseeko asioita tehdä eri tavalla energiakriisin jälkeen?
2. Mitä positiivisia muutoksia näet energiakriisin saavan aikaan?
3. Mitä negatiivisia muutoksia näet energiakriisin saavan aikaan?
4. Tarjoaako energiakriisi mielestäsi mahdollisuuksia kehittymiselle?

Teema 3: Energiakriisi ja yksilöt

1. Miten energiakriisi vaikuttaa asiakkaiden luottamukseen Lumme Energiaa ja sähköyhtiöitä kohtaan?
2. Minkälaisia muutoksia energiakriisi on saanut tai tulee saamaan aikaiseksi yhteiskunnan yleisessä kulttuurissa ja toimintatavoissa?
3. Minkälaisia muutoksia energiakriisi on saanut tai tulee saamaan aikaiseksi yksittäisten kuluttajien toimintatavoissa?

Appendix 6: Translated interview questions

Background questions

1. What is your field of work?
2. How long have you worked in the electricity industry?

Theme 1: Energy crisis and electricity companies

1. How has the energy crisis affected your personal work tasks?
2. How will the crisis affect Lumme Energia?
3. How has the crisis affected the electricity industry?

Theme 2: Energy crisis and the future

1. How do Lumme Energia or electricity companies in general need to change their habits in the future? Is there a need to do things differently due to the crisis?
2. What kinds of positive changes do you believe the energy crisis will cause?
3. What kinds of negative changes do you believe the energy crisis will cause?
4. Does the energy crisis provide opportunities for development?

Theme 3: Energy crisis and individuals

1. How does the energy crisis affect customers' trust towards Lumme Energia or electricity companies in general?
2. What kinds of changes has the energy crisis cause in the overall culture and habits of society or what kinds of changes will it cause in the future?
3. What kinds of changes has the energy crisis cause in the overall culture and habits of individual consumers or what kinds of changes will it cause in the future?