AALBORG UNIVERSITY
DENMARK

Consumer switching intention: a study of the Bulgarian electricity market

Master Thesis

Slavena Plamenova Bakardzhieva

June 2017

Title sheet

Title: Consumer switching intention: a study of the Bulgarian electricity market
Written by: Slavena Plamenova Bakardzhieva
Module: Master Thesis
Institute: Aalborg University
Study: MSc in International Marketing
Supervisor: Li Thuy Dao
Delivering date: 06.06.2017
Number of words: 27 425
Number of pages: 79 (excluding appendices)

Abstract

This research focuses on revealing the factors that affect the consumer's choice to switch electricity provider (supplier) as an emerging issue after the recent opening of the free electricity market to the Bulgarian household consumers in the spring of 2016.

The Theory of planned behavior (TPB) and the Engel-Blackwell- Miniard model (EBM) were used as base of the conceptual framework of the current study. Hypothesis were created and tested empirically with data collected via questionnaire. The questionnaire was distributed online and face-to-face in three major cities in Bulgaria and collected 557 responses.

Statistical analyses were used to investigate the relationships between the switching intention and the various factors said to determine it.

The empirical findings showed a significant direct correlation between the switching intention and all of the investigated factors: customer satisfaction, subjective norms, knowledge, alternative attractiveness, perceived behavioral control and attitude towards switching.

This paper has both theoretical - by building up on the existent theories and managerial contributions by providing new empirical data that could be used as base of strategy formation.

Keywords: Theory of planned behavior, Theory of reasoned action, Engle, Blackwell and Miniard (EBM) model, Consumer switching intention, switching intention factors, Bulgarian electricity market liberalization.

Executive Summary

Even though the liberalization of the European electricity market is one of the founding goals of the European Union, the liberalization process has been slow for some countries. Especially for some of the new Member States the opening of the electricity market has been delayed due to ineffective policies and monopolies of the supply. The process of the liberalization of the Bulgarian electricity market is such case.

The process of liberalization of the Bulgarian electricity market started in 2004, but took longer than expected and is actually still ongoing. Some of the reasons for the delay are related to speculations that the three leading providers are manipulating and purposely are delaying the the process. The European Commission intervened and put external pressure on the Bulgarian electricity holding (BEH) to provide and enforce measures for the liberalization. The liberalization of the Bulgarian electricity market is expected to increase the competitiveness of the market, lower the prices of the electricity and increase the security of supply, the quality of the services and the bargaining power of the consumers.

The opening of the electricity market is new for the Bulgarian household consumers as only form April 2016 they have the option to choose freely their electricity supplier. However, what exactly will affect the Bulgarian household electricity consumer's choice of switching electricity provider is uncertain. These uncertainties are present for both the consumers and potential suppliers. Due to its certain arising there is no sufficient (if any) empirical data on the topic in the context of the Bulgarian electricity consumers. Theories such as the Theory of Planned Behavior and the EBM model overview the factors that might affect the switching behavior. However, these were found to be limiting as they do not include separate factors such as knowledge and alternative attractiveness, and were not tested in the current context. The gap in the literature and the lack of empirical data inspired this current study to investigate what factors affect the Bulgarian household consumer's choice of switching electricity provider. A conceptual framework was created, based mainly on the TRA, TPB and EBM. A list of concepts, derived from the theoretical overview, was created to test empirically the hypotheses.

The empirical data was collected via questionnaire. It was distributed both face-to-face in three major Bulgarian cities and online and finally 557 valid cases were collected. The data was analyzed by statistical methods and all the hypotheses claiming that there is relation between the concepts in the framework (knowledge, customer satisfaction, attitude toward

switching, subjective norms, alternative attractiveness and perceived behavioral control) and switching intention were accepted. In addition, the data from the questionnaire helped create a picture of the most desired features in an electricity provider according to the Bulgarian household consumers. The features found to most affect the consumer's choice of electricity provider are: the price; providing enough information regarding the services that the supplier provides; the type and length of contract options; the type of energy source - if there are renewable energy sources; payment methods with paying e-banking, cash and through the electronic payment system ePay.bg. Other important for the consumer features are having office in the city of the consumer and providing fixed prices for the length of the contract. The finding of the research proved to have both theoretical - expanding the theories with additional factors, and managerial implications - providing empirical data to be used as base of strategy formation.

Table of Contents

List of Figures

List of Tables

Abbreviations:

AA – Alternative Attractiveness
ATS – Attitude towards switching
BEH - Bulgarian energy holding
BGN - Bulgarian Lev (currency code)
CS – Customer Satisfaction
CSR – Corporate Social Responsibility
EBM - Engle, Blackwell and Miniard model
EC - European Commission
EFA – Exploratory Factor Analysis
ESO - Energy system operator
EU - European Union
K – Knowledge
NEK - National Electricity Company
PBC – Perceived Behavioral Control
RES - Renewable energy sources
SERC - State Energy Regulatory Commission
SI- Switching Intention
SLP - Standardized load profile
SN – Subjective norms
SPSS – Statistical Package for the Social Sciences
TPB - Theory of planned behavior
TRA - Theory of reasoned action
TSO - Transmission system operator

Chapter 1 Introduction

One of the main priorities of the European Commission (EC) is the European Energy Union, which will contribute to the reliable delivery of energy to both business and private consumers in the European Union (EU) at affordable prices. In order to ensure that, the Commission has dealt with ensuring competitiveness across the energy sector. The EU Member States are working towards ensuring the secure supply of electricity, which creates more competitiveness in the internal electricity market. In order to ensure high competitiveness and subsequently lower prices for the European consumers, the EU has started the liberalization of the electricity markets across Europe. (European Commission, 2012)

However, in some EU countries the process of liberalization of the electricity market is still undergoing difficulties. One of the countries going through difficult transition is Bulgaria. The process of the liberalization of the Bulgarian electricity market started gradually in 2004. However, the process took longer than expected and there were speculations that the leading electricity providers are purposely slowing down the process, which is directly in breach of EU antitrust rules. In that relation, in December 2012, the European Commission started "*antitrust proceedings into BEH's (Bulgarian energy holding) behavior on the wholesale electricity markets in Bulgaria ".* In December 2015, Mrs. Margrethe Vestager - Commissioner in charge of competition policy of EU, stated that: "*Territorial restrictions that divide energy markets along national lines prevent us from achieving a true European Energy Union. Today's decision will end these restrictions in Bulgaria and make the Bulgarian wholesale electricity market more open and transparent*". (European Commission, 2015) This puts tremendous pressure on Bulgaria to actually comply with the rules of the EU of having liberalized electricity market

The external pressure from the EU showed results as since the beginning of April 2016 the so-called "Standardized load profiles" (SLP) were introduced in the Bulgaria. The introduction of the SLPs made it possible for the first time ever, even for customers at low voltage, such as households, to freely choose their electricity provider in Bulgaria. For the consumers, being able to be a part of the so called "open or free market" would lead to lowering the energy costs, without endangering their security of supply nor adding extra financial costs, related to switching to a different electricity provider. (ATEB, 2017)

For the Bulgarian household consumers, the liberalization of the electricity market could have positive effects as the competitive environment for electricity trade indeed reduces the price of electricity and increases the quality of the service. The Bulgarian customers

now have the option to choose their supplier and to negotiate the terms of the contract, as well as additional services related to the provision of power. The liberalization of the electricity market provides also an opportunity for new traders to enter the market as well. (KapitalBG, 2016)

According to the State Energy Regulatory Commission (SERC) there are about 5 million meters of low voltage in Bulgaria. This is equal to 50% of the annual electricity consumption in the country. In monetary value, this is over 1.5 billion BGN (approx. 750 million euro), that could be obtained by new traders. (KapitalBG, 2016)

According to Defeuilley (2009), there are two main aspects that are often missed and that affect the competition: *"cognitive bias of the consumers"* and *"the reduced opportunities for innovation"*. (Defeuilley, 2009, p.377) He argues, that as innovation is limited due to the specificity of the electricity market, the understanding the of the customers should be number one focus of those companies.

However, in order to acquire more customers, offering better solutions might not always be enough as consumers were found quite often to not make rational decisions. (Defeuilley, 2009) It should be taken into consideration that the options that electricity companies provide (ex. contract length, paying options, energy portfolio etc.) will need to be adapted specifically for the Bulgarian market. However, as the opening of the free market to the household consumers in Bulgaria is a new phenomenon, there is not much (if any) empirically tested data available to help the electricity companies (especially the ones that are new to the market) to understand what the consumers need and therefore adjust the company's strategy. This knowledge gap will be addressed by the current research.

1.1 Problem Background

Currently the electricity market in Bulgaria faces destabilization and problems due to the ongoing liberalization. This is due to the fact that the EU obligates Bulgaria to liberalize its highly regulated market. (Jekov, 2014) As the country joined the EU in 2007, the market was supposed to become liberalized, but in practice the situation is quite different. The publicly owned National Electricity Company (NEK) is striving to protect its market shares and obstructs the process. The government also hinders the liberalization by not introducing on the market energy exchange, and the related financial instruments *"to allow for a better match between electricity supply and demand"*. (Jekov, 2014) In Bulgaria the *Bulgarian Energy Holding* (BEH - fully state owned) is *"the parent company of most electricity generating companies and owns the Transmission system operator (TSO), called Electricity System Operator (ESO)"*. (Sirleshtov & Maneva, 2015)

The European Commission has sent a statement of objections to BEH stating that they probably have breached EU antitrust rules by purposely slowing down the access of competitors in the Bulgarian market (European Commission, 2015). The Commission opened antitrust proceedings into BEH's behavior on the wholesale electricity markets in Bulgaria in December 2012 and in 2014 issued a statement of objections to the Bulgarian Energy Holding regarding territorial restrictions in BEH's electricity supply contracts. As member of the EU, Bulgaria must follow the laws of the EU where in Article 102 TFEU it is forbidden *"the abuse of a dominant market position which may affect trade between Member States"*. (European Commission, 2015)

The EU and EC had huge pressure over the Bulgarian policy makers and BEH. In order to address the Commission's concerns, BEH has offered to set up a list of commitments. The Commission has made the following commitments legally binding to BEH:

- "offer predetermined volumes of electricity on the day-ahead market on the new exchange for a period of five years;
- ensure the independence of the power exchange by transferring its control to the Bulgarian Ministry of Finance." (European Commission, 2015)

"The commitments aim at:
- ensuring that the predetermined volumes of electricity are sold on an anonymous basis;
- creating liquidity on the exchange;
- improving transparency on the unregulated wholesale electricity market in Bulgaria; and
- promoting the integration of the Bulgarian wholesale electricity market with those of neighboring markets." (European Commission, 2015)

Moreover, the commitments will play a huge role in liberalizing the market and opening it to competitors thus creating a free market exchange.

According to the report of the World Bank Report - "Bulgaria Power Sector: Making the Transition to Financial Recovery and Market Liberalization", the current single buyer model regulated sector *"has reached its limit and a new approach is needed to transition to a competitive power market compatible with the European Union's internal electricity market".* (Sirleshtov, 2017) Evidently, the electricity market in Bulgaria soon will experience big developments. The share of the free market will grow which will increase the competitiveness of the market. (Sirleshtov, 2017)

The new potential players on the market must understand that once the liberalization is full, the bargaining power of the final consumers will increase and they will be a leading factor. Understanding the needs of the consumers at an early stage may not only help a

company create a proper marketing strategy, but use that knowledge as a competitive advantage and thus gain bigger market share.

1.2 Problem Formulation

As mentioned, customers are not always making rational decisions. (Marešová, 2012) Especially when it is a new concept that the customers are not familiar with. When they have no previous experience with certain products the consumers were often highly affected by emotions, peer pressure, cultural differences etc. New experiences are often related to more risk and uncertainty. (Engel et al., 2001) Such is the case of choosing electricity providers in Bulgaria. As the process of the electricity market liberalizing is very new for the household electricity consumers, it will bring a lot of questions not only for the consumers but for the providers (suppliers, traders).

The concepts of liberalization of the electricity market and the following arising option to change suppliers is not new on a world scale. This could be seen in the transition of other countries so knowledge could be drawn from that. (IEA, 2005)

It should be understood also that the electricity as a product itself, is not a new for the Bulgarian consumers. This is why the question is not only about choice of electricity supplier (new one), but also to understand that if the consumer will choose a new provider they need to 'opt out' of the old one. Therefore, the process comes down to the concept of switching behavior - which is new concept for the Bulgarian market.

The concept of switching suppliers is new to the Bulgarian electricity consumer, but not to the literature. It was explored by other authors that have traced the liberalization process of the electricity market of other countries. A list of concepts related to the switching of service provider were indicated. Most of them derive from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980) and the Theory of Planned Behavior (TPB) (Ajzen, 1985), which researched the concept of switching intention. Breaking down the problem it comes to the choice of electricity provider, and the act of opting out - switching the current electricity provider and what can be the reasons behind it. The TRA and TPB, suggest a list of factors (variables) that were found in some contexts to be related to the switching behavior.

However, as in the context of the Bulgarian electricity market this is quite new phenomenon, there is no empirical evidence on whether these factors will apply or not. And if so, will they be really related to the switching intention of the electricity consumers in the context of the Bulgarian household consumers?

Therefore, this current research strives at exploring the switching intentions of the household electricity consumers in Bulgaria. Two of the main research questions are:

RQ1 What factors determine the consumer's intention to switch electricity provider?

RQ2 What is the relation between the factors and the intention to switch electricity provider?

The current research also strives to understand the local consumer's profile in Bulgaria in order to help new to the market electricity providers to develop market-entry strategies and investment decisions, and/or propose to current market players how to gain new customers and retain the existing ones in the liberalization process of the electricity market of Bulgaria. Therefore, the third research question is:

RQ3 What are the most desired features of an electricity provider (supplier) for the Bulgarian household electricity consumers?

1.3 Project outline

The current project is structured in the following chapters that are connected to each other as presented in the figure below:

1. • Introduction
2. • Theoretical Overview
3. • Methodology
4. • Empirical findings and analysis
5. • Discussion and Limitations
6. • Conclusion and Further research
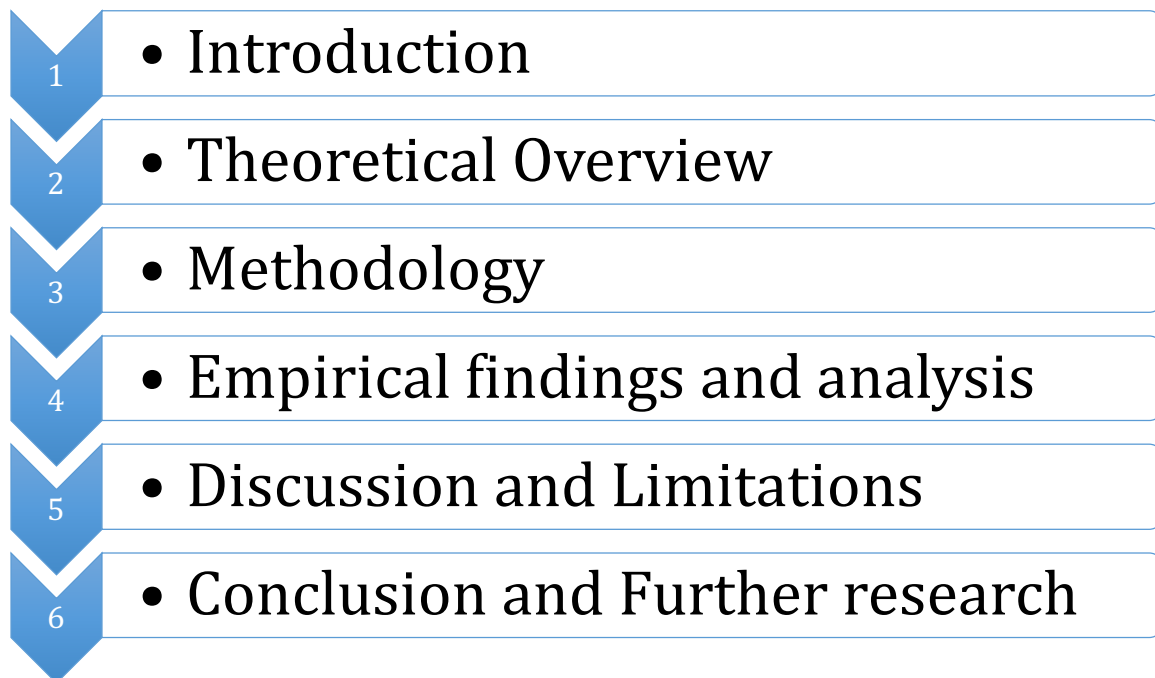
Figure 1.1 Project Outline (designed by the author)

Chapter 2 Theoretical Overview

The following chapter aims to reveal the theoretical knowledge related to the topic. The leading objective is to familiarize the reader with the main theoretical concepts that will be later used in the analysis.

2.1 The Theory of Reasoned Action

This section will describe theory of reasoned action and explain its significance in influencing the research science.

The theory of reasoned action (TRA) was created by Martin Fishbein and Icek Ajzen's and in considered for one of the most widely used theory for explaining human behavior (Ajzen & Fishbein, 1980). The TRA was created as a response of disagreement with the traditional for that time attitude-behavior research. The main objective is to explain the volitional behavior – the behavior that is voluntary and involves conscious decision making (Ajzen & Fishbein, 1980).

The theory explains the causality of behavior as behavioral intention, which itself is determined by attitude and subjective norms. By attitude is understood the evaluation of the person of the behavior, and subjective form is described as what others that are important for the person (family, colleagues etc.) think of the behavior (Ajzen & Fishbein, 1980). The definition of attitudes considered in the TRA comes from Fishbein's Summative Model of Attitude. It expresses attitude towards performing as a mathematical sum of belief strength and belief evaluation (Fishbein, 1967). Belief strength is explained as the level of certainty that the person has regarding the extent to which a decision is affecting an attribute. Where the evacuation of the belief explains to what level we think that the attribute has positive or negative effect (Hale et al., 2002).

Respectively, the subjective norm can be also illustrated as a mathematical sum of normative beliefs and motivation to comply. These factors, basically explain the extent to which one takes into consideration the peer pressure and the desire to comply with the expectations of others. (Hale et al., 2002)

The main difference between the attitudes and the subjective norm is that attitudes are determined by beliefs of the consequences of a behavior, as subjective norms are explained by the normative beliefs and the motivations of one to comply (Hale et al., 2002). However, there is a large argument in the literature against the way TRA distinguish the two. The problem derives from the fact that, as mentioned previously, attitude is determined by beliefs and subjective norm is determined by normative beliefs (and motivation to comply). Miniard and Cohen (1981), appoint that beliefs and

normative belief might be the same thing. If so, the differentiation between attitude and subjective norm must be questioned too. There are other authors like Fishbein (1980) that managed to disprove the point of Miniard and Cohen (1981). Figure 2.1 illustrates the components of the TRA and the causal relationships between them.
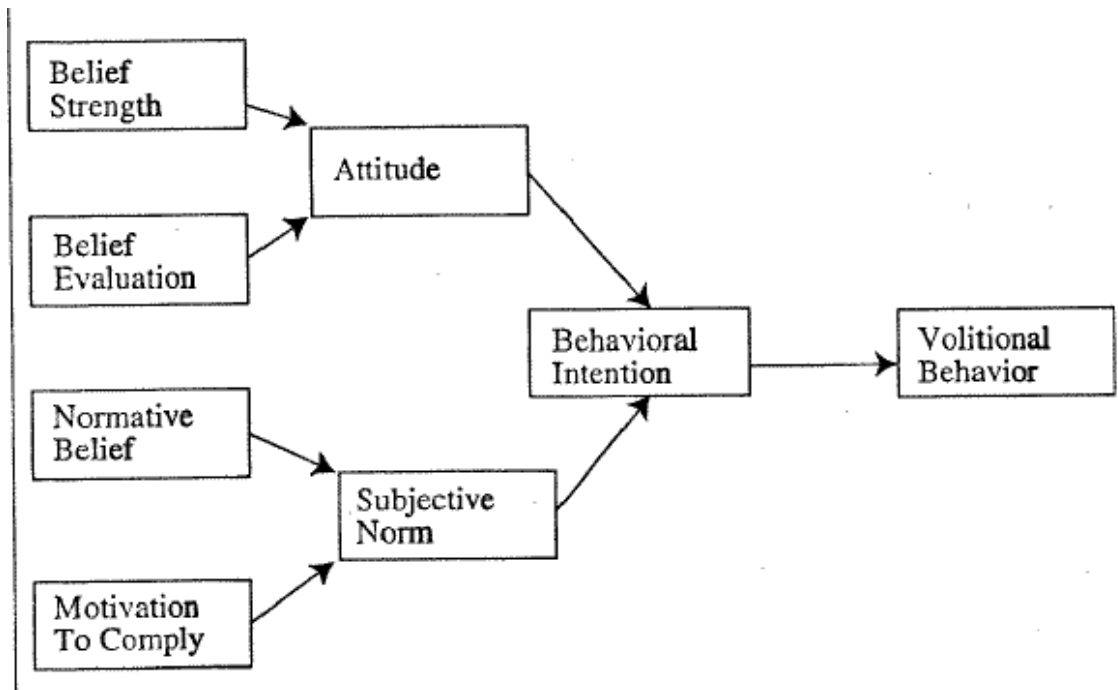
Figure 2.1 Causal Diagram of competence components of the theory of reasoned action (Hale et al., 2002, p.263)

As it could be seen by the figure, the TRA suggests, that what we intend to do, is the strongest predictor of our volitional behavior.

The TRA has been used numerous times through out the literature to explain the volitional behavior. The theory was tested in various contexts from dieting (Sejwacz et al., 1980) to limiting sun exposure (Hoffmann, 1999).

2.1.1 Behavioral Intentions and Behavior

As the theory has been tested in numerous studies, there is quite a large documented tested data on the relation between intention and behavior. The mean correlations (r) and respectively the r2 (r square) vary from research to research. Some authors (Marks, 2008) find the theory false and do not agree that the behavioral intention is determining the behavior. Others like Sutton (1998) argue that the theory is not failure and behavioral intentions might predict behavior if the *"percentage of variance accounted for in volitional behaviors is judged against typical levels of variance"* (Hale et al., 2002, p.263). There are still some concerns regarding the validity of the level to which intentions affect behavior.

This is explained by the fact that intentions change in time and if there is considerable time between the moment in which the intentions are measured and the time of the actual behavior, there is a high chance that the level of influence of the intention over the behavior will be low (or lower). (Hale et al., 2002) One more issue with intentions is that some authors (Sutton, 1998) argue that as by nature intentions are interim, this will affect the level of prediction they will have over behavior.

A correlation between the attitude-behavior relation and the compatibility of the intention and behavioral measures (Kim & Hunter, 1993). Kim & Hunter (1993), found that the higher the compatibility the higher the relationship between attitude and behavior. The time, context, action and target components were considered. It was found that for the target and action the compatibility was most significant (Kim & Hunter, 1993).

2.1.2 Behavioral Intentions and Attitudes

Kim and Hunter (1993), also explored the relation between the behavioral intentions (intentions) and the attitudes. Same as with the intentional and behavioral relation, the compatibility was found to have an effect over the relation. In fact, the higher the compitability of the measures the higher the relation between intentions and attitudes (Kim & Hunter, 1993). Kim and Hunter (1993), measured the relation by more than 90 estimate of the relationship between attitude and intention. They found .65 uncorrected correlation and .82 when corrected. Other authors also studied the same relation and found various correlations between .45 and .82 (Kim & Hunter, 1993).

2.1.3 Attitudes and Beliefs

Lots of authors have agreed that the beliefs have inpact on the attitudes. (Fishbein, 1967) (Ajzen & Fishbein, 1980). As seen from Figure 2.1 the attitude is represented in two parts: belief strengths and belief evaluation (Hale et al., 2002). Some authors have argued that the importance of the beliefs should be added as well. However, it was proved that adding the importance of the beliefs did not increase the level of prediction of attutude. O'Keefe (1990), explains this phenomenon by the fact that more important beliefs were directly related to more strict evaluation. Therefore the two measured (and showed) the same, so there was no need of adding the third component.

In regards to belief strength, various opinions were found on whether and to what extent it affects attitude. The main argument found in the literature in regards to beliefs strength is if it should be measured by a standatalised set of beliefs of by a individualised ones. O' Keefe (1990) argued that if it was found that in fact the belief strength have a great impact on attitude, then it will be more effective to use the individual set of beliefs and vise versa.

2.1.4 Behavioral Intentions and Subjective Norms

Besides attitudes in the TRA the other attribute that influences behavioral intentions and therefore volitional behavior is the Subjective norm. It is complied of normative beliefs and the motivation to comply. In other words, the subjective norm is affected by what significant to the consumer people think in regards to the behavior and to what extent the consumer is willing to comply with their opinion (Hale et al., 2002). Different studies have tested quantitatively the relation between the two. Depending on the context, different scale of the correlation was found, however it was proved that the subjective norms affect the behavioral intentions (Hale et al., 2002). It was noted by some authors that depending on the context specific peers (family, colleagues etc.) might have different level of influence and therefore define in larger extent the subjective norm- respectively the behavioral intention (Godin & Kok, 1996).

2.1.5 Subjective norm, Normative Belief and Motivation to comply.

The correlation between Subjective norm, Normative Belief and Motivation to comply was found solid. However, it the literature could be found quite a lot of evidence that there are inconsistencies in the TRA. For example, some have found that normative belief has a greater impact of the subjective norm. Although, it was also argued that the TRA does not manage to effectively account for the motivation to comply. (Miniard & Page, 1984)

The TRA appoints the specific influences that determine volitional behavior. The TRA has been a leading theory in social psychology for many years, but it does not mean there is not a lot of criticism related to it (e.g., (Greve, 2001); (Miniard, 1981); (Ogden, 2003); (Smedslund, 2000)). Indeed, some authors argue that it is not falsifiable. (Greve, 2001) (Ogden, 2003) The issue with falsifiability is researched in depth by Trafimow (2009). He explains that: *"Because a theory must be falsifiable to be a good theory, if the theory of reasoned action is not falsifiable, then it is not a good theory regardless of how many researchers believe it to be useful"* (Trafimow, 2009, p.502). However, in his research he managed to disprove the accusation against the TRA in regards to falsifiability.

2.2 The Theory of Planned Behavior

One of the responses to the multiple criticism the theory of reasoned action received was made by Ajzen (1985). He expanded the TRA by adding a new component: Perceived behavioral control (PBC). This resulted in a new theory called the Theory of planned behavior (TPB). Besides the new component to it, Ajzen (1985) explained that the TPB will be used in order to predict behavior that is not absolutely volitional as the TRA does (Ajzen, 1985).

The PBC is mainly defined as: *"how much control people think they have over their behavior—as an additional determinant of behavioral intention".* (Trafimow, 2009, p.510) The PBC is suggested to be complied of control beliefs (control over the behavior) and difficulty of beliefs (ease to perform the behavior). There is again a couple of issues with this component. Trafimow (2009) appoint that the TPB assumes that *"perceptions of control and perceptions of difficulty are the same thing"* (Trafimow, 2009, p.510)*.* Other inconsistencies were found when explaining the extent to which each of the two factors (control and ease) determine the perceived behavior control. Trafimow (2009), also found that: *"difficulty is a better predictor of more behavioral intentions than is control"* (Trafimow, 2009, p.510). The main argument of the TPB is consistent with the one of TRA *"the more favorable the attitude and subjective norms with respect to the behavior in question, the stronger should be an individual's intention to perform"* (Bansal & Taylor, 2002, p.407)*.* The theory gives a way of explaining the planned and realized behavior by taking into account the attributes of the TRA in combination with the PBC. Bansal and Taylor (2002), have reviewed in depth the TPB and have concluded that according to the theory: *"The more an individual believes he or she possesses the necessary resources, abilities, and opportunities necessary to influence behavior, the more likely he or she will intend to and actually perform the behavior"* (Bansal & Taylor, 2002, p.410).

2.2.1 Perceived Behavioral Control (PBC) and Intention on Behavior

Ajzen (1985, p.29) 9) finds a relation between the Intention on Behavior, actual behavior and PBC. The Ajzen (1985, p.29) finds a relation between the Intention on Behavior, actual behavior and PBC. The author explains that: *"Strictly speaking, intentions can only be expected to predict a person's attempt to perform a behavior, not necessarily its actual performance".* In other words, just because an individual has the intention of doing something, it does not always mean that they will actually perform the act. The main barriers that could occur are included in the core of PBC. It was found that the combined positive effect of both attitudes and PBC on intentions will increase the will of a person to perform a behavior (Ajzen, 1985).

As mentioned, the PBC consists of control beliefs and perceived power to complete a certain behavior (Ajzen, 1988)(see fig 2.2 below).
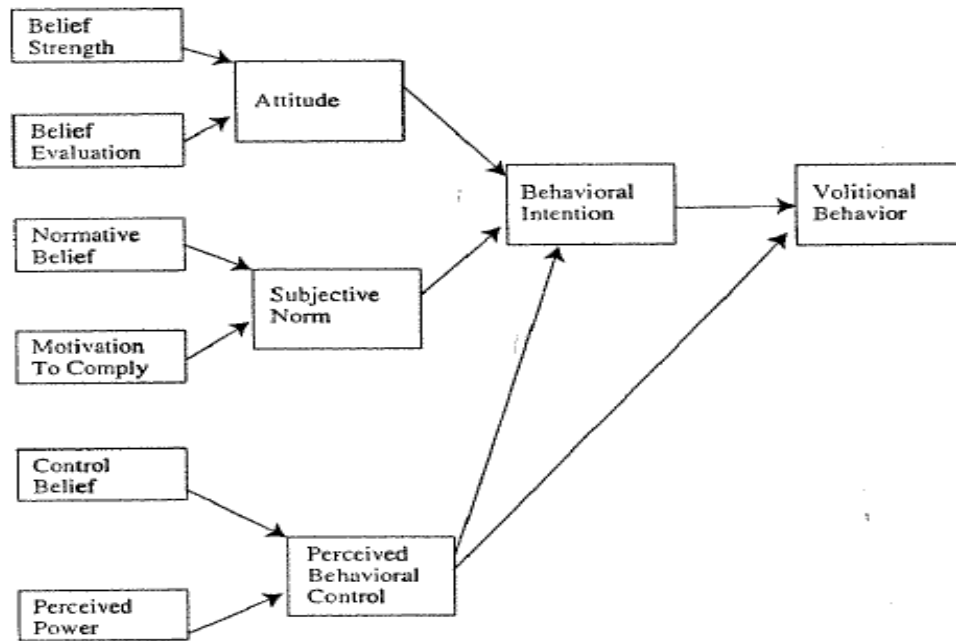
Figure 2.2 Causal Diagram of the Theory of Planned behavior (Hale et al., 2002, p.278)

Control beliefs are often described as person's perception of the *availability (or lack) of opportunities and resources required in completing* (Farah, 2017, p.150). In other words if an individual does not have the opportunity or the resources to perform the behavior their PBC will decrease and vise versa (Ajzen, 1988). According to (Winchester and Huston, 2014, control beliefs consist of perceived self-efficacy and controllability. The two components represent the internal and external barriers that may occur. The internal ones such as resources and abilities mentioned above and the external ones – the level of difficulty associated with the specific behavior (Winchester & Huston, 2014). Clarke, 2014 also found that the internal has bigger effect on intentions. On the other hand, external elements affect more the performance of the behavior. What this means is that not only the ability to complete is determining the control beliefs but also the knowledge and awareness regarding the behavior (Clarke, 2014).

2.2.2 Past Behavior

Another extension of the TPB is including the construct of past behavior. Some authors claim that the past behaviors have a tremendous effect over the future behaviors of an individual and increases the predictive capabilities of the TPB (Song et al., 2012). The same was also claimed by (Engel et al., 2001) in their customer behavior model. What the authors agree on is that if a person has already performed a behavior they are more likely to perform the same behavior again, especially if they have positive experience with it (Engel et al., 2001).

Even though there could be found numerous extension to it, the Theory of planned behavior has still received some criticism. The three main issues with the TPB according

to Eagly and Chaiken (1993) are: the causal relationship between perceived control and intentions; the TPB as an explanation of behavior and the problem with planning in the TPB. The first issue derives from the fact that the nature of the relation is positive – then indeed the perceived control has affect over the intentions. However, if the relation is negative, there was no found evidence that the perceived control is determining the intentions (Eagly & Chaiken, 1993). The second issue with the TPB is in regards with additional factors that have effect over intention such as self-identity, moral obligation, habit (past behavior) and affect. Even Ajzen (1991), admits that the sufficiency of TPB to explain behavior could be questioned and needs further research on the topic. Lastly, the main criticism is address to the fact that even though it is called the Theory of planned behavior, TPB does not take into consideration the concept of planning. It does not include how the person makes plans, evaluates them and act on them. This was found even more relevant when the individual has less control over the behavior and a specific set of skills or resources is required (Eagly & Chaiken, 1993).

Overall both TRA and TPB have been large used in the socio-psychological literature in attempt to explain the behavioral intentions. The theories have advanced our understanding of behavioral intention and their benefit were supported largely with numerous empirical studies (Sutton, 1998). The two theories strive to appoint targets of social influence attempts. Hale et al (2002), suggest that when an actor (ex. Company) is aiming to influence individual's behavior, the actor must target the person's behavioral intentions as they determine one's behavior. Also, if the message that the company is using to influence the individual manages to affect any of the attributes of intention (such as attitudes, subjective norm etc.) the message will have effect over the individual's intention on behavior.

In the current case of switching electricity providers, that can mean that the providers (or traders) may try to target the consumer's intentions to switch and all attributes affecting this intention. In order to better understand the context of switching electricity providers and to identify the specific to the context variables (attributes) a literature review on the topic will be performed in one of the following chapters.

The TRA and TPB can be overviewed as the effect of intention on behavior over the behavior. Intention on behavior according to the theories derives from Attitudes, Past Experience, Perceived Control (which can be seen as internal stimuli) and Subjective norm (reaction to external stimuli), with some exceptions to the specific attributes of perceived control.

2.3 Customer Behavior model

A parallel can be drawn between the TPB and the customer behavior method – EBM. The

EBM model was created by Engel, Blackwell and Miniard (thus called after the authors) and was based on a previous Engel – Kollat – Blackwell model from 1968. The main aim is to explain the process of consumer decision making. Especially in the case of switching (switching behavior) the common thing between the two framework are even more, due to the fact that the nature of the switching process is a behavior of the consumer (seen by the TPB) and at the same time is a choice between the current provider of electricity and new provider, or between two providers. The two frameworks show great similarities in the attempt to explain the causes of specific behavior and what affects it. A detailed diagram of the EBM model can be see in figure 2.3 below.
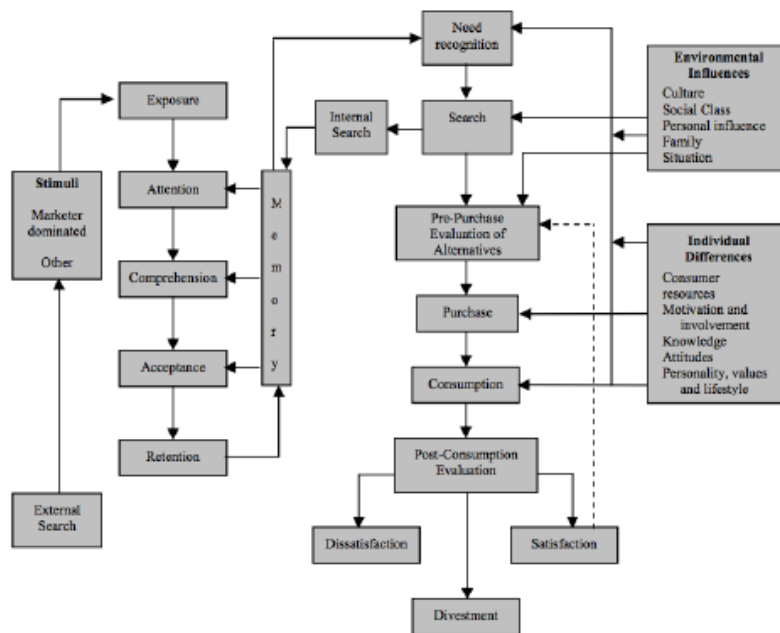
Figure 2.3 EBM Model of consumer behavior. (Engel et al., 2001)

If we look at both the TPB and the EBM model the past experience from the TPB is covered by the post-consumption evaluation in the EBM. The Subjective norms can be related to the environmental influences in the EBM model. Attitude, resources (in this account and control) from the TPB can be found also in the EBM as some of the individual differences.

If the switching behavior, can be explained by both TPB and EBM, and all main component of the frameworks align, besides knowledge (which was found to have a great influence in one of the theories), knowledge should have higher influence over intentions to behave in the TPB as well.

2.3.1 Knowledge

The most significant difference between the two is that even though the TPB only recently have mentioned that knowledge in relation to the TPB (Clarke, 2014). However, the reference was made in regards to determining the control beliefs. The level of influence

knowledge as a component has in the TPB is very small (if represented at all) as it is only partially affecting control belief, which is said to be one of the attributes of perceived control. Perceived control on the other hand (again if accounted for at all), is one of the variables determining intentional behavior, which is said to determine behavior. This long causal relation of knowledge to actual behavior illustrates the small importance given to knowledge and awareness in the TPB.

On the other hand, in the EBM model, knowledge and awareness play key role is almost all steps of the process of decision making. In the first step – need recognition, (which is represented by the imbalance between actual state and ideal state of the consumer) the consumer influenced by external and internal variables (Environmental Influences and Individual Differences) expresses awareness of the imbalance as a consequence of knowledge (realization) of the current state they are in. The second step – the information search in entirely focused on either internal and external search for information regarding the specific product (or service). From this step evaluation criterion derives such as price, brand, quality etc. These criteria are used in the next step. During the next step of the EBM model, the so called Evaluation of alternatives, the consumers takes into consideration different alternative choices and evaluates them on the basis on the evaluation criteria. However, other factors might influence the choice such as the social surrounding, the physical surrounding or the level of the associated purchase risk. After evaluating the alternatives and making the choice, the knowledge from the current purchase is used in future purchases. Depending on the outcome of the purchase, if the product (service) meets the consumer's initial expectations, the experience from this choice might have wither positive (lead to re-purchase or recommendation) or negative effect on future choices (Engel et al., 2001).

This gap in the literature indicated that the current theory be developed in further details taking into consideration the discussed concerns. The potential expansion should be tested empirically. Thus this inspired the implementation of the current study where the matter will have applied in the context of switching electricity providers among Bulgarian household consumers. However, before forming any hypothesis, it must be considered that there are also some factors that were found to affect the customer's decision and switching intention, specifically related to the electricity sector.

2.4 Predictors of switching behavior in the electricity sector

In their paper "Willingness-to-Pay for Service Attributes" Andrew Goett et. al. (Goett et al., 2000) researched choices among energy supplier and the willingness to pay of small and medium commercial and industrial customers. They use 40 attributes such as "*sign-up bonus, amount and type of renewables, billing option, bundling with other services, reductions in voltage fluctuations, and charitable contribution*" in order to provide to the

suppliers an understanding of what the customers are looking for, and what services should be offered in order to stay competitive.

The authors argue that *"The power of competitive pressures to lower prices depends on the degree to customers are willing to switch suppliers in response to offers"* (Goett et al., 2000, p.2) Goett et. al (2000), also claim that if the current suppliers do not manage to provide services that meet the needs of the customers that will open the market for new competition and vise versa. The authors grouped the more than 40 attributes in five clusters to facilitate the analysis. The groups were: Pricing, Green energy attributes, Customer services, Value-added services and Community presence (Goett et al., 2000, pp.4-5).

2.4.1 Local Presence

When talking about local presence, the research showed that customers are indeed willing to pay (78% of the respondents) for a supplier with a local presence and moreover: *" On average, customers are willing to pay 0.62 cents more per kWh to obtain service from their local company instead of from the affiliate or a well- known energy company"* (Goett et al., 2000, p.14). Regarding the option to sign up a contract with a specific length the research showed that *"The estimates indicate that most customers dislike being locked into a contract more than they value the price guarantee that the contract provides."* (Goett et al., 2000, p.16). However, the paper also reveals that customers (41%) were more willing to sign a one-year contract and have the fixed price than be without a contract.

Kaenzig's et al. (2013) research in Germany also concluded that consumers clearly preferred domestically-generated power over other choices provided. In Kaenzig's et al. (2013) case, "Price guarantee and contract length" did not indicate to be of a significant importance for the consumers in comparison to other attributes such as price and electricity source mix.

2.4.2 Sources of electricity

Another very interesting finding of Goett et al. (2000), is that customers are willing to pay more for energy is the supplier uses 100% renewable energy. The rates that they were ready to pay more depended on the type of renewable source, where hydro was leading, followed up by wind and solar power.

Vecchiato & Tempesta (2015), examined the people's preferences towards different choice of renewable energy sources (RES). The subject of the study was the people of Veneto (Italy). They were given the choice of various RES scenarios with duplicated real market options. The researchers focused not only on the energy source but included

more specific aspects like size of power plant, certification of origin, distance from the houses etc. What Vecchiato & Tempesta (2015), found is that there is an opportunity for market expansion as more than 85% of the people where willing to pay more in order to have RES. The people'e readiness to pay more was different depending on the specific source of energy where solar was leading followed by biomass. Vecchiato & Tempesta divided their questionnaire in 7 sections each aiming at obtaining knowledge regaring: Participant's knowledge levels of RES; Current energy contract and if it contains RES; Willingness to pay 2 euro month more in order to obtain a green energy; Knowledge of respondents about solar and biomass; Choice of a hypothetical scenario; Control questions about the choice and the last section explores socioeconomic characteristics. The main finding of the study were that the people of the Veneto region preferred solar over other RES and the negative landscape impact of the PV panels was not of a significant concern for the people. As for other RES options, the respondents preferred forest biomass over agricultural one. In comparison, the people were willing to pay 22.2% more to have energy from solar PV, 6.5% more for forests biomass and 4.1% more for agricultural biomass. Besides the limitations mentioned in the study the authors manage to illustrate the evident opportunity for investment and market *"there seems to be a wide market that could be further exploited, leading to a win-win situation in terms of energy production and environmental sustainability"* (Vecchiato & Tempesta, 2015, p.178). This research showed not only the potential for market expansion and the people's attitude towards RES, but also the need of RES dissemination as evidently people are willing to pay more for specific sources and the preference of one over other RES could be motivated by various monetary and non-monetary factors.

The opening of the electricity markets was found to have positive effect over electricity price as market liberalization is closely related to higher competitiveness and lowering of the market price of electricity. However, this comes with another concern – as people where found to tend to chose a cheaper electricity source (as given the chance to do so) this could lead to harmful impacts over the environment as a consequence of using the non-green alternative energy sources (Johnson & Frank, 2006). In their research Johnson & Frank (2006), explored the people's awareness regarding the negative effects on the environment of the cheaper non-green energy sources. The research suggested that the people did not in general give too much though regarding the impact of the energy sources they choose. When asked about their expectations regarding the effect of deregulation - uncertainty was leading, but more than half of the people also agreed that positive results could be expected. (Johnson & Frank, 2006) The study also found that elites are indeed concerned that the have been concerned that lower cost option will lead to consumers choosing " dirtier" electricity sources as a consequence of the deregulation. This concern should alarm that the consumers need to be educated of the potential for impacts of various energy sources and specific effects for each product should be explained *"to ensure that at least the opportunity for considering tradeoffs is available"* (Johnson & Frank, 2006, p.1341). The study of Johnson and Frank (2006) illustrates that positive on first sight changes, when people lack the information of the negative

consequences they can unwillingly cause harm on the environment. That calls for the intervention of not only governments but also of the providers and traders of energy to educate their consumers of the "hidden" benefits or the added value of alternative greener energy sources.

Another issue with renewable energy sources of electricity was found by Huh et al. (2015) while they studied the customers' preferences and their readiness to pay for improved residential electricity services. Their study evaluated the customers' acceptance of hypothetical electricity services. Their study found that the consumers consider as the most valuable attributes the bill and the mix of the electricity. The research showed the on average the people were willing to pay around 2% more for renewable energy source of electricity. However, the problem is that this amount of increase is not enough for the supplies to be able to pay for such an electricity source. Huh et al. (2015) recommend that in a situation like this *"it is better to maintain the current electricity mix in principle, and the renewable share should be gradually expanded instead of making a sudden change in the electricity mix"* (Huh et al., 2015, p.410).

These kind of issues always have to be taken into consideration not only by policy makers, but by retailer as well as they might dictate the way the retailer manages the mix of resources they offer to the consumers. A good overview of some of the existing papers related to the consumers' preferences over source of electricity generation can be see in table 2.1 below:

Author and year	Country/target sources	Methodology	Key findings
Goett et al. (2000)	– The U.S. – Renewables	– Choice experiment – Mixed logit model	– Customers are vitally concerned about renewables. – A majority of customers prefer hydro or a mix of sources to wind.
Borchers et al. (2007)	– The U.S. – Wind, solar, biomass, farm methane	– Choice experiment – Nested logit model	– Individuals prefer solar to generic green and wind. – Biomass and farm methane are the least preferred sources.
Navrud and Bråten (2007)	– Norway – Wind, hydro, gas	– Choice experiment – Multinomial logit model	– Norwegians prefer to build more domestic wind farms instead of importing electricity from coal-fired power plants. – Wind farms have a NIMBY effect.
Gracia et al. (2012)	– Spain – Wind, solar, biomass	– Choice experiment – Mixed logit model	– Preferences for various types of renewables are heterogeneous.
Kosenius and Ollikai-nen (2013)	– Finland – Wind, hydro,; energy from crops, energy from wood	– Choice experiment – Nested logit model	– Wind power is generally the most popular source. – Regional differences exist, and energy from wood is favored in rural areas.
Kaenzig et al. (2013)	– Germany – Coal, nuclear, renewables	– Choice experiment – Mixed logit model	– The price and the electricity mix are the two most important product attributes. – A majority of consumers prefer nuclear-free electricity.
Welsch and Biermann (2014)	– 25 European countries – Nuclear, coal and peat, oil, gas, hydro power, geothermal, solar and wind, bio-fuels and waste	– Subjective well-being regression – Ordered probit model	– Individuals' subjective well-being varies systematically and significantly with differences in the electricity mix across countries and over time. – A larger share of solar and wind power relative to nuclear power and electricity from coal and oil is preferred.

Table 2.1 Previous studies of customer's preferences for energy sources of electricity generation (Huh et al., 2015, p.411)

Huh et al. (2015), used 6 main attribute to analyse the consumer's preferences: Electricity mix, Smart meters, Numer of blackout, Duration of the blackouts, Social contribution of the electric power company and increased electricity bill (additional amount per month)

(Huh et al., 2015, p.415). A valuable finding of Huh et al (2105) is that even though customers in general prefer electricity coming from renewable sources over nuclear ones, this is specifically true when the increase of the price is not berried by the consumers themselves. In fact Huh et al. (2015) proved that in their research there was a *"decrease in customers' acceptance (towards RES) when the cost is passed on to them"* (Huh et al., 2015, p.419). However, this study should also not discourage retailers to inclese (or generaly include) RES in their proposed energy mix. In fact as seen from some previous example there are more and more consumers that are willing to pay larger amaount in order to have greater share of RES in their electricity mix (see Vecchiato & Tempesta (2015)). This insight should alert policy makers and retailers that the flexibility to which consumers are willing to pay more from their own pockets to have higher percentage of renewable energy sources will vary from case to case and is something that needs to be investigated in the specific scenario.

In their research about the gap between the preferences of the consumers in the electricity market and what is offered to them, Kaenzig et al. (2013) found that in German consumers there was a high readiness to pay a higher price from electricity if it comes from renewable renergy sources. Indeed, the consumers were willing to pay 16% more for electricity from RES. Kaenzig et al. (2013) proposed five choices of electricity mix, based on different levels of RES, price, cancelation period, location of the deneration and certification label. The Solar power was found to be leading from all RES options provided with quite significant difference lead in front of wind and hydro plants. Similar results were found by other authors before((Borchers et al., 2007). In order to investigate the reasoning behind the choice of a specific RES, Kaenzig et al. (2013) gave the participants the option of relating specific RES to attributes such as "environmental protection, climate protection, acceptance by the public, job creation, independence from foreign countries, security of supply, landscape destruction and safety risk" (Kaenzig et al., 2013, p.318). Very interesting finding from this research is that consumers tend to relate RES (specifically solar and hydro) with high level of security of supply as well as the traditional correlation with environmental and climate protection. In comparison, only 15% of the respondent relate nuclear and coal with security of supply , where for solar, hydro and with this percentage was more than 50%. (Kaenzig et al., 2013). In general, the study of Kaenzig et al. (2013) concluded that the preference of the customers and what is offered to them as a current electricity source mix is highly different. The authors confirmed once more that the consumers are willing to pay more for an upgrade to a RES electricity mix. Kaenzig's et al. (2013, p. 319) study findings suggest that retailers can: "*create real customer value by shifting their supply mix towards a higher share of renewables".* Kaenzig's et al. (2013) also contribute with providing the retailers (and any other beneficiaries) with a specific mix of RES options that the consumers are willing to pay extra for and provide estimations on how much the increase of the price might be. Those findings could guide the strategy of retailers, who might see the finding as "*confirmation for the substantial market potential for green power*" (Kaenzig et al., 2013, p.319).

2.4.3 Customer Service

When considering their business strategy energy providers must take into consideration that customers have proffered paying options as well. Goett's et al (2000) research showed that the most popular paying option was the one where the customers are flexible to chose and change the way they are paying. Last but not least, Goett et al (2000), proved that when considering services options, customers prefer to talk to a real person and were indeed willing to pay more to be able to have that option.

2.4.4 Social corporate responsibility (CSR)

Herman and Georgescu (2014), studied the relation ship between corporate social responsibility (CSR) and the quality of services provided by an electricity provider in Romania. The research focused on the level of loyalty towards the company if another supplier emerges in the market. What the authors managed to prove is that the higher level of trust led to loyalty in the customers, which affected to level of willingness of the customers to change their supplier. As a member of the European Union the Romanian electricity market shall undertake to road to full liberalization. This will lead to opportunities for households to chose their electricity supplier in the near future. The research of Herman and Georgescu (2014) tested the consumer's perception toward the degree of information they receive from their current supplier, the consumer's satisfaction levels, the levels of trust and loyalty towards the company and the relation to social corporate responsibility of the provider. The leading issue found was the customers' attitude towards the current price levels, however those are set by the regulator and are currently not an object of discussion. As for the other attributes, the customers were relatively satisfied with the information they receive from the current supplier and with the quality of their services. The research of Herman and Georgescu (2014) showed that in order for companies to be able to increase their number of household customers in the Romanian market, they need a CSR which will be expressed by satisfying the needs of the consumers and thus increase the trust in the company, which is believe to lead to diminution of migration to other energy suppliers. Some of the steps that the authors suggest for suppliers to undertake are: to provide the customers regularly with information; simplify the bills so the people can understand what they are paying for; strengthen the customers loyalty and focus in attracting the percentage of the customers that still have not decided if they want to change their supplier or not. (Herman & Georgescu, 2014).

Welsh and Biermann (2014), research the connection between the well being of the customer and various electricity supply resources among the citizens of 25 European countries. One of their main findings is the preference towards for solar & wind power over nuclear power significantly increased after the nuclear incident Fukushima (on

March 11, 2011). The authors analyzed the data from 139 517 people from 25 European countries for the period between 2002 – 2011. When researching the preferred source of electricity in the following period electricity coming from gas and renewable energy sources (RES) was prefer over electricity coming from nuclear power. Welsh and Biermann, found that larger share of RES relative to nuclear power and electricity from oil and coal is related to higher level of subjective well-being. Even though price is a leading attribute, even for low-income citizens, there was evidence that wind and solar power are preferred. The results represent the preference of technologies in terms of cost, safety, security of the supply and cleanliness (Welsh & Biermann, 2014). Moreover, Welsh and Biermann concluded that the European consumers are highly concerned for the environmental and safety aspects of the electricity supply when they are making their choice of provider. One of the reasons that the authors suggest for explanation of the choice is (besides the Fukushima accident) the rising concern regarding climate change.

2.4.5 Price and demand

Khojasteh & Jadid (2015), studied the distribution of electricity related to price-sensitive consumers. For the retailers the uncertainty of the demand and the wholesale prices were found to be the main concerns. It was also found that higher electricity prices tend to lead to decreased consumption by the consumers. But a higher price gives the retailed a higher revenue. Thus, the retailers need to find the optimal price for them where they will have the higher profit without lowering the demand. In that relation (Khojasteh & Jadid, 2015) propose a model for finding the optimal selling price for those retailers.

In the electricity market, the price for electricity is based on the specific time (peak, non-peak hour etc.). However, most consumers pay fixed prices set in their contract for a specified time period and therefore are not influenced by the changing price – therefore they tend to not lower their consumption in regards to the peak of the demand. The electricity traders are the ones that need to meet the differences (shortages) in peak hours. For the retailers there is a risk of financial loses as the demands of the final consumers are quite unpredictable. Another big concern for the retailers is the fluctuation of the wholesale electricity prices, as generally the retailers buy electricity from the suppliers and re-sell it to the consumers. However, unlike the sell-price, the buying prices for retailers are not fixed and could vitiate a lot, which could lead to greater financial loses for the retailers. As the main objectives of the retailers is maximizing the profit and minimizing the risks, there are numerous methodologies used to optimize the profit of the retailers such as stochastic programming, dynamic programming, clustering techniques etc. Khojasteh & Jadid (2015), suggest a model that manages to : 1)Optimize the strategy of the retailers (based on the price sensitivity of clients to selling prices). This model calculates the selling prices in a way that guarantees in the same time to that maximize the profits of clients and retailers; 2) The model enables the sellers to "specify the energy supply strategy according to desired performance"; 3) *The model is*

formulated for risk-averse and risk-taker retailers via the robustness and opportunity functions, respectively" (Khojasteh & Jadid, 2015, p.2).

Their "robust bi-level energy-supply model" finds the optimal strategy for electricity retailers based on the demand of price-sensitive consumers. The authors propose two variations of the model depending on the level of risk the retailer is willing to take. The model suggest simulation where during low demand the price is decreased, which results in increasing of the demand. As for high demand periods, the model suggest the retailers to increase the selling price *"during high-price periods, the retailer offers the higher selling price to cover the supply cost"* (Khojasteh & Jadid, 2015, p.11), . The authors argue that this will lead to decrease in consumption and this way the retailer will be able to *"sell the energy surplus into the wholesale market and obtain a higher profit"* (Khojasteh & Jadid, 2015, p.11). Khojasteh & Jadid's (2015) model provides retailers with a great tool of optimizing their profits while managing the demand and the level of risk taken. This type of tools can enable more retailer to operate on the marker thus increasing the competitiveness and difersity of services provided.

2.4.6 Supply

Ozbafli & Jenkins (2015), research the willingness of the consumers to pay extra in order to have more reliable supply. The cost that they were willing to pay to avoid shourtage was estimated to around 14% increace of the monthly bills. This might be explained by the fact that the study was done in Cyprus – an island community highly dependant on tourisum where security of supply might be valued even higher than average consumers. No matter the exact extend, the consumers show that interruption of supply has huge impact on consumers. Ozbafli & Jenkins (2015) have estimated than the money raised from the additional 14% that the customers are willing to pay are enough to "*finance the investments needed to completely eradicate any electricity outages"* (Ozbafli & Jenkins, 2015, p.359). Not only, but they have calculated that the return of investment will be doubled in five years. Even though it should be taken into consideration that the extend of the return is specific to the context, the study shows that there is a potential of a win-win situation for both traders (suppliers, investors etc.) and the consumers if *"the current low-reliability policy is changed to one of providing a high-quality service"* (Ozbafli & Jenkins, 2015, p.359). This study is not only *"one of the few CV studies that attempts to measure the cost of outages in a country with a high actual outage frequency"* (Ozbafli & Jenkins, 2015, p.366), but also reveals an opportunity for investors to take a look at less favorable consumers, where the current supply service is very low.

Huh et al. (2015), also studied the willingness of the consumers to pay more for more reliable supply – to avoid shourtages and blackout. What they found is that on average the consumers are ready to pay around 6 USD more to avoid blackout once a year. This is relatively loer that the amount found from Ozbafli & Jenkins (2015), but however

shows the same pattern of willingness to pay in order to avoid the blackouts.

2.4.7 Considerations for Retailers

Defeuilley (2009), researched the retail competition in the electricity markets and moreover to what extend the expectationsfrom the liberalization of the market were met and what were the reasons for that. According to Defeuilley, the expected results of the opened competition were not eatimated properly in firsthand and that led to the situation where the expectations cannot be met. Defeuilley argues that what led to the wrong calcualtion of the expected results is the fact that the consumers' decision making processes and the sector's technical paradigm we not taken correctly into consideration. Defeuilley apoints the Australian schollar (as the introduction of competitions was inspired by that school and they were "*accociated with the design of the reform* (Defeuilley, 2009, p.377)*")* as the ones that have missed to calculate the two leading reasons for the reduced impact of the introduces competition namely: *"cognitive bias affecting consumer's decision to switch, technological paradigm reducing innovation opportunities in commercialization"* (Defeuilley, 2009, p.377)*.*

As for the first factor – consumers' bahavior, the Australian scholars made the incorrect assumption that "consumers make fully rational decisions and choose the supplier that best meets their preferences" (Defeuilley, 2009, p.382). The decision making process of the consumers is way more complicated and unfortunately people not always take rational decisions. In fact, a lot of other factors affect the way we as consumers make choices (McFadden, 1986). Defeuilley (2009), argues that *"consumers interpret new information that becomes available to them in a way that confirms their initial perception. Active clients will consider that a fluctuating market, characterized by frequent price changes, provides a continuous stream of new opportunities, while inactive clients will consider this very same instability as a sign of increased complexity and a greater risk of mistakes"* (Defeuilley, 2009, p.384)*.* Basically what that means is that each group interprets the information they get in a way that is suit their own initial understandings and backs up their own believes. This is why Defeuilley (2009), suggests that market segmentation should be reinforced as different types of clients will continuously act the way they do which will not enable the market's liquidity.

The second major barrier is the fact that innovation is limited due to the nature of the electricity as a product. In the electricity more often innovation is dictated by transmission and supply companies, rather than the retailers (Defeuilley, 2009). The system itself constrain suppliers from innovation as well as they are limited by the mainstream and the architecture of the electricity system. If the system evolves into a decentralized, complex unit pushed by technology innovation and liberalization of the markets Defeuilley (2009), suggested that *"differentiating the product electricity, dynamic demand management, associated services"* (Defeuilley, 2009, p.385) could be some of the

opportunities for innovation for the retailers.

2.4.8 Demand Flexibility and control levels

Broberg & Persson (2015) researched the household consumers' preferences in regard to demand management of electricity. The authors proposed three hypothetical electricity contract choices. The experiment examined the preferences towards the option of remote control of the heating and electricity and the dissemination of information provided.

The research showed that people were ready to pay more to have the freedom of not being controlled. The study also revealed that factors such as age, gender and income play a key role in the extend to which the people are perceiving the control as a discomfort. Broberg and Persson (2015), argued that *"changing markets put pressure on increased flexibility to handle and sustain balance in the grid systems"* (Broberg & Persson, 2015, p.1). This shows that trading companies need to adapt their strategies and be able to provide the consumers with more flexible options in order to stay competitive on the market.

The study's hypothetical contracts were offering restriction of the usage of electricity and heating of the households of peak hour times such as in the morning and in the evenings. The control of the electricity and heating was taken over a company that will be able to regulate (ex. restrict you of using heating or electric appliances during peak hours). The people that were willing to accept the offers were given specific monetary compensations depending on the extend to which they were willing to be controlled. The research showed that the consumers value very high their comfort and flexibility and the compensations for which they were willing to "sign-up" for such a contract were unrealistic. Also the experiment revealed that people valued more their freedom of usage during evening time over morning and electricity over heating usage (Broberg & Persson, 2015). Another variable that the experiment focused on is the information dissemination. It was proven that for people with more than 1 adult in the household and less concern about heating and more concerned for information as do the people living in apartments. The authors explain that as *"such respondents may live closer to the people with whom they compare themselves to, and hence experience a higher social cost"* (Broberg & Persson, 2015, p.32)*. According to* Broberg and Persson (2015), "Demand side flexibility is expected to play a key role" (2015, p.32). Companies should take into consideration that some attributes (such as flexibility, freedom of choice and level of control) might be valued higher by consumers than other attributes due to their social costs and benefits.

2.4.9 Light Asset retailers

Similar to Khojasteh & Jadid's (2015) model was constructed by Ghazvini et al., (2015).

They have created a "multi-objective decision-making framework for asset-light retailers". This framework enable asset-light electricity retailers to lower the risk of potential short term financial losses, manage risk and reduce the risk of future capacity charges. As the retailers are obligated to provide lectricity to a pre-fixed price to consumers when the prices of the wholesale market are not fixed and demaned could fluctuate, traiders face a risk of financial losses during peak hours. The change of the market to a liberalized one converts the retailer to more active actors that compete with each other and try to stay competitive by offering diferentiated products. In order to manage their income retailers can use different mixtures of resources and technologies. Ghazvini et al., (2015), suggest that retailers (especially asset-light ones) must design an incentive-based plans as those became popular in the recent years and proved to be beneficial. Alike Khojasteh & Jadid's(2015) model the framework of Ghazvini et al., (2015) offers *"practical approach for designing the financial incentives".* The framework calculates the maximum profit while striving to minimize the demand during peak hours. The proposed framework enable retailer to lower demand during peak hours by *"employing their own resource"* and *"not just shift it to other periods"* (Ghazvini et al., 2015). Both studies show that by optimization of resources and price control retailers can avoid huge financial losses and can effectively manage the demand. These type of findings enable smaller retailers to compete on the market and contribute for the competitiveness and diversification of the market.

Kaenzig et al. (2013), researched to what extend various electricity attributes are relevant in in creating customer value. What their research showed is that the price and the *"electricity mix are the two most important attributes"* (Kaenzig et al., 2013, p.311). Their study also proved that certification had relatively low importance for the respondents. This shows that *"the information on the electricity generation mix is of highest importance. If that information is provided in a similarly detailed and transparent manner as in our survey, then it seems to supersede the potential signaling effect of a green power certification scheme"* (Kaenzig et al., 2013, p.311).

Taking all into consideration, one of the main aims of the current research is to identify the needs of the household customers in the context of Bulgaria, which will help retailers to formulate their strategies accordingly. Therefore, the current research will test empirically whether the factors reviewed in the theoretical background, affect the switching intentions and define customer's choice of electricity provider in the context of the Bulgarian electricity market. The factors derived from the theoretical overview are used to create the conceptual framework of this study (see Figure 2.4 below). It should be mentioned that the current research will take into consideration the expansion (the additional variables) proposed by Martins et al (2013)*.* However, as of the specificity of the context additional variables will be added to further extend the theory.

2.5 Conceptual framework and Hypotheses formulation

Based on the theoretical background, a list of concepts has been identified. These concepts were found to be predictors of switching behavior in different researches made by other authors (see previous sub-chapters). Those factors (variables) (see Figure 2.4) will be later on empirically examined.
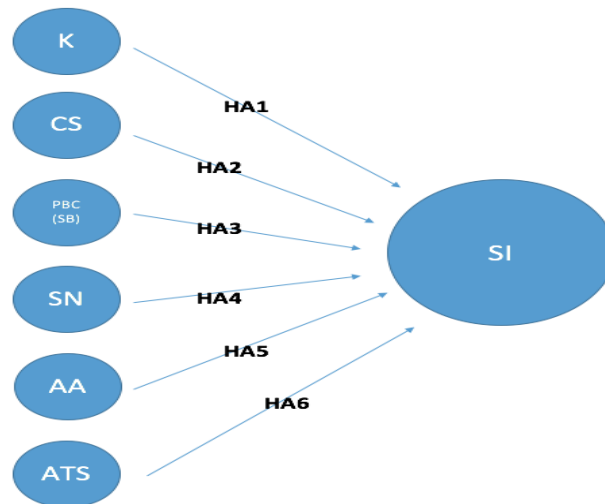
Figure 2.4 Conceptual framework (source: Developed by the author, based on TPB and Martins et al. (2013)

The first factor - knowledge, was added due to the fact that, as mentioned in the first chapter, the liberalization of the market is a relatively new phenomenon for the Bulgarian consumer. Not a lot people might have sufficient knowledge regarding the issue. It is also the only concept that is present in the TRA and not in the EBM model. Therefore, in order to examine whether there is a relation between the level of knowledge of the consumer regarding the liberalization of the market and the switching intention the following hypothesis is proposed:

H01. There is a no relation between the level of knowledge and the switching intentions in the context of the Bulgarian household consumers of electricity.

Ha1. There is a relation between the level of knowledge and the switching intentions in the context of the Bulgarian household consumers of electricity.

Second factor is the customer's satisfaction level. It is one of the most commonly found factors in the literature regarding switching behavior. Martins et al. (2013) and a list of other authors before that (ex. (Bansal & Taylor, 2002); (Kotler, 2009)) agree that: *"The more satisfied a customer is with the current bank, the less intention to switch service provider in the future"* (Martins et al., 2013, p.20). Those authors suggest that companies

must ensure high level of satisfaction of their customers in order to retain them. This fact shows that the customer satisfaction is indeed a predictor of the potential switching behavior. (Bansal & Taylor, 2002); (Kotler, 2009); (Martins et al., 2013) In order to test the relation between the level of customer satisfaction and the switching intentions of the consumers, the following hypotheses are proposed:

H02. There is no relation between the customer satisfaction levels and the switching intentions (switching of electricity provider) of the household electricity consumers in the context of the Bulgarian market.

Ha2. There is a relation between the customer satisfaction levels and the switching intentions of the household electricity consumers in the context of the Bulgarian market.

The third proposed factor is the switching barriers. The switching barriers consist of the switching costs and contractual lock in. They are also related to the ease of performing a behavior (Trafimow, 2009). It is argued the switching barriers are all the variables that can make it harder (more difficult) for a customer to chose alternative option (Tesfom & Birch, 2011). This is why the perceived behavioral control is also sometimes perceived as a barrier, as if the consumers fell that they are not in control of the situation (do not have enough resources or ability to switch) this might obstruct them from actually switching. The testing of those claims will be done via the following hypotheses:

H03: *There is no relation between the switching barriers and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

HA3: *There is relation between the switching barriers and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

Next concept is the subjective norms. The subjective norms were already discussed as part of the proposed by Hale et al. (2002) model. In order to empirically test if the effect of the switching intentions of the Bulgarians consumers, when talking about electricity providers, the following hypotheses are proposed:
H04: *There is no relation between the subjective norms and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

HA4: *There is relation between the subjective norms and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

Another concept that is part of the conceptual framework is the Alternative Attractiveness. It is understood as the level of attraction towards other (different than the current) electricity provider. In other words, if the consumers see more value in the other providers than in the one they currently have. As the level of attraction was found to be a reason for leaving the current service provider in other contexts (Farah, 2017) it might be applicable in the current case as well. Therefore, the next concept will be empirically tested with the approval or rejection of the following hypotheses:

H05: *There is no relation between the alternative attractiveness and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

HA5: *There is relation between the alternative attractiveness and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

The last concept is the attitude towards switching. It is part of the TPB, and was proven by many researches to have relation with the switching intention in various contexts (Farah, 2017). There probable connection between the two was tested via the following hypothesis:

H06: *There is no relation between the attitude towards switching and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

HA6: *There is relation between the attitude towards switching and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

In addition to the factors said to have effect on switching intention, the research will strive to indicate additional variables that might not be part of the conceptual framework, but could affect the switching behavior in the case of the Bulgarian household electricity consumers. Besides addressing the theoretical gap, the finding from this research could help current and future electricity providers (and traders) to strengthen their market position, retain the current customers and attract new ones.

Chapter 3 Methodology

The purpose of the methodology chapter is to reveal the methodological approach chosen for that research and to outline its applicability and relevance to the paper.

The chapter also aims to overview the chosen data collection methods and argue the reasoning behind that choice. The methodology chapter briefly presents leading approaches and beliefs and reveals their strengths and weaknesses. The author addresses concerns regarding the validity and reliability of the data, and proposes a way of addressing these issues.

The primary data is collected via quantitative method (questionnaires). More detailed explanation of the data collection method and the reasons behind the choice of this specific method for the current research is presented in the following sub-chapters.

3.1 Theoretical Considerations

When talking about methodology, one should first understand the definition of the term paradigm. It was first introduced by Kuhn in 1962. He defines it as a framework of understanding one's experience and a way the researcher views the world. He explains that each research field is characterized by its own set of understanding about the phenomenon, what and how is studied, the questions that should be asked and the way the analysis should take place. (Kuhn, 1962) Other authors describe paradigm as: *"philosophical and theoretical framework of a scientific school or discipline within which theories, laws, and generalizations and the experiments performed in support of them are formulated"* (Merriam-Webster, 2017)*.*

A very popular definition is the one made by Bryman in 1988, where he defines it as: *"a cluster of beliefs and dictates which for scientists in a particular discipline influence what should be studied, how research should be done, [and] how results should be interpreted"* (Bryman, 1988). No matter which definition one is following, the choice of paradigm in social science is crucial as it determines the research's stance of the nature of knowledge and theoretical perspective, which dictates the research process from the research questions definition to the type of methodology and methods chosen (Crotty, 1988). This is why, in order to stay consistent though the entire research one should to understand the chosen methodological approach.

Kuada (2010), in his book *"Research Methodology"* studies the research design in depth and outlines four main levels: Philosophical/Theoretical viewpoints, Epistemological choice, methodological decisions and Methods and Techniques (see figure 3.1 below).

Similar classification was made by Easterby-Smith, Thorpe and Jackson (2012)in their book "Management Research".
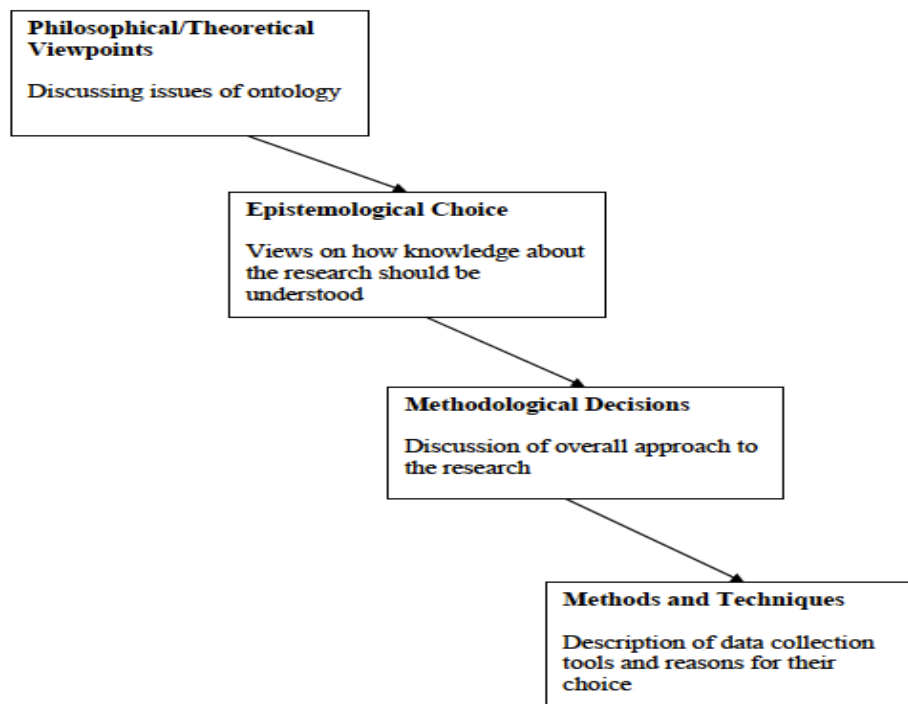
Figure 3.1 Structure and Levels of Discussion in a Methodology Chapter (Kuada, 2010, p.56)

As seen is figure 3.1, the first level - Philosophical / Theoretical viewpoints discusses main issues related to ontology. In philosophy of science ontology as a term is used to to describe *"what we want to know about a subject"* (Kuada, 2010, p.57). It is a branch of metaphysics and some philosophers have used it as a synonym of metaphysics, it was used even by Aristotle who referred to it as the 'first philosophy' (Smith, 2003).

Ontology explains *"how the researcher views the world and the assumptions that they make about the nature of the world and of reality"* (Easterby-Smith et al., 2012, p.18). In other words, ontology explains what exactly is considered as "reality" by the researcher. It is also related to the choice of objective-subjective view in the philosophy of science. The word itself derives from the Greek word 'onto' (being or existing) and 'logia' (written or spoken discourse) (Easterby-Smith et al., 2012).

The second level is the Epistemological choice. Like ontology, epistemology is also studying knowledge, but is more concerned with understanding what is considered as a valid knowledge (Bryman et al., 2011). One of the common definitions is: *"the study or a theory of the nature and grounds of knowledge especially with reference to its limits and*

validity" (Merriam-Webster, 2017).

As ontology, the word 'epistemology' lays its origin from the Greek ἐπιστήμη, epistēmē, meaning "knowledge", and λόγος, (logos), meaning *"logical discourse".* Kuada (2010) describes epistemology as: *"how we know what we know" or what may be conceived by the researcher as a 'truth' "* (Kuada, 2010, p.35)*.* The epistemological stance one takes will determine what kind of knowledge one has. Some of the most common, in philosophy of science, epistemological sets are pragmatic, positivistic, rationalist, realist, etc. All of those represent a specific set of understandings of what kind of knowledge can be created through research and how it should be collected and analyzed (Tennis, 2008). The most often encountered ones will be described in detail later below.

The third step in Kuada's (2010) structure of methodological chapter is the Methodological discussion (Methodology). According to Crotty (1988, p.3) the methodology is a *"strategy, plan of action, process or design, which determines the choice of methodology".* Patilit takes a slightly different perspective of the term and defines it as: *"the procedures by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology"* (Patilit, 2016, p.3).

The word methodology comes from modern Latin – *'methodologia'.* Some also believe that it might have its origins from the French *'méthodologie'.* It is basically, a construct to follow, when one creates the research frame, that outlines the research's techniques and the way one understands knowledge and the world. (Easterby-Smith et al., 2012)

The methodology is not only the way one should search the knowledge needed to answer the research questions, but it also determines the researcher's view on the world from either objective or subjective side. If one believes that the world can be observed from the outside (objectively), then one should use an objective method to research the universal laws in order to understand the relationships. However, if the researcher believes that only by understanding the individual's (subjective) knowledge about a phenomenon one can study this phenomenon, than one should chose to follow a subjective approach (Kuada, 2010).

A classification was made by Burrell and Morgan in 1979, in which they illustrate the objective and subjective approaches when it comes to ontology epistemology, etc. The framework they propose can be seen in table 3.1 below. (Burrell & Morgan, 1979)

Dimensions	The Objectivist Approach	The Subjectivist Approach
Ontology	Realism	Nominalism
Epistemology	Positivism	Anti-positivism
Human Nature	Determinism	Voluntarism
Methodology	Nomothetic	Idiographic

Table 3.1 The Objectivist-Subjectivist Dispositions in Social Science (Burrell & Morgan, 1979)

The last step in Kuada's (2010) model is the Methods and Techniques. Bryman et al. (2011), define methods as: *"techniques for data collection (e.g. interviews, observation, surveys, etc.). It is the thing you use to gather information on your area of research"* (Bryman et al., 2011, p.49). The research method is often understood as the way we gather the data needed to answer our research questions.
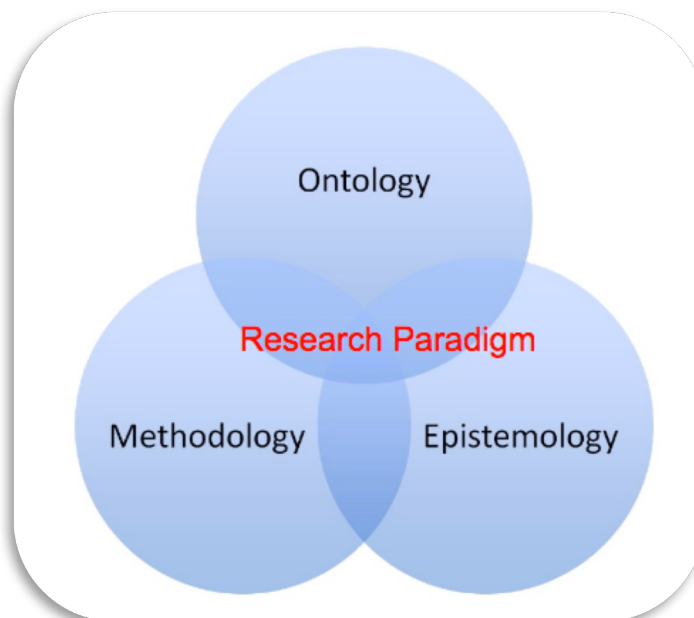
Figure 3.2 Research Paradigms: Ontology's, Epistemologies & Methods (Anderson, 2013, p.5)

The issues of what we understand by 'reality' and 'knowledge', how we approach to study it and what we consider as valid knowledge are fundamental parts of the research. All

those assumptions, gather in a set of belief that determines the framework of our research. As can be seen from figure 3.2 above, the research paradigm we follow is a complex mixture of all parts of the research from ontological and epistemological views to the methodology itself (Anderson, 2013). Regardless the specific paradigm the author choses to follow, the most important thing and the one that all authors agree on is that the author must stay consistent with the choice of all parts of the research paradigm in order to strengthen the validity and the reliability of the research itself.

As seen from Table 3.1, depending on the choice of view of the world (objective or subjective) the respective ontological, epistemological and methodological approaches are represented by pair of more or less opposite pairs, for example realism vs. nominalism, positivism vs. anti-positivist etc. Often those pairs of paradigms are used to describe one another as opposing example and also often one origins as the set of beliefs against the other. Those sets of most common understandings will be overview in the following paragraphs.

3.2 Ontology

As previously mentioned, ontology deals with "*the nature of what the researcher seeks to know something about – i.e. the "knowable" or "reality" "* (Kuada, 2010, p.36). Easterby et al. (2012) argue that the ontological views could be classified in four main groups: Realism, Internal Realism, Relativism and Nominalism. The differences between the four can be seen easily when we observe the understanding of 'reality', 'truth' and 'facts' (see table 3.2 below). When talking about 'truth' for example, different understandings can be found from the view of Realism where there is only a single truth, or in Nominalism, where there is no truth, to Relativism, which recognizes many truths.

3.2.1 Realism vs. Relativism

The pair that provokes arguments in the literature is the Realism-Relativism. The two are seen as opposites to each other. Realism is often defined as: *"the view that entities exist independently of being perceived, or independently of our theories about them"* (Phillips, 1987, p.205). Bryman et al. (2011, p.61) explain that one of the main features of Realism is the: "commitment to the view that there is an *external reality to which scientists direct their attention (in other words, there is a reality that is separate from our descriptions of it).*"

Realism characterizes with two sub-types: empirical realism and critical realism. The empirical realism distinguishes itself with the belief that *"what we see is what we get".* In contrast, the critical realism suggests *"that what we experience is just a sensation of the things in the real world, not the actual things themselves."* (Arvatu et al., 2016, p.36)

Ontology	Realism	Internal Realism	Relativism	Nominalism
Summary	The world is 'real', and science proceeds by examining and observing it	The world is real, but it is almost impossible to examine it directly	Scientific laws are basically created by people to fit their view of reality	Reality is entirely created by people, and there is no external 'truth'
Truth	There is a single truth	Truth exists, but is obscure	There are many truths	There is no truth
Facts	Facts exist, and can be revealed through experiments	Facts are concrete, but cannot always be revealed	Facts depend on the viewpoint of the observer	Facts are all human creations

Table 3.2 Main schools of ontology (Management Research (4th edition), Easterby-Smith, Thorpe and Jackson, 2012, p. 19)

In this research, drivers of consumer's choice are observed and explored together with the factors driving switching behavior. Both phenomenon, derive from the consumer's behavior perceptions and attitudes towards a choice. Even though, individual's beliefs of the world are put in the middle of the research, the researcher believes that the reality exists outside of the individuals, and can be observed objectively. The ontological stance of the current research is the objectivist perspective of the realism.

3.3 Epistemology

As in ontology, in epistemology an opposing pair also exists. The two views that provoke most arguments in the literature are the positivism and constructionism. Easterby-Smith et al., (2012), compare the two in regards to eigth view points of the two: how they undestand the observer, human interest, units of analysis etc. (see *Table 3.3* below) What can be seen from table 3.3, is that positivism and constructionism (including social constructionism), have indeed absolutely oposite understandings.

For example, in positivism the observer must be absolutely independent, where in social constructionism the researcher is part of the phenomenon observed. Also when comparing the views of the two regarding the human interest, social constructionism believes that human interests are the main drivers of science, where positivism agrues that they should be irrelevant. (Easterby-Smith et al., 2012)

	Positivism	Social Constructionism
The observer	must be independent	is part of what is being observed
Human interests	should be irrelevant	are the main drivers of science
Explanations	must demonstrate causality	aim to increase general understanding of the situation
Research progresses through	hypotheses and deductions	gathering rich data from which ideas are induced
Concepts	need to be defined so that they can be measured	should incorporate stakeholder perspectives
Units of analysis	should be reduced to simplest terms	may include the complexity of 'whole' situations
Generalization through	statistical probability	theoretical abstraction
Sampling requires	large numbers selected randomly	small numbers of cases chosen for specific reasons

Table 3.3 Contrasting implications of Positivism and Social Constructionism (Easterby-Smith, Thorpe and Jackson, 2012 p.24)

From epistemological point of view, after observing the philosophical positions, it becomes evident that the current research must follow the positivist approach. The main questions that this research is trying to answer are: *RQ1 What factors determine the consumer's intention to switch electricity provider? RQ2 What is the relation between the factors and the intention to switch electricity provider? And RQ3 What are the most desired features of an electricity provider (supplier) for the Bulgarian household electricity consumers?*

Those questions are deriving from the research topic and use the base of the theoretical overview. Based on the information found in theoretical overview, the conceptual framework was created and hypotheses are developed. Those hypotheses are later on tested against the data found through empirical research – in the form of a questionnaire.

3.4 Methodological approach

If we that a deeper look, a connection can be seen between the believes of positivism and the realism (both take objective stance). The same relation can be drawn between constructionism and relativism (taking subjective point of view). These connections were observed by many authors. (Easterby-Smith et al., 2012; Crotty, 1988; Kuada, 2010) Easterby-Smith, Thorpe and Jackson (2012), have overviewed the correlations between epistemology and ontology (see Table 3.4 below). As seen from Table 3.4, positivists argue that the world should be researched by objective methods (quantitative approaches and hypotheses). Positivists also believe that we should aim at either verifying (falsifying) the initial theory or use correlation and regression to analyze the

data. Therefore, the positivism aligns with a realist ontology. On the contrary, constructionists take a starting point of their research with questions and critique, aim at theory generation and use qualitative approaches. They believe that reality is by people and therefore, fit with a relativist ontology. (Easterby-Smith et al., 2012; Kuada, 2010)

Ontologies	Realism	Internal Realism	Relativism	Nominalism
Epistemology / Methodology	Strong Positivism	Positivism	Constructionism	Strong Constructionism
Aims	Discovery	Exposure	Convergence	Invention
Starting points	Hypotheses	Propositions	Questions	Critique
Designs	Experiment	Large surveys; multi-cases	Cases and surveys	Engagement and reflexivity
Data types	Numbers and facts	Numbers and words	Words and numbers	Discourse and experiences
Analysis/ interpretation	Verification/ falsification	Correlation and regression	Triangulation and comparison	Sense-making; understanding
Outcomes	Confirmation of theories	Theory testing and generation	Theory generation	New insights and actions

Table 3.4 Methodological implications of different epistemologies (Management Research (4th edition), Easterby-Smith, Thorpe and Jackson, 2012, p. 25)

Kuada (2010, p.57) suggests that: *"the methodology chapter provides reasons for the choice and use of particular methods."* As this research takes a positivist epistemology stance, it will therefore follow a survey methodology. This research will aim to reveal the factors affecting the household consumer's choice of electricity provider in Bulgaria and explain the relations between the factors effecting the choice to switch electricity provider. The research aims at answering the question 'what' (what are the factors), which by itself proposes a quantitative research. Moreover, in order to answer the research questions, the scope of the data collected must by on a bigger scale of numbers selected randomly. The units of analysis are reduced to simple terms that are quantified, which are later on generalized through statistical methods.

3.5 Methods and techniques for data collection

The empirical research in based on primary data collected via the distribution of questionnaires. The primary data are normally collected by the researcher themselves. This is a specifically made research to answer the specific question of their research. (Mooi & Sarstedt, 2011).

3.5.1 Primary data collection - Qualitative vs. Quantitative

Following the pattern of two opposing main concepts in the ontological and epistemological views, in the literature concerning the research methods, two main research methods can be also seen as leading – the qualitative and the quantitative. There is an ongoing argument in the literature whether only one of them should be chosen for a specific research, or the two should be combined (Kuada, 2010). The main characteristics of the two and the argumentation behind the choice of a research method (data collection) is presented in the following paragraphs.

Hughes (2006), suggests that: *"we need to consider the different ontological and epistemological questions we considered when discussing positivism, interpretivism and critical paradigms"* (Hughes, 2006, p.1). Quantitative research is often related to positivism, where qualitative research is often related to constructionism. In the definition of Kuada for quantitative research: *"studies that address research issues through numerical measurement of specific constituents of a phenomenon. Numerical values obtained through data collection are usually subjected to statistical computations aimed at testing pre-formulated hypotheses"* (Kuada, 2010, p.68) the link between quantitative research and positivistic epistemology with relativistic ontology can be easily seen as it suggests in its definition the formation of hypotheses and the statistical testing of the data. A comparison between the two methods can be seen in *Table 3.5* below.

Quantitative Research	Qualitative Research
Test hypothesis that the researcher begins	Capture and discover meaning once the re obtaines the data
Concepts are in the form of distinct variab	Concepts are in the form of themes, mo taxonomies
Measures are systematically created bef collection and are standardized	Measures are created in an ad hoc manner a specific to the individual setting or researcher
Data are in the form of numbers from measurements	Data are in the form of words and imag documents, observations, and transcripts
Theory is largely causal and is deductive	Theory can be causal or noncausal and inductive
Procedures are standard, and replica frequent	Reseach procedures are particular, and repli very rare
Analysis proceeds by using statistics, t charts and relating them to the hypotheses	Analysis proceeds by extracting then generalizations from evidence and organizing present a coherent, consistent picture.

Table 3.5 General Characteristics of Quantitative and Qualitative Research (Neuman, 2006, p.157)

The process of quantitative research

1. Theory

2. Hypothesis

3. Research design

4. Devise measures of concepts

5. Select research site(s)

6. Select research subjects/respondents

7. Administer research instruments/collect data

8. Process data

9. Analyse data

10. Findings/conclusions

11. Write up findings/conclusions
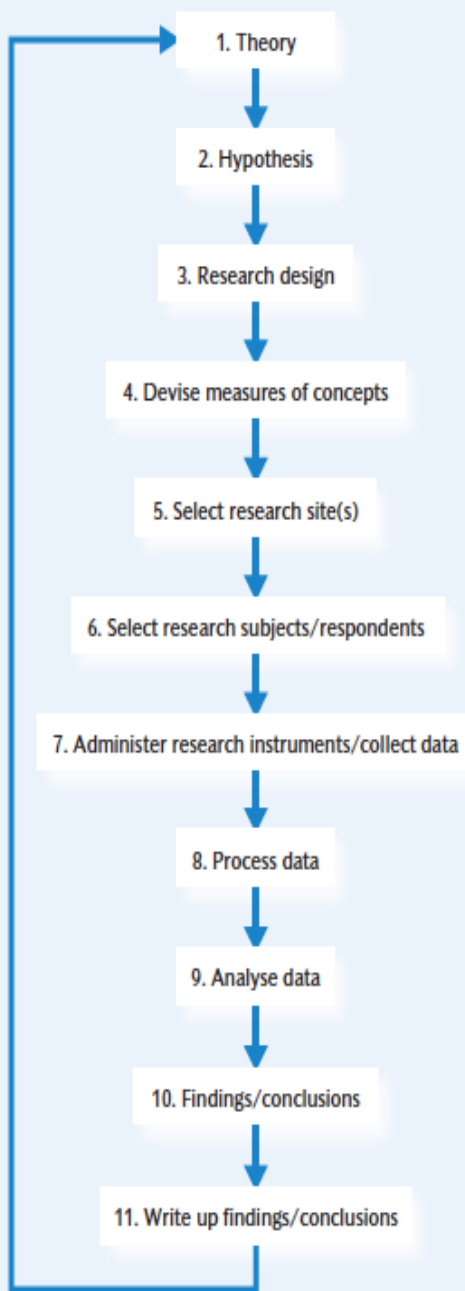
Bryman et al. (2011) also believe that the research methods are related to specific methodological views. The authors explain that as the *"quantitative researchers employ measurement"* (Bryman et al., 2011, p.68) and the qualitative does not, therefore the choice of research method will be defined not only by the methodology, but by the research question we try to answer. This is so as the choice to follow either qualitative or quantitative (or both) will depend on if *"what you intend to be study be measured?"* (Bryman et al., 2011, p.68) As the current research aims at answering the question: "*What are the factors affecting the consumer's choice of switching electricity provider in Bulgaria?*" by breaking down the factors into individual variables (units of analysis) which are quantified and later analyzed through statistical probability. Another reason for the choice of quantitative method of data collection is that the researched takes an objective stance with positivistic epistemology and realistic ontology. This paradigm suggests, the usage of a quantitative method. Last but not least, in order to be able to answer the research questions a larger scope of the research is needed, which also implies that a quantitative method will be most suitable for the current research.

Bryman et al., (2011, p.105) review in depth the quantitative research method and suggest a eleven-step model of the process (see figure 3.3). They believe that even though each research is different and most often does not take linear development, the model *"represents a useful starting point for getting to grips with the main ingredients of the approach and the links between them"* (Bryman et al., 2011, p.104). The main logic of the process is consistent with the process of deduction as well, which strengthens the argument that the quantitative method must be used in this case.

Figure 3.3 The process of quantitative

The current research follows the logic of the steps in the process of quantitative research

suggested by Bryman et al. (2011). First, based on the theories overviewed (see chapter 2) hypotheses are deducted.

A research design is chosen as a next step and devising measures of the concepts. Those concepts will be measured by the means of indicators that will stand for the concept. It is believed that a single indicator sometimes cannot answer for a concept, and this is why often a multi-indicator measures are taken. For example, if one is using questionnaire as a data collection method, and rely only on one indicator for a specific concept, this indicator can: *"incorrectly classify many individuals"* or *"one indicator may capture only a portion of the underlying concept or be too general"* (Bryman et al., 2011, p.109). In order to overcome this limitation, the current research used multi-indicator measures, when studying the concepts. In practice, this is done by having multiple questions addressing one concept.

3.6 Research Design

Kuada (2010, p.58), argues that: *"each social fact is a subset of other facts within a set. When the subsets are added together, they represent a complete picture of a particular social reality. The various subsets can therefore be studied in isolation and then combined to form a whole."* (Kuada, 2010, p.58). He suggests three scientific ideas and the respective methodologies that need to be followed. Those approaches were first proposed by Abnor and Bjerke (Arbnor & Bjerke, 1997). The three approached to knowledge proposed (see Table 3.6 below) describe specific research designs that could be followed. Following those research designs assures that the research will be consistent with the choice of *"meta-theoretical considerations underlying the project (paradigms) to the research strategy as well as methods for collecting empirical material"* (Kuada, 2010, p.58).

Kuada (2010, p.58) defined the research design as: *"the action plan or blueprint of the research that students embark on doing".* The research design that this paper follows (following Kuada's classification) is the Analytical. It was chosen as it characterizes with causal explanation, the techniques that it uses for the data collection are observation, surveys, statistics, logic. Most importantly the methods that it uses fro explanation is by statistical causal-effect correlation and logical explanation. All the above align with the set of beliefs the researcher takes for the current research. This shows that the design of the current research is consistent through the whole process from problem formulation to the way the results are analyzed. The other two suggested designs (System and Actor) were rejected as they do not align with the views of the researcher or are not suitable for answering the research questions of this papers.

Table 3.6 Scientific Ideals and Methodologies (Kuada, 2010, p.60)

Kuada (2010, p.61 via Marita Svane, 2010) suggest that in order to follow the analytical methodology we must take specific set of steps in our research design (see Figure 3.4).
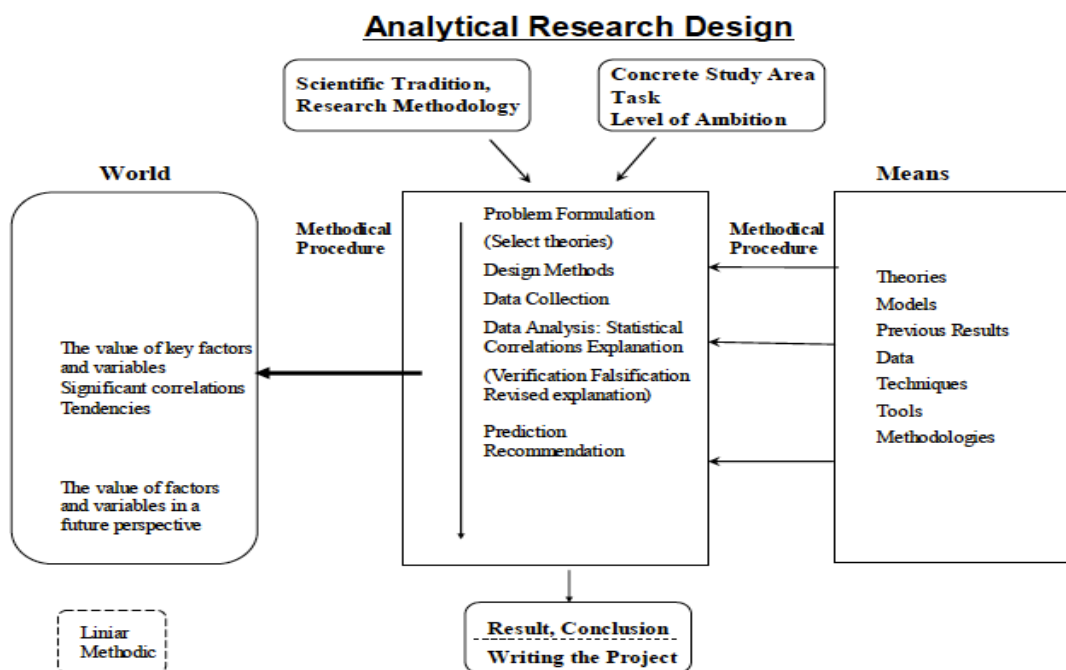
Figure 3.4 Schematic Illustration of Research Design under the Analytical Approach (Kuada, 2010, p.61)

It can be observed in Figure 3.4 that the Analytical methodology follows a deductive approach. The process of deduction (see Figure 3.5) was in depth explored by Bryman et al., (2011). They define it as: "*the commonest view of the nature of the relationship between theory and research. The researcher, on the basis of what is known about a particular domain and of theoretical considerations in relation to that domain, deduces a hypothesis (or hypotheses) that must then be subjected to empirical scrutiny*" (Bryman et al., 2011, p.56)

The process of deduction

1. Theory
↓
2. Hypothesis
↓
3. Data collection
↓
4. Findings
↓
5. Hypotheses confirmed or rejected
↓
6. Revision of theory
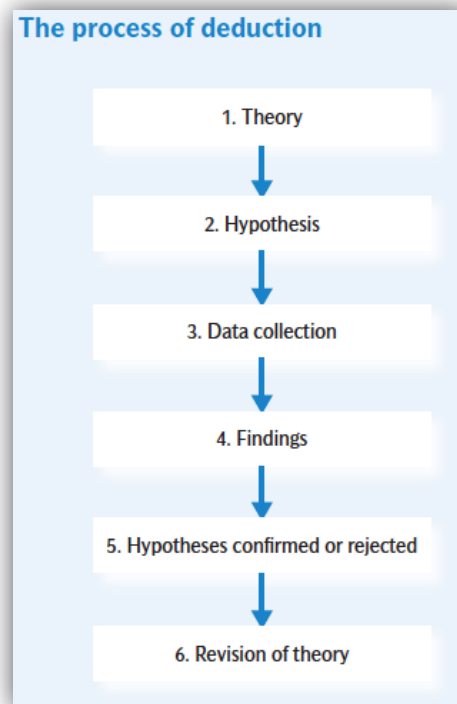
Figure 3.5 The process of deduction (Bryman et al., 2011, p.56)

The same approach is chosen for this paper as well. It creates hypotheses based on the existing theories, collects empirical data and either rejects or confirms the hypotheses proposed.

As stated previously, the current paper aims at revealing what factors affect the consumer's choice of electricity provider. This will be tested by either confirming or rejecting hypotheses based on the theories overviewed.

3.7 Questionnaire

All designs however, come with a list of considerations that must not be overlooked. Each of the designs suggested have specific criteria that must be considered. For example, as the analytical approach takes a sample from a large scale of data, it must be assured that the sample represents the data from the whole scale (Kuada, 2010). Therefore, representativity is one of the critical concerns in this approach. The current research's method for primary data collection follows the quantitative approach and uses a survey method in the form of closed-questioned online and personal questionnaires. The closed-ended type of questions were chosen (instead of open-ended for example) as they are said to make analyses of larger amounts of data easier and are more suitable for collecting

large amounts of information (Kuada, 2010). The issue of representativity was addressed by using a large enough, but not too large sample of the whole population. This was done by using one of the most common methods based on the margin of error and confidence level (see Table.3.7). (Check Market, 2017)

Population size	Confidence level = 95%			Confidence level = 99%		
	Margin of error			Margin of error		
	5%	2,5%	1%	5%	2,5%	1%
100	80	94	99	87	96	99
500	217	377	475	285	421	485
1.000	278	606	906	399	727	943
10.000	370	1.332	4.899	622	2.098	6.239
100.000	383	1.513	8.762	659	2.585	14.227
500.000	384	1.532	9.423	663	2.640	16.055
1.000.000	384	1.534	9.512	663	2.647	16.317

Table 3.7 Sampling size (Check Market, 2017)

As seen from Table 3.7, the higher the level of confidence desired, the higher the number of respondents the researcher needs. While, the opposite is respectively true for the margin or error. (Check Market, 2017) For example, if the population size is 100 respondents, and the researcher assumes 5% margin of error, then one has to have 80 respondents in order to have a confidence level of 95%. For the current research only the population living in the urbanized areas was taken into consideration. This is due to the fact that first, more than 70% of the population in Bulgaria lives in urbanized areas according to the National Statistics Institute of the Republic of Bulgaria, it is 5 204 385 for 2016. (NSI, 2017) The population in small villages was excluded as high percentage of the population is isolated, (which makes it harder to be studied). Second, the people living in villages have relatively smaller consumption of electricity than the ones living in cities (due to alternative heating and cooling methods) (NSI, 2017). The average household in Bulgaria consists of two adults and 2 children (according to NSI).

From the overall population living in urban areas, the underage and the people over 65 were excluded. This decision was made due to the fact that a lot of people over 65 live with either their children or in nursing homes. They also do not have access to internet, and due to cultural specifications are harder to address as consumers. Also a lot of the issues related to people living in small villages apply to the people over 65 as well. The number of people living in urban areas in Bulgaria, in the age group between 18 and 64 is 3,265,646 (NSI, 2017). As respondents were asked to answer only one per household, the number has divided by two. Therefore, there are little over 1.6 million households in urbanized areas in Bulgaria (NSI, 2017). If table 3.7 is followed, with desired confidence level of 95% and margin of error of 5%, the current research needs about 600 valid responds (cases) in order to be validly representing the targeted population chosen.

When talking about sampling, one more issue has to be concerned- the sampling type.

There are two major groups of sampling types: probability and non-probability ones. (Kothari, 2004)

According to Kothari (2004. p. 59): *"Non-probability sampling is that sampling procedure which does not afford any basis for estimating the probability that each item in the population has of being included in the sample"*. In this case the items to be studied are specifically selected by the researcher. The other type is the probability sampling which is: *"also known as 'random sampling' or 'chance sampling'."* In this type, all items have chance of being included in the research without restriction. (Kothari, 2004) Moreover, it is argued by Kothari (2004, p.60) that: *"Random sampling ensures the law of Statistical Regularity which states that if on an average the sample chosen is a random one, the sample will have the same composition and characteristics as the universe. This is the reason why random sampling is considered as the best technique of selecting a representative sample."* For the same reason the random sampling type was chosen for this research as well.

3.8 Research Criteria

Other criteria (besides representativity) that this approach must stress on are: validity, reliability and objectivity.

3.8.1 Validity

The validity is often described as: *"the degree to which an instrument measures what it is supposed to measure"* (Kothari, 2004, p.73). However, there are different types of validity: Content validity; Criterion-related validity, Predictive validity, Construct validity etc. The type that is most complicated is the Construct validity. Its complexity comes from the fact that is measures the relations between constructs and theoretical propositions. As some of the hypotheses in the questionnaire are based on the theoretical knowledge the construct validity will be of a concern for the current research. The term itself is defined as: *"A measure is said to possess construct validity to the degree that it confirms to predicted correlations with other theoretical propositions. Construct validity is the degree to which scores on a test can be accounted for by the explanatory constructs of a sound theory"* (Kothari, 2004, p.74). The issues of validity are met for the current research by addressing the way Kothari (2004) suggest in order to insure construct validity namely: *"associate a set of other propositions with the results received from using our measurement instrument. If measurements on our devised scale correlate in a predicted way with these other propositions, we can conclude that there is some construct validity* (Kothari, 2004, p.74)".

3.8.2 Reliability

The other criteria is the reliability. It is defined by Bryman et al. (2011, p.110) *as : "the*

consistency of a measure of a concept". In other words, "Reliability has to do with the accuracy and precision of a measurement procedure" (Kothari, 2004, p.73). Bryman (Bryman et al., 2011) and other authors (Mooi & Sarstedt, 2011) agree that when talking about reliability one should conceder three usages of the term: Stability – it addresses the issue of if the research will receive the same answers if it is repeated at a different time. Bryman (Bryman et al., 2011), suggest to address this issue by re-doing the test at a different point in time and compare if we have the same results.

The second usage of the term is the Internal-reliability. *"When you have a multiple-item measure in which each respondent's answers to each question are aggregated to form an overall score, there is the possibility that the indicators do not relate to the same thing* (Bryman et al., 2011, p.110)*".* This issue would be tested with the Cronbach's alpha. Cronbach's alpha is a test that: *"calculates the average of all possible split-half reliability coefficients. The correlation establishes how closely respondents' scores on two groups of indicators are related"* (Bryman et al., 2011, p.110)*.*

The third usage is the Inter-observer consistency - the issue of consistency of the observer. The problem main affects the way the researcher understands the questions and the answers received and how others view them. To avoid some of those issues, questionnaire was pre-tested by multiple people and a view of their understandings of the questions were collected. Inconsistencies on only one question were found and corrections were made before the questionnaire was widely distributed. Moreover, a native speaker was asked to proof – translate the questionnaire back from Bulgarian to English, in order to avoid misunderstanding of the concepts and answers due to translation issues.

Chapter 4 Empirical findings and analysis

The empirical research is based on the data collected via the questionnaire. The questionnaire was distributed in two ways – personally (face-to-face) and via the internet – using google forms as a platform to create and collect data and distribute the questionnaire using social media and online tools (Facebook, emails, twitter, LinkedIn). The questionnaire was posted also on a couple of well known forums. The face-to-face data collection was conducted in three major Bulgarian cities - Sofia, Veliko Tarnovo and Plovdiv. Those cities were selected due to the variance in the size and set electricity provider. The collection was done in front of major shopping centers, in the entrance of a park and close to a business center. The locations were chosen in order to ensure higher diversity and representativity of the data collected. The online distribution is faster and cheaper, and for shorter time period larger amount of respondents can be collected and it is found more convenient for the respondents (Groves et al., 2009). However, this method has some disadvantages as well. One of the issues of online distribution of questionnaires comes from the fact that certain parts of the population and certain cultures can have limited internet access or ability to use computers or social media. Another probable issue is that the researcher can not be sure who exactly is the person that filled the questionnaire. This is why the researcher decided to distribute the questionnaire in person, face-to-face as well. This method gave the researcher more accurate overview of the authenticity of the respondents (if they were putting their own demographics). This method is also found to ensure higher data quality, but is related to higher costs (Duffy, 2005) Both ways of questionnaire distribution had their pros and cons, this is why the researcher choses to used them in combination so they compliment each other's weaknesses.

The questionnaire was divided into couple of sub-sections each with specific data collection aim. The first part of questions addresses the demographic specifications of the respondent. The next section was divided into couple of sub-parts are each focused on the concepts included in the conceptual framework that is studied. Last part is complied of questions regarding specific factors (not included in the conceptual framework) that may affect the choice of electricity provider (see Appendix 1 for full list of the questions).

Before the actual analyses started the data collected had to be translated (as questionnaires were in the native language of the respondents - Bulgarian). The data was then coded and entered in the Statistical Package for the Social Sciences (SPSS). However, some responses were excluded as they either did not answer all questions, or provided data that was not in the range of the answer. Therefore, the valid responses used for the current research are 560 – 96 from face-to-face respondents and 464 from the online respondents.

4.1 Demographics

As stated, the first part of the questionnaire is used to collect demographical data about the respondents. This type of data is important not only to see the distribution among different target groups, but also to illustrate the diversity of the sample.
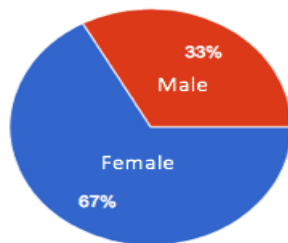
4.1.1 Gender

As most research questionnaires, this one started by asking the respondents to state their gender. It can be seen by Figure 4.1, one third of the respondents were male and two thirds were female.

Figure 4.1 Gender distribution (created by the author)

4.1.2 Age

The age structure of the sample is presented in Figure 4.2. As it can be seen by the pie chart, the majority of the respondents are in the second age group: between 18-30 years old. In fact, more than 50% of the respondents fall in this group. This can be explained by
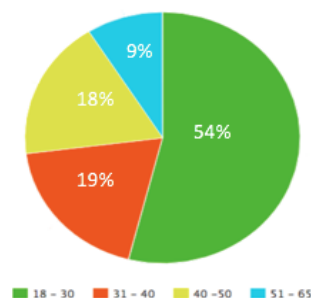
the fact that the majority of the respondents were answering online. Another probable cause is the fact that in the major cities live a lot of university students and young professional as there are more work opportunities (NSI, 2017). The groups of people between 31-40 and 41-50 are relatively similar to one another. They together represent 39 % of the respondents. The other group, between 51 and 65 years represents 9% of the respondents.

Figure 4.2 Age distribution(created by the author)

4.1.3 Current electricity provider

As it can be observed from Figure 4.3, the leading provider that was appointed as 'current' provider is CEZ with 42% or the respondents. The second is EnergoPro with 37% and

EVN is last with 18%. Relation can be seen between the number of respondents and the region they come from. The west region can be leading due to the fact that the capital – Sofia is located in this region and the population is therefore larger than in the other two (NSI, 2017). The location of the three electricity providers on a national scale can be seen in Figure 4.4.
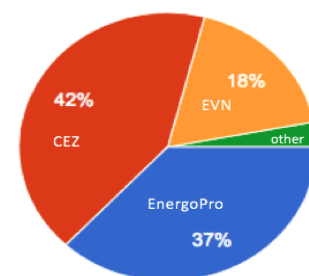
Figure 4.3 Electricity provider distribution of the respondents (created by the author)

Figure 4.4 Electricity providers in Bulgaria (Nencom, 2017)

4.2 Hypotheses testing

As mentioned in the previous chapter, a list of factors (see. *Figure 2.4*) will be tested to see whether they have relation with the concept of switching intention. Before the actual testing can be done a couple of considerations must be made. The data that is used to test the hypotheses comes from the answers of the questionnaire, which are rated on a five-level Likert: 1. Strongly disagree; 2. Disagree; 3. Neither agree nor disagree; 4. Agree; 5. Strongly agree.

There is a slight argument found in the literature whether to use the Likert scale as ordinal or continuous. Jamieson (2004) believe that Likert scale data should be used only with non-parametric statistics. (Jamieson, 2004) Other authors however, argue that it is valid to use parametric tests with Likert scale items. (Lubke & Muthen, 2004) (Glass et al., 1972)The authors suggest that if the researcher treats the Likert scale items as continuous to proceed with caution and to be stricter with the p-values (use .001 instead of .005) and to insure validity to run a non-parametric tests well to check whether the output will be close as the one from the parametric one. (Lubke & Muthen, 2004) Taking this into consideration, the Likert scale data will be treated as continuous for this research. Spearman's non-parametric test was conducted for comparison of the values form the parametric one and could be found in Appendix 4.

The analysis of the responses started with clearing of the data. This was done in 3 steps. First, all responses with missing cases were deleted. It should be noted that only responses with more than 5 missing cases were deleted. For the missing cases the mean of the respective variable was used.

It is common to find respondents that are not fully engaged with the answering of the questionnaire and who put mechanically the same value throughout all the answers. In this cases the value of the standard deviation is very low (close to zero). Low standard deviation across responses can be observed also if the respondent was indeed telling the truth, but still there is no difference in the answer (for example, if they answered only "1"- strongly disagree). (Pallant J., 2007) This issue might be sorted by switching the ends of the scale for some questions - 'strongly disagree - strongly agree' (1-5) halfway and

then, beneficial-harmful (1-5), or simply 'strongly agree - strongly disagree' (1-5). However, this method was found very confusing by some respondents during the pre-test and was therefore not applied. Another approach is applied in order to overcome this problem – some of the questions (statement) are worded in a 'negative' way. For example, instead of stating *"I feel like I have a lot of control over the situation of switching my electricity provider"*, the statement was worded: *"I feel like I do not have a lot of control over the situation of switching my electricity provider"*. So the Likert scale stayed the same but the meaning behind 'strongly agree' or 'strongly disagree' was different.

In order to check, if there are any of those cases of low engagement in the current study, the standard deviation was calculated for all cases. Any cases with standard deviation below 0.35 were excluded. There is no unified cutting point that was agreed in the literature, but this was found most acceptable by other authors (Benjamin, 2014).

When cleaning the data, it should be taken into consideration that there might be outliner values. Those are values that are not in the acceptable range. (Pallant J., 2007) In the current case, as the variables are latent variable on a 5-level Likert scale (strongly disagree (1) - strongly agree (5)), and the online questionnaire was created in a way that no other values than the accepted ones could be inserted (via the use of radio buttons), an error (out line variable), could have been inserted only in the face-to-face collected responses. Fortunately, there were no outliner values "out liners". However, the respondents that have indeed inserted a value lower than 1 or higher than 5 were asked to explain and insert a value in the accepted range. It was noted, that there could be such values in the demographic questions, but fortunately all values were in the accepted range. In order to check for missing cases, a Frequency analysis was run. The output showed no missing cases, so the analysis was continued with 557 valid responses.

When analyzing the responses, it was tested if the two groups- the online and face-to-face respondents differ from each other. The answers where in the same ranges and no significant differences were found there. The only difference was the fact that the group that answered face-to-face was from more diverse age groups, where the online answers were predominantly from ages 18-30 and 31-40. This could be due to the fact that in Bulgaria still a low percentage of the middle aged population and older are not very active internet users. Eurostat reports that for 2016, Bulgaria is on the last place in Europe of Internet usage, and is leading with 33% of the population that have never used internet. (EuroStat, 2016)

Some authors recommend to the usage of Structural equation modeling (SEM) for this type of research. SEM is referred to as *"a general modeling framework, that integrates a number of multivariate techniques into an overall framework"* (Sturgis, 2016) also describe it as a *"Path analysis using latent variables"*. (Sturgis, 2016) It uses path diagrams

to represent equations and theories in the form of diagrams. Path diagrams are preferred in social science as they represent the mathematical equations visually and makes the analysis of the data easier (Levin, 1999). This is one of the reasons it was also preferred for the current research. The SEM generally tests two things:

1) how well the variables fit in the components (factors) by using EFA or CFA
2) relationships among the interdependent variables by using structural path model interdependent variables in this given context. (Levin, 1999)

However, SEM is generally used with more complicated models, where there are relations between multiple latent variables, which are explaining various measured variables. (Kaplan, 2007) As the model of the current research has only direct relations and is seen as more simple one, there is no need of using LISTEL of AMOS to create SEM. Instead, simplified version of the SEM is done by following the logic steps of the SEM via Factor and Regression analyses in SPSS and the results are presented via simple graphical relation.   Therefore, the research continued with an Exploratory Factor Analysis.

4.2.1 Exploratory Factor Analysis (EFA)

The Exploratory Factor Analysis (EFA) is defined as: *"orderly simplification of interrelated measures. EFA, traditionally, has been used to explore the possible underlying factor structure of a set of observed variables without imposing a preconceived structure on the outcome"* (Diana D. Suhr, n.d., p.1). The EFA was chosen instead of the Confirmatory factor analysis (CFA), even though that the CFA is said to *"allows the researcher to test the hypothesis that a relationship between observed variables and their underlying latent constructs exists"* (Diana D. Suhr, n.d., p.1). This decision was made as the researcher wants to first observe all the relations between the variables without preliminary restrictions. In order to check whether the data is suitable for factor analysis first a KMO and Bartlett's test was run (see table 4.1).

KMO and Bartlett's Test

Kaiser–Meyer–Olkin Measure of Sampling Adequacy.		.904
Bartlett's Test of Sphericity	Approx. Chi–Square	11548.228
	df	378
	Sig.	.000

Table 4.1 KMO and Bartlett's Test (created by the author – EFA output via SPSS)

As seen from the KMO and Bartlett's Test, the measure of sampling adequacy is 0.904. This value fulfills the rule of having a value of at least 0.5 or higher. There is a general agreement in the literature found that any value higher than 0.7 is very good. Kaiser (1974), suggests the following values of the results when interpreting the test: 0 to 0.49 (unacceptable); 0.5 to 0.59 (miserable); 0.6 to 0.69 (mediocre); 0.7 to 0.79 (middling); 0.8 to 0.89 (meritorious); 0.9 to 1.0 (marvelous) (Kaiser, 1974)

Next the communalities between the factors were checked and all are loading very high (see Appendix 2). As a general rule, if the extraction value is above 0.3, there is a good correlation with the items. (Pallant J., 2007) If there are any values below 0.3, the respective item might need to be deleted.

Pattern Matrix

	1	2	3	4	5	6	7
PBC3	.936						
PBC5	.875						
PBC4	.861						
PBC2	.848						
PBC1	.745						
ATS1		.962					
ATS5		.935					
ATS2		.767					
ATS3		.680					
ATS4		.650					
SN4			.990				
SN3			.949				
SN1			.801				
SN2			.760				
CS3				.966			
CS2				.896			
CS4				.662			
CS1				.655			
AA2					.926		
AA4					.878		
AA3					.873		
AA1					.671		
SI3						.745	
SI1						.714	
SI2						.710	
K1							.913
K2							.693
K3							.618

The table of Total Variance Explained (see Appendix 3) indicates that there are 7 factors to be extracted and they show cumulative loading of 69.2%. This percentage is considered acceptable when it is over 60% as it is in the current case. (Pallant J., 2007)

How the items are loading on each of those 7 factors can be seen from the Pattern Matrix (see Table 4.2). The discriminant validity can also be checked by looking at the Pattern Matrix.

Table 4.2 Pattern Matrix (created by the author – EFA output via SPSS)

The Pattern Matrix displayed no cross-loading or negative items. All items are loading relatively high as 0.650 (see table 4.2) and higher. This indicated that no items will be further extracted as they all load high on the respective factor and the cumulative sum of squared loadings is 69.2 %. This indicated high discriminant validity. However, there are indeed loadings of each item on each factor (as it is EFA). It should be noted that the Pattern Matrix was restricted to do not display loadings of lower than 0.3 (this is why they are not displayed in the table). This makes EFA similar to the CFA with the difference that the restrictions are made after they are all estimated. Each of the items loading on the factors represent a question from the questionnaire (see Appendix 1). All items are loading on the respective factor, which indicated good fit of the model.

One more way of checking the discriminant validity is by checking the Factor Correlation Matrix (see Table 4.3 below).

Factor Correlation Matrix

Factor	1	2	3	4	5	6	7
1	1.000	.376	.265	.233	.275	.406	.249
2	.376	1.000	.345	.280	.526	.386	.431
3	.265	.345	1.000	.524	.499	.284	.542
4	.233	.280	.524	1.000	.407	.173	.612
5	.275	.526	.499	.407	1.000	.309	.514
6	.406	.386	.284	.173	.309	1.000	.320
7	.249	.431	.542	.612	.514	.320	1.000

Table 4.3 Factor Correlation Matrix (created by the author – EFA output via SPSS)

In the Factor Correlation Matrix, the correlations between the factors can be seen. As a general rule, if the are lower than 0.7 it is acceptable. (Levin, 1999) However, the closer to zero they are the better. This is due to the fact that the value of the factors is related to the percentage of the variance between the two factors. It is calculated by multiplying the square of the value by 100. (Pallant J., 2007) This is why the value of 0.7 is generally accepted as a cutting value as if the percentage of the correlation is calculated: 0.7 x 0.7 x 100 = 49% - which is almost half of the correlation, meaning the two factors are too similar to each other to be separated. (Pallant J., 2007) The only relation higher than 0.6 is the one between Factor 4 and Factor 7. For convenience and clarity from this point, the factors extracted will be referred as the related item loading that they are representing namely: Factor 1 - Perceived Behavioral Control (PBC); Factor 2 - Attitude Towards Switching (ATS); Factor 3 - Subjective Norms (SN); Factor 4 - Customer Satisfaction (CS); Factor 5 - Alternative Attraction (AA); Factor 6 - Switching Intention (SI); Factor 7 - Knowledge (K) (see Table 4.2 above). The names derive from the respective code of the question in the questionnaire (see Appendix 1). The correlation between (CS) and (K) is .612, which is relatively high. However, if the percentage of the correlation is calculated it shows 37%, therefore is can be accepted and the factors will be kept as they are.

In order to test the reliability (internal consistency) of the data Cronbach's alpha test is performed. Cronbach's is one of the most commonly used tests to evaluate the internal consistency (Levin, 1999). From table 4.4 it can be seen that all Cronbach's alpha values are higher than 0.768. This number illustrates that more than 77% (and up to 93.5% for some variables) of the variability of each factor will be considered as 'true' variance, which means it is internally consistent factor. Most authors agree that Cronbach's alpha must be at least .70. (Pallant J., 2007) Therefore, it can be accepted that all factors have strong internal consistency.

Factor No.	Cronbach's Alpha	N of Items
1 PBC	0.930	5
2 ATS	0.908	5
3 SN	0.935	4
4 CS	0.893	4
5 AA	0.907	4
6 SI	0.768	3
7 K	0.817	3

Table 4.4 Cronbach's Alpha (source: created by the author)

Curve relation was used for all relations in the Conceptual model. All relations showed a sufficient linearity. This means that they can be tested by covariance based structural equation model (SEM) (Levin, 1999).

Multicollinearity, between all independent variables had to be checked as the model suggest that, more than two variables explain the switching intention (see Figure 2.4). The test showed no evidence of multicollinearity. If the VIF shows values lower than 3, and all acceptance tolerance values are higher than 0.1 (all values are higher than 0.3 in the current case) there is a sufficient evidence that there is no multicollinearity as it is in the current case (see table 4.5). Moreover, this means that all variables could be included in the regression analysis later on.

Statistics
VIF
1.336
1.614
1.788
1.661
1.380
2.204

Table 4.5 Multicollinearity Test
(source: created by the author)

In order to test the hypotheses whether the factors affect the switching intention of the consumers, a correlation analysis is performed. The correlation test used is the Pearson's. This correlation analysis allows the researcher to check if there is a relation between the factors and the switching intention. The 2-tailed type of test was chosen as it not only shows if there is significant relation between the variables, but also reveals the direction of that relation. If the correlation coefficient is with a positive value, the relation is positive (both variables change in the same direction – ex. when A is increased B is increasing as well). And the opposite, if the correlation coefficient is with a negative value the relation is negative (ex. when A is increasing B is decreasing). (Pallant J., 2007)

4.2.2 Correlation analyses

4.2.2.1 Knowledge and Switching Intention

In order to test hypothesis 1, (*There is a no relation between the level of knowledge and the switching intentions in the context of the Bulgarian household consumers of electricity*) a correlation analysis is conducted using the factors 'switching intention' (SI) and 'knowledge' (K). The factor 'knowledge' showed high reliability with Cronbach's Alpha value of 0.817 (see table 4.4).

From the output in Table 6.9 it can be seen that the correlation coefficient is .143. This number indicates that there is indeed a correlation. However, this number is not enough to reject the null hypothesis. When interpreting the value of the coefficient Cohen's (1988) classification is used: (valid for both Pearson's and Spearman's) 0.1 to .29 (small); .3 to .49 (medium); .5 to 1 (large). (Cohen, 1988)

Correlations

		SI	K
SI	Pearson Correlation	1	.143[**]
	Sig. (2-tailed)		.001
	N	557	557
K	Pearson Correlation	.143[**]	1
	Sig. (2-tailed)	.001	
	N	557	557

[**]. Correlation is significant at the 0.01 level (2-tailed).

Table 4.6 Correlation between Knowledge and Switching Intention (source: created by the author)

The Pearson correlation coefficient value of 0.143 shows that there is small positive correlation between the two variables. Positive correlation means that even on a small scale, when one variable is increasing the other one is increasing. (Pallant J., 2007) For this variable the positive correlation was expected, due to the fact that the questions (statements in the questionnaire) were worded in a 'positive' way: "I was informed that now I can change my electricity provider freely";" I did know that the liberalization of the electricity market will allow for household users to choose their electricity provider"; "I did know that I can change my electricity provider no matter in which region I am situated" (see Appendix 1).

In order to see if this relation is statistically significant one must look at the significance level. For this test the correlation for this test is significant at level 0.01. As seen from Table 4.6, the significance level is 0.001. Thus it can be concluded that after running Pearson's correlation a small positive correlation between Knowledge and Switching Intention was found (r = .143, n = 557, p < .001). This rejects hypothesis Ho1, and respectively accepts hypothesis HA1.

4.2.2.2 Customer satisfaction and Switching Intention

The second factors to be tested whether related to the switching intention is the customer satisfaction. The extracted factor is measured with four items: *I am satisfied with the services provided from my current electricity provider [CS 1]; I would recommend my current electricity provider [CS 2]; I am happy with the price-quality ratio of the services provided from my current electricity provider [CS 3]; My current electricity provider offers all the services (payment options, contract lengths etc.) that I need. [CS 4] (*see Appendix 1)

In order to assure reliability of the factor the Cronbach's alpha test was performed (see table 4.4). From table 4.4 it can be seen the Cronbach's alpha is .893. This number

illustrates that 89% of the variability is a composite score (if the four items are combined) will be considered as 'true' variance, which means it is internally consistently variable. (Pallant J., 2007) The customer satisfaction is empirically tested by the second hypothesis (H02) states that: "*There is no relation between the customer satisfaction levels and the switching intentions (switching of electricity provider) of the household electricity consumers in the context of the Bulgarian market.*" In order to test that hypothesis a correlation analysis was performed.

Correlations

		SI	CS
SI	Pearson Correlation	1	-.317[**]
	Sig. (2-tailed)		.000
	N	557	557
CS	Pearson Correlation	-.317[**]	1
	Sig. (2-tailed)	.000	
	N	557	557

**. Correlation is significant at the 0.01 level (2-tailed).

Table 4.7 Correlation between Knowledge and Switching Intention (source: created by the author)

The Correlation analysis shows a score of -.317 correlation coefficient between Switching Intention and Customer satisfaction (see table 4.7). The negative sign in front of the value illustrates that the relation between the variables is negative as expected. In other words, if one item's score goes higher the other item's score goes lower. This negative relation is understandable when taking into consideration the context of the items - satisfaction and switching intention. However, the score by itself does not give grounds for rejection or acceptance of the hypotheses as even if there is a relation between the items, this relation might not be statistically significant. In this case the relation is significant if the significance is .01 and lower. The correlation showed significance of .000. This means that the relation, is statistically significant. This gives grounds for rejection of hypotheses H02 and therefore accepting Ha2 that, "*There is a relation between the customer satisfaction levels and the switching intentions of the household electricity consumers in the context of the Bulgarian market.*"

4.2.2.3 Perceived Behavioral Control and Switching Intention

Before any analysis is done it should be reminded that the Perceived Behavioral Control was merged with the Switching Barriers item. Before the factors were extracted as they are now (Appendix 1, questions 9-13), a pre-test was done. In the pre-test the 'Perceived Behavioral Control' (PBC) and the 'Switching Barriers' components were used as separate variables to be tested. However, as the questions related to the PBC were formulated in a negative way, they were found to load on the same factor as the 'Switching Barriers'. Therefore, the two phenomenon were collided in one variable. It was also suggested by other authors that the two are related (Trafimow, 2009). It is understandable due to the fact that the lack of control can be seen as a switching barrier.

Items that the switching barriers variable is measured by are the three items - 'Time' (It would take a lot of time to change my provider (PBC 3)), 'Effort' (It is very complicated to change electricity provider – (PBC 4)) and 'Contractual Lock' (My current contract will restrain me from changing my electricity provider- (PBC 5))' . Those items represent the respective statements with which the concepts were measured together with the two statements related to PBC - 'I do not have a lot of control over the process of switching my electricity provider (PBC 1)' and 'I do not believe I have the resources and the ability to switch my electricity provider (PBC 2)' (see Appendix 1 for full list of the questions in the questionnaire and the respective codes).

The factor showed very high internal consistency (reliability) of .930 (see table 4.4). All items used to determine this factor also scored relatively high.

Correlations

		SI	PBC
SI	Pearson Correlation	1	.280**
	Sig. (2–tailed)		.000
	N	557	557
PBC	Pearson Correlation	.280**	1
	Sig. (2–tailed)	.000	
	N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).

Table 4.8 Correlation between Perceived Behavioral Control (Switching barriers) and Switching Intention (source: created by the author)

The correlation analysis between the Perceived Behavioral Control (Switching barriers) and Switching Intention (see Table 4.8) showed a correlation coefficient of .280. This means that there is positive correlation between the two. Also, the significance is 0.000, where the correlation is significant with levels of 0.01. Therefore, it can be concluded that the Pearson's correlation of the relationship between Perceived Behavioral Control (Switching barriers) and Switching Intention using the full sample of 557 participants indicated a medium positive correlation between Perceived Behavioral Control (Switching barriers) and Switching Intention, which was statistically significant with

r_s = .280, p = .000. This gives grounds for rejection of H03 and the respective acceptance of the alternative hypothesis that: *There is relation between the perceived behavioral control and the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*

4.2.2.4 Subjective norms and Switching Intention

The subjective norms represent the influence of others (family, friends and our cultural norms) on the consumer's intention to switch electricity provider. In order to measure the concept, the following statement was given to the consumers: *People who influence my behavior will approve of me switching my electricity provider [SN 1]; Most people that are important for me will approve that I am switching providers [SN 2]; My close friends will approve of me switching providers [SN 3]; My family will approve of me switching*

electricity providers [SN 4](see Appendix 1). The respondents' answers were collected on the bases of the five-level Likert scale. In order to test if there is a relation between the Subjective norms and Switching Intention a correlation analysis was performed.

As it can be seen from table 4.9 the Pearson's correlation analysis shows medium positive correlation between the two, which was statistically significant, r_s = .387, p = .000. This test results give grounds for rejection of H04 and the acceptance of HA4 that: "*The Subjective norms are related to the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*"

Correlations

		SI	SN
SI	Pearson Correlation	1	.387[**]
	Sig. (2–tailed)		.000
	N	557	557
SN	Pearson Correlation	.387[**]	1
	Sig. (2–tailed)	.000	
	N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).

Table 4.9 Pearson's Correlation between Switching Intention and Subjective Norms (source: created by the author)

4.2.2.5 Alternative Attractiveness and Switching Intention

Alternative attractiveness represents the level to which the consumer finds other electricity providers attractive. In other words, if the consumer finds other provider's offers (plans, services, etc.) more valuable and attractive. In was claimed by some authors (Farah, 2017) that if the Alternative attractiveness is high, the consumers will be very likely to switch their provider. As this paper is striving to finds whether there is relation between the components, the hypothesis H05: "*The Alternative attractiveness is not related to the switching intentions (switching of electricity provider) in the context of the Bulgarian household consumers of electricity.*" To either accept or reject this hypothesis a correlation analysis was performed.

Correlations

		SI	AA
SI	Pearson Correlation	1	.308[**]
	Sig. (2–tailed)		.000
	N	557	557
AA	Pearson Correlation	.308[**]	1
	Sig. (2–tailed)	.000	
	N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).

Table 4.10 Pearson's Correlation between Switching Intention and Alternative Attractiveness (source: created by the author)

The Pearson's correlation indicated positive correlation between the two, which was statistically significant, r_s = .308, p = .000. This indicates that there is a significant relation between how attractive the consumer finds other electricity providers and the intention to switch the current provider, which allows the rejection of hypothesis H05.

4.2.2.6 Attitude toward switching and Switching Intention

The last concept from the conceptual framework (figure 2.4) to be tested is the Attitude towards switching. In order to collect data regarding the Bulgarian household consumer's attitude towards switching of electricity provider the following statements were presented to the respondents in the questionnaire: *Switching my electricity provider sounds like a very good idea for me ; Switching my electricity provider sounds like a very wise decision; In my opinion, switching my current electricity provider will be very useful; In my opinion, switching my current electricity provider will be very beneficial for my household; Switching my electricity provider sounds like a smart thing to do;(see questions 4-8, Appendix 1).* The responses were given on a five-level Likert scale (strongly disagree to strongly agree). The relation between the switching intention and the attitude towards switching electricity provider in the context of the Bulgarian household consumers was used as based of the hypotheses H06: *'There is no relation between the attitude towards switching and the switching intention (switching of electricity provider) in the context of the Bulgarian household consumers of electricity".*   Correlation analysis was performed in order to test the hypothesis.

Correlations

		SI	ATS
SI	Pearson Correlation	1	.430**
	Sig. (2–tailed)		.000
	N	557	557
ATS	Pearson Correlation	.430**	1
	Sig. (2–tailed)	.000	
	N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).

Table 4.11 Pearson's Correlation between Switching Intention and the Attitude towards switching (ATS) (source: created by the author)

It can be seen from table 4.11 above that the correlation coefficient indicates positive correlation between the two, which was statistically significant, r_s = .430, p = .000. Therefore, there is a significant relation between the attitude towards switching and the intention to switch the current provider. This gives grounds for the rejection of hypothesis H06. All the correlations between the variables and switching intention can be observed in table 4.12 below.

Correlations

		SI	ATS	PBC	SN	K	AA	CS
SI	Pearson Correlation	1	.430**	.280**	.387**	.143**	.308**	−.317**
	Sig. (2–tailed)		.000	.000	.000	.001	.000	.000
	N	557	557	557	557	557	557	557

Table 4.12 Correlation analysis between Switching intention and ATS, PBC, SN, K, AA and CS (source: created by the author)

The summarized outcomes of the correlation analyses can be seen graphically displayed in figure 4.5 below.

Figure 4.5 Correlations coefficients of the factors in the conceptual framework (source: created by the author)

This figure (figure 4.5) answers the question how the factors of switching are related to switching intention. All alternative hypotheses are accepted, which means that all factors from the conceptual framework are individually related to the switching intention. However, it should be noted that the current research explores the relation of the factors (drivers) of switching and switching intention, without testing the relation to switching behavior. This decision was made, as in order to have a good base of understanding the switching behavior, the researcher needs data of the past switching experience of the respondents. However, this data is not available in the context of the Bulgarian household electricity consumers due to the fact that the market is just getting liberalized and the consumers did not have the opportunity to change (switch from the current provider) their electricity provider.

Even though the correlation analysis gives grounds to either reject or accept the hypotheses, it only explores the individual relations of each factor with the switching intention. A further test was performed to check which is the optimal combination of those already proved to be in relation with switching intention factors. This was done via regression analysis. A stepwise method was used as it excludes the independent variables which are not statistically significant. It should be noted that some independent variables might show significant correlation with the dependent variable, but be not significant when in combination with the other independent variables. This is one more reason why the regression analysis was chosen as continuation of the correlation analysis performed.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.430[a]	.185	.184	.80110113
2	.494[b]	.244	.241	.77238121
3	.513[c]	.263	.259	.76329153
4	.522[d]	.273	.267	.75903612
5	.529[e]	.279	.273	.75612064

Table 4.13 Regression model summary (source: created by the author)

The model summary of the regression analysis shows 5 models (see table 4.13). This is due to the fact that the stepwise method was used and as mentioned it excludes independent variables that are not statistically significant (as AA proved to be in this case). The small letter after the R value shows which predictors are included in the respective model (1 only ATS, 2- ATS and SN, 3- ATS, SN, and CS, 4- ATS, SN, CS and PBC). The highest R Square has the fifth model where all five predictors (variables) - ATS, SN, CS, K, and PBC are included. This model explains 27% of the variability.

The biggest problem with the regression techniques is that they give grounds for relationships and not causality (Pallant J., 2007). It must also be considered that the causal relationship cannot be determined by neither regression technique, nor statistical analysis. In order to determine it, a controlled experiment needs to be done. (Pearl, 2000) (Kenny, 1979) In other words, the issue with causality means that it cannot be concluded that the independent variables are the cause for switching electricity provider, even though all independent variable have statistically significant relation with switching intention.

Another issue is that the 27 % variability (R square of the regression model 5) are not very high, which means that other variables that are not included in the current model might need to be included. This also shows that the concepts proposed by the TPB and the EBM model do not explain high percentage of the variance of the switching behavior in the context of the Bulgarian electricity consumers. Also, on practical level, no recommendation can be made for the electricity providers as no causality can be proven.

However, knowing that this type of outcome was possible, additional questions were included in the questionnaire to collect practical information regarding specific preferences of the Bulgarian household electricity consumers. The specific drivers offered for consideration of the respondents were based on the main themes found during the theoretical overview (see Chapter 2).

The aim of the additional questions is to reveal the most desired features of an electricity provider according to the Bulgarian household consumers and therefore answer the third research questions (RQ 3). This type of data could be later used by electricity providers to create adequate marketing strategies and products that they are offering and achieve higher level of competitiveness. The respondents were asked questions regarding their preferred method of payment, types of contractual options, sources of electricity, type of the preferred electricity provider etc. (see Appendix 1, question 30-47)

4.2.3 Additional Questions

It was seen from the correlation analysis (table 4.12 and table 4.7) that there is a relation between the knowledge about switching electricity provider and the switching intention. This outcome has theoretical implication as it shows that the factor 'Knowledge' might be the next extension of the theory, but in practice, this information does not tell much. If a

causal relation could be proven, then it can be claimed that the more knowledge the respondent has about the switching process and the electricity market the more likely they are to switch their provider. Even then, if a new to the market company decided to use this information for their benefit and try to educate the customers, so the consumer is more likely to switch providers, the company will not have the data of what exactly knowledge the consumers already have and what not. To get more insides of the specific factors (features or desired provider characteristics) the additional questions were offered.

The respondents were asked to point out which features (characteristics) they take into consideration when choosing electricity provider (see figure 4.6 below, where 'yes' is marked in blue color and 'no' is marked in red color).
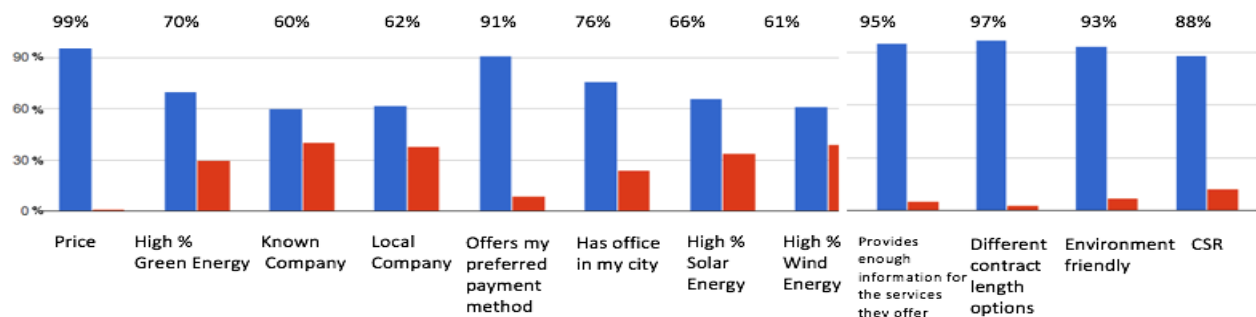
Figure 4.6 Features important when choosing electricity provider (answers of question 44 from the questionnaire, source: created by the author)

4.2.3.1 Price

As it can be seen from figure 4.6, the price is the number one consideration for the respondents (99%). This is not a surprise as all studies in relevant fields found the same. (Goett et al., 2000) (Khojasteh & Jadid, 2015) (Huh et al., 2015) In some cases, electricity consumers were found to be willing to pay higher price for premium services or specific energy source. However, these studies were conducted in Western countries (Germany, Italy) and the same might not apply for the Eastern European countries as they are found to be even more price-sensitive. (Vecchiato & Tempesta, 2015) Khojasteh & Jadid (2015) warn that consumers tend to decrease their consumption ones the prices are increased. The lower the demand the lower the revenue for the supplies, this is why the suppliers (are traders) must find a point of the price where the consumers are still willling to pay without shrinking their demand. This shows that undestranding the influence of price is crusial for suppliers and traders. The readiness to pay higher price for different services (RES, fixed prices etc.) can also be obsurved in paragraph 4.2.3.4 below.

4.2.3.2 Contractual Length Options

The second most important with 97% positive answers attribute is the option to have different contractual lengths. The respondents were also asked to point out exactly what type of contractual length will be most preferable for them. Figure 4.7 illustrates that 53% of the respondents prefer not to be bounded by time-specific contract. The next popular option was to have a contract for 1 year with 39% of the respondent's answers. This might be interpreting as even though the consumers tend to not be willing to sign time-bounding contract, sufficient percentage of the consumers still chose to have the safety of a set contract for 12-month period. This information can prove to be valuable for electricity providers when creating their contractual options that they offer.
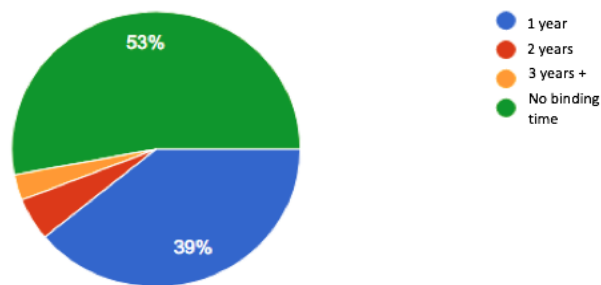
Figure 4.7 Preferred contractual length of the respondents (source: created by the author)

4.2.3.3. Payment method

The payment method proved very important for the electricity consumers in Bulgaria, as it was one of the most highly rated desired features (characteristics). As many as 91% of the respondents stated that if the provider offers their preferred payment method is very important when making the decision to choose their electricity provider (see figure 4.6).

In order to understand what exact options the consumers would prefer they were given 7 payment options to chose from. The answers are presented in figure 4.8 below.
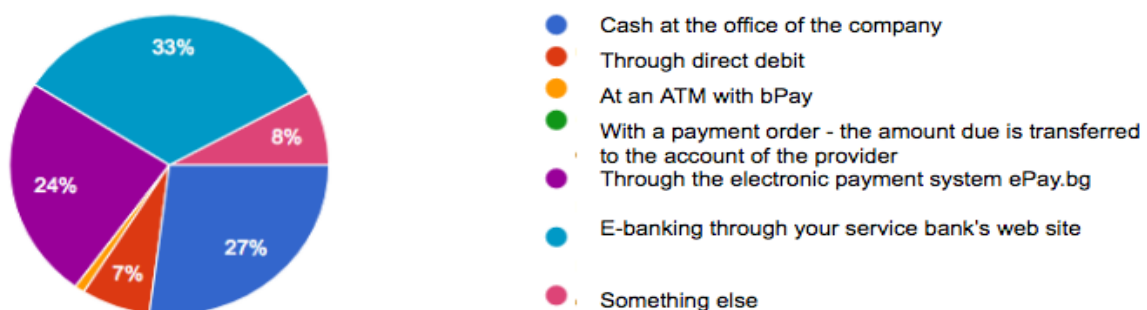
Figure 4.8 Preferred payment options by the Bulgarian electricity consumers (source: respondents answers of the questionnaire, created by the author)

As it can be seen from figure 4.8, the top three most desired payment options are to pay via E-banking (33%), Cash at the office of the company (27%) and Through electronic payment system ePay.bg. It can be observed that more and more consumers start opting for electronic payment methods. However, still high percentage would like to pay case in person. It was stated that a lot of the customers prefer to have the person-to-person connection. It can also be seen from the figure 4.6 that for 76% of the respondents it is important that the electricity provider has office in their city. This shows that not only paying in person is important for the consumer, but also to have the option for customer services provided by a company representative and not on the phone or online Goett's et al (2000).

4.2.3.4 Renewable Energy Sources (RES)

With the arising problem of climate change, more companies see the need to start focusing on alternative renewable energy sources. It was proven by many researchers (Kaenzig et al., 2013; Goett et al.,2000; Vecchiato & Tempesta, 2015) that consumers are interested in having electricity coming for renewable energy sources and are ready to pay higher prices for it. In the case of the Bulgarian electricity consumers, when asked if having 'green energy' is an attribute that they take into consideration when choosing an electricity provider, 70% of the respondents answered 'yes' (see Figure 4.6). However, in the current market situation it is more expensive to have electricity from renewable energy sources. Therefore, the consumers will have to pay higher bill if their electricity (or part of it) comes from renewable energy sources (RES). Moreover, as seen from figure 4.6, price is the leading consideration for consumers. This might mean that even if the consumers are interested and would like to have higher percentage of electricity coming from RES, the higher price will be a barrier. In fact, this phenomenon was indeed proven by asking the respondent if they would be willing to pay a higher price for having more electricity coming from RES (see Figure 4.9).
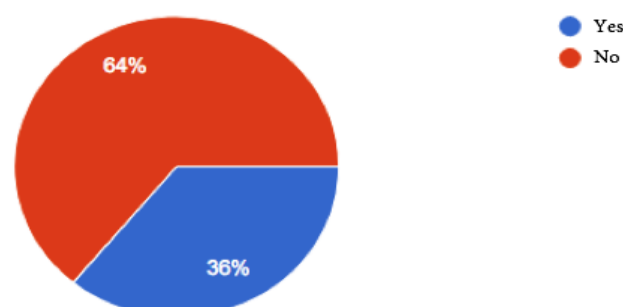
Figure 4.9 Willingness of the Bulgarian household electricity consumers to pay more for higher percentage 'green electricity' (source: respondents answers of the questionnaire, created by the author)

As seen by figure 4.9, only 36% of the respondents are willing to pay more for having RES of electricity. This proves that the perceived higher price of RES of electricity is a considerable barrier.

It was found by other authors (Vecchiato & Tempesta, 2015) that consumers might also have a specific renewable energy source that they prefer over others and that are willing to pay more for having electricity specifically from this source. In order to test if this is true in the context of the Bulgarian household electricity consumers a couple of questions were asked. First, the respondents were asked to rate if the presence of electricity coming from either Solar panels or Wind turbines is important when choosing an electricity provider. For both option more than 60% of the respondents were positive that they will take into consideration the presence of such an electricity source when making the decision to choose an electricity provider (see figure 4.6). However, this does not give a specific information on what is the more preferable option. This is why the respondents were also asked to mark what exact source of electricity they prefer (see Figure 4.10).
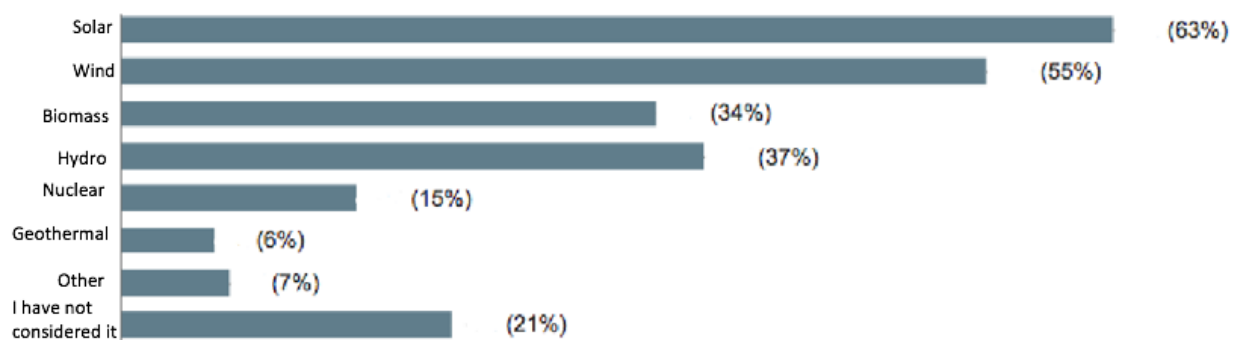
Figure 4.10 Willingness of the Bulgarian household electricity consumers to pay more for higher percentage 'green electricity' (source: respondents answers of the questionnaire, created by the author)

The leading RES appointed by the Bulgarian household electricity consumers are the Solar with 63%, followed by Wind (55%), Hydro (37%) and Biomass (34%). More than half of the respondents would prefer electricity from either Solar or Wind source. Which proves the initial assumption that those two will be indeed the leading choices. Similar finding was made by Huh et al., (2015, p.411).

4.2.3.5 Information

Information regarding the service they provide proved to be one of the most important variables for the respondents with 95% agreeing that they will take it into consideration when choosing electricity provider (Figure 4.6). First, it should be made clear what type of information the respondents might have in mind. To understand the concerns, the household electricity consumers in Bulgaria have regarding the communication (or the lack of it) with their current electricity provider they were given the following options to

chose from (see Appendix 1): "Which of the following statements is true for your current electricity provider:

1. *Does not provide enough information about the services they offer*
2. *The attitude of representatives of the company (their employee in the office, over the phone, etc.) is incorrect (not professional)*
3. *Inefficiently resolves emerging issues (such as account errors, power failure, etc.)*
4. *Inaccurately calculates the energy I spend (my electricity bill)*
5. *There is a frequent power failure*
6. *I am dissatisfied with the quality-price ratio of services (electricity, service, etc.) for which I pay*
7. *I'm not aware of all the parts of my electricity bill and I do not know exactly how much and for what I pay each time.*
8. *None of these statements is valid for my provider (for me) (see question 30 from the questionnaire in Appendix 1)" (Figure 4.11)*
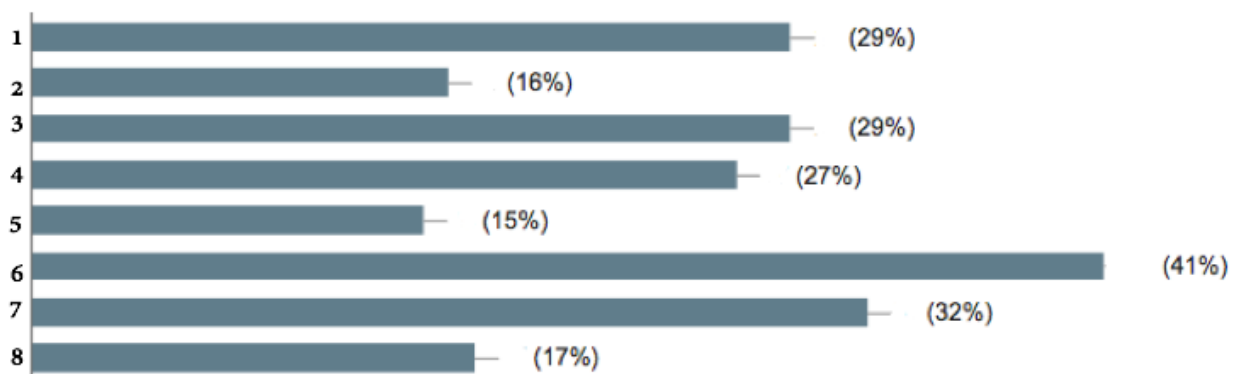
Figure 4.11 Statements regarding the current electricity provider of the consumer (source: respondents answers of the questionnaire, created by the author)

The problem that flags the highest concern is the fact that high percent (32%) of the respondents do not understand the electricity bill they are receiving and it is not clear for what exactly they are paying. It should be taken into consideration by the electricity providers (traders) that they need to be more transparent with the calculations of the fees and simplify the electricity bill for the consumers. This could have effect on the other issue with dissatisfaction of the price-quality ratio (41%). The respondents do not seem to believe that they are getting what they pay for. However, if the consumer does not even understand what exactly they are paying for, it will be very hard to find high value in the service. Another big issue is that as mentioned (Figure 4.6) the consumers consider that their current electricity provider does not provide enough information regarding the services (95% of the respondents agree).

The Bulgarian household electricity consumers seem to not perceive the current electricity providers as having 'transparent' strategy and are actually perceived as not trustworthy. The questionnaire was designed to address this concerns with the following

three questions (statements): *"I believe that the emergence of new electricity providers in the market will improve the conditions for household customers"; " I believe that State regulations will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services)" and " I believe that the current leading suppliers (EnergoPro, CEZ and EVN) will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services) "(see question 34-36 in Appendix 1)*

I believe that the emergence of new electricity providers in the market will improve the conditions for household

I believe that State regulations will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services)

I believe that the current leading suppliers (Energopro, CEZ and EVN) will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services)

Figure 4.12 Perceived trust in current electricity providers and state regulations (source: respondents answers of the questionnaire, created by the author)

The respective responses can be seen in Figure 4.12 above. It can be observed that the majority of the respondents (84%) believed that "*the emergence of new electricity providers in the market will improve the conditions for household customers".* This means the people realize that the liberalization of the market will have positive influence on the consumers. However, the consumers are concerned that the State regulations and especially the current leading suppliers (CEZ, EnergoPro and EVN), "*hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services)", as they will try to keep their market positions at any price.* High level of competitiveness can be expected, this is why having policy of being transparent and especially understand what the consumers want will play a key role in the process of obtaining market share. As mentioned in the theoretical overview (see Chapter 2) by Defeuilley (2009) there are two major barriers causing the reduced positive impact (higher competitiveness, lower prices, higher quality of the services) of new providers (traders) on the market. First is the consumer behavior- as consumers not always make rational decisions and second - due to the nature of the electricity as a product the innovation is limited as therefore the level of impact that the new traders on the market can make with it is also limited. (Defeuilley, 2009) This is why, especially for new to the market companies, it will be extremely important to understand the profile of the Bulgarian household electricity consumers.

4.2.3.6 Environmental Impact

With climate change becoming a rising problem, more and more international organizations and governments are striving to bring awareness to the problem. The people are also becoming more concern with the impact of the energy sources they use on the environment. (Johnson & Frank, 2006) In research of the connection between the energy sources and Johnson and Frank (2006, p.1340) found that *"Aggregate pair-wise comparisons of energy sources implied a mental model of their relative environmental impact, with coal, gas and oil ranked in that order as the worst offenders and solar power and wind tied for the least negative impact".* Figure 4.6 illustrates that 93% of the respondents stated that they will take into consideration if the electricity provider company is environmentally friendly or not. For the case of electricity companies, the status of being environmentally friendly is closely related to the presence of renewable energy sources in their portfolio. When asked if they believe that: *"The increase in the percentage of electricity coming from renewable sources will have a positive impact on the environment" (see Appendix 1),* 93% of the respondents answered positively (see Figure 4.13).
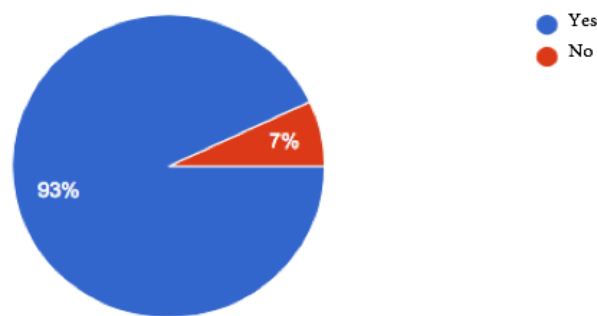
Figure 4.13 Relation between increased electricity from RES and environmental impact (source: respondents answers of the questionnaire, created by the author)

This proves that if electricity providers want to be perceived as environmentally friendly they must increase the percentage of the electricity coming from RES. However, they also must find the balance point of not increasing the prices too much so the consumers are no longer willing to pay that extra fee for having 'greener' electricity. The margins of the increase of the monthly bill that the consumers are willing to pay fluctuates from research to research (ex. Kaenzig et al. (2013) - 16%, Huh et al. (2015) - 2%). This could be due to the fact that countries with lower GDP and lower average salaries were found to be more sensitive about the price and the increase of the monthly electricity bill. In order to understand how much more the Bulgarian household consumers are willing to pay for having higher percentage of 'green electricity' (coming from RES) a list of probable contract options was created. Four variables ('if it is a known provider (trader)'; 'price per kW/h'; '% green electricity'; and 'type of price' (fix or not)) were used in nine unique combinations to form the different contract options.

Before looking at the specific offers (see Figure 4.16), the respondents were asked in a separate question to appoint what type of price they would prefer - fixed or non-fixed (see Figure 4.14). The fixed prices are related to more security for the time of the contract as they assure that the rate of the electricity that the consumer pays will stay constant no matter the market price. This option is normally more expensive than the non-fixed price option as the provider (trader) of electricity will have to take the risk of the market price going up for the contract period and will experience losses.
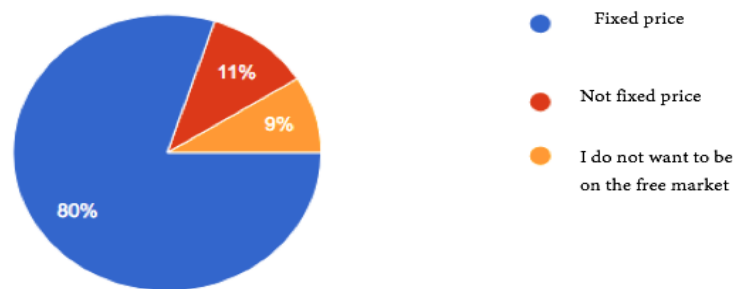
Figure 4.14 Preferred price types when on the free market (source: respondents answers of the questionnaire, created by the author)

It could be understandable however, that even though price is the leading factor for the Bulgarian consumers, as the free electricity market is very new concept for them it is filled with a lot of insecurities. This is why probably the respondent were willing to go for fixed price instead of non-fixed price, even though it is the cheaper option (see Figure 4.14). In other words, the respondents were willing to pay extra to have higher security.

The only variable (out of the four) that was not discussed separately is the type of providing company. In other words, if the company has local presence. It was proven that in some contexts the consumers were willing to pay a higher price just to have their electricity coming from a local company (Goett et al., 2000). The respondents of the questionnaire in the current research were given the following options: Local company (located near my place of residence); My current electricity supplier or Different (new to the market) provider (see Figure 4.15).

Figure 4.15 Type of electricity supplier preferred from the Bulgarian electricity household consumers (source: respondents answers of the questionnaire, created by the author)

As it can be seen from Figure 4.15, if all other conditions are equal, the Bulgarian household electricity consumers would prefer to have their electricity coming from a local company.

However, as it was mentioned, the variables that affect the consumer's choice of electricity provider cannot be isolated. Moreover, the respondents might consider one item (having local provider) as most important when other variables are not presented, but at the time of actually making the choice of electricity provider they are all taken into consideration. For that reason, a list of contractual options was given to the respondents. The specific contract options are illustrated in Figure 4.16 below.

Figure 4.16 Contractual options (source: respondents answers of the questionnaire, created by the author)

The option that was chosen by most respondents (28%) is the one with lowest price, fixed price, and lowest percentage of 'Green energy' (electricity coming from renewable energy sources). Proving that price is still leading factor for the Bulgarian electricity consumers.

The options with least responses were the ones having non-fixed price. This is showing that the Bulgarian electricity consumers are still not ready (or confident enough) to chose the riskier option. Another interesting observation is that 41% of the respondents were willing to pay extra (in different extents) to have higher percentage of electricity coming from RES (see Figure 4.16 option 3,4,5 and 6). Figure 4.16 also shows that 18% of the respondents are willing to opt for non-fixed prices and high percentage of green electricity, even though that the free electricity market is a new concept in Bulgaria. Also 27% of the respondents are willing to sign up with unknown (new) company if the company provides the features that the consumer is looking for. This shows that even now when the free electricity market is very new concept and is related to a lot of uncertainties for the consumers, there is potential for new traders (electricity providers) on the Bulgarian electricity market. The overview of the additional questions also answers the third research question (RQ3) - *What are the most desired features of an electricity provider (supplier) for the Bulgarian household electricity consumers?*

Chapter 5 Discussion and Limitations

There is sufficient amount of studies on the topic of switching behavior and intention, however there is lack of empirical data on the topic of household electricity consumers especially in the Bulgarian context. The findings from such a research have both academic and managerial implications. This is why the current research aimed at finding the factors that affect the switching intention of the household electricity consumers and explored the relations between the factors in the context of the Bulgarian household electricity consumers. The empirical research aligns with the theories and proved that the factors proposed by the TRA and TPB (Attitude, Subjective Norm and Perceived Control) have indeed relation to the switching intention. The factors included in the conceptual model were however extended as the TPB was found limiting.

The perceived behavioral control was extended with extra barriers. The conceptual model was further extended with the factors knowledge and alternative attractiveness, where both factors proved to be related to the switching intentions. However, there was a controversy found with the factors alternative attractiveness. As it is significantly related on its own to the switching intention, but when used in the regression analyses together with other factors, proved insignificant. In fact, the model of multiple factors that explains the highest percentage if the one where all factors besides alternative attractiveness are included. This finding shows that the theoretical framework might need to be further extended and include the knowledge as a separate factor. It should be taken into account, that it was impossible to include the factor past behavior as no such data is available in the context of the Bulgarian household electricity consumers.

There are also other limitations of the current research where one of them is related to the scope of the study. Even with the best effort of the researcher to do both online and face-to-face data collection, still the data does not include respondents from all cities in Bulgaria. This limitation is closely related to the time limitation as well. Due to the limited time (and resources) it was not feasible for the researcher to visit all cities in the country in the given time frame. This is also one of the reason why the quantitative methods with the use of questionnaire was chosen as data collection method. However, using only quantitative method could be seen as a limitation as well. Another limitation is that the current research is put in a specific context and it could be argued that the findings cannot be generalized.

Further limitation is related to the fact that while doing the actual switch of providers (suppliers), other factors can be affecting the behavior (surroundings, sales person, etc.). All these limitations related to time, resource, type of analysis method, scope, real time decision making can be addressed in a further research.

Besides the theoretical contributions, the research has managerial implications as well.

The research showed many specific features that the Bulgarian electricity consumers have or are looking for in a new provider. First, the research showed that the majority of the consumers are not ready to have non-fixed prices, knowing that the retailers should be prepared to manage the demand. This means that managers must be also ready to face this problem by optimization of resources and price control in order to avoid financial losses. The research also proves to be beneficial for managers, as there is no prior specific empirical data on the Bulgarian household electricity consumer profile. The current research explored the main features that the consumers are looking for in an electricity supplier in Bulgaria. Those could be used by managers as guidelines to their strategy. For example, the Bulgarian consumers showed interest and readiness to pay more for electricity coming from renewable energy sources such as solar and wind. This could help the managers choose the source of the energy they supply to the final consumer. Other very important implication is that the Bulgarian consumers believe that their current providers do not supply enough information regarding the services they provide and are unclear with the billing information.

These are determinants that the new (or competitive) suppliers can focus on in order to attract more customers. Other very important features that affect the decision of the Bulgarian consumers whether to switch their current provider with a new one is the availability of the preferred by the consumer payment method and if the company has an office in the city where the consumer is located. Even though with the development of the technologies more and more people tend to pay with alternative methods. In Bulgaria high percentage of the electricity consumers still prefer to pay cash and to be able to speak in person with a company representative rather than a call center or via the company's web page. This is one more feature to be considered by suppliers (traders). As the perceive behavioral control and barriers proved to be related to the switching intention of the consumers, potential providers (and new traders) must work towards simplifying and speeding up the process of switching electricity provider so more customers are willing to do so.

In conclusion, having more information regarding the liberalization of the electricity market, the process of switching electricity provider and the available alternative options will help the consumers make better, educated decision to switch their electricity provider. On the other hand, understanding and meeting the needs of the consumers will be crucial for the creation of a successful, highly competitive strategy of the electricity company (traders, suppliers etc.).

Chapter 6 Conclusion and Further Research

The main aim of the current research was to explore the determinants of the Bulgarian household consumer's choice to switching electricity provider. The problem was broken down into three research questions with specific objectives. The first question was: *RQ1 What factors determine the consumer's intention to switch electricity provider?*
The theoretical overview revealed some factors that were found to have an effect on the switching intention in various contexts. Two of the most popular theories are the Theories of reasoned action (TRA) and the Theory of planned behavior (TPB) as a continuation of the TRA. The TPB suggested that the subjective norms, attitude towards switching, and the perceived behavioral control are the factors that will affect the consumer's switching intention.

The empirical research confirmed that the factors suggested by the theories apply in the context of the Bulgarian household electricity consumers as well. However, the TPB was found limiting as there are other factors, found in the EBM model for example that were also found to affect the decision to switch. The TPB was then expanded with additional factors such as knowledge and alternative attractiveness as independent variables. Using the factors suggested in the TPB and the additional factors a conceptual framework was created, which was later on tested empirically. The empirical research proved that all factors suggested by the conceptual framework are affecting the switching intention of the consumers. However, in order to understand to what extent each factor is affecting the switching intention and therefore answer the second research question: *RQ2 What is the relation between the factors and the intention to switch electricity provider?*
a correlation and regression analyses were conducted. The correlation analysis showed that the independent factor that have the highest relation with the switching intention is the attitude towards switching. The factor that scored second is the subjective norms followed by the customer satisfaction, alternative attractiveness, perceived behavioral control (and barriers) and the knowledge. These are however, the individual scores of the variable. In reality hardly would any concept be explained by only one factor, therefore a regression analysis was performed to explore if there is a model in which the combination of the factors is explaining higher percentage of the variance in the switching intention.

The model with highest scoring is the one where all factors (attitude toward switching, customer satisfaction, perceived control, subjective norms and knowledge) beside the alternative attractiveness are present. This fact does not mean that the alternative attractiveness has insignificant relation with the switching intention, but shows rather that there might be a list of factors that in regardless of their individual scores, in combination explain higher percentage of the variance in the switching intention. The model with the five factors in combination however did not score very high, which means that there might be other additional factors that affect the switching intention besides the

listed ones. This fact was accounted for while creating the questionnaire as it is understandable that concepts of social science can not be explored in a closed experiment environment where each factors can be isolated. This is why the research also strived to explore what could be the additional, context specific factors that not only affect the switching intention, but illustrate the local household electricity consumer's profile in Bulgaria. This issue was addressed by the last research question: *RQ3 What are the most desired features of an electricity provider (supplier) for the Bulgarian household electricity consumers?* The questionnaire included a section with additional questions created specifically to answer this question. It was found by the empirical research that there are several features the Bulgarian household electricity consumers are looking for in suppliers.

The number one determinant of the consumer's choice (agreed by 99 % of the respondents) is the price of the services. This was not unexpected, as all other studies regarding consumer's choice drivers proved as well that the number one factor is the price. However, it was also seen that under some circumstances Bulgarian electricity consumers are ready to pay higher prices. Such circumstance is when the consumers receive electricity with higher percentage of green (renewable) electricity coming from solar and wind sources.

Second feature is the amount of information that the supplier provides to the customer. The research showed that the consumers are not satisfied with the information their current electricity supplier provides to them regarding the services provided. Large part of the consumers did not even know that they have the right (the option) to freely choose their electricity provider. For those who were familiar with the existence of the free market still there were uncertainties about the procedures and a lot of the respondents believed that the switching of electricity supplier will be complicated and time consuming. This is why supplies that want to increase their market share need to focus on informing the consumers about the way the market works, simplify to procedures and make it is easy as possible for consumers to freely change their supplier. This is also closely related with optimizing the clarity with which the billing information is presented, as it was found by the research the Bulgarian household electricity consumers are struggling to understand their electricity bills. This could be also one of the reasons for the dissatisfaction with the price-quality ratio.

If the consumers do not understand exactly what they are paying for they will always feel like they pay too much. Another important factor for the Bulgarian household electricity consumers showed to be the presence of physical office in proximity to the consumers. This feature might be related to other two - the way the consumers prefer to pay their bill and the preferred contact face-to-face with company representative.
The features of the contracts such as length and price type were also one of the leading drivers of the consumer's choice. In fact, 97 % of the respondents said that they take into account if the provider offers their preferred contractual length as an option when

making the decision to switch providers. The most desired contracts voted by the Bulgarian household consumers are the ones that do not oblige the consumers to have a minimum contract duration. These feature might be used as a base to create a target profile of the Bulgarian electricity consumer. This information can be beneficial for both current and future suppliers of electricity in the Bulgarian market.

In conclusion, the main aim of this study was to reveal the factors affecting the customer's decision of whether to change their current electricity provider. The problem of choosing electricity provider on the free Bulgarian electricity market is however more complicated than just understanding the factors behind choosing an electricity provider. As the consumers already have electricity providers, there are additional factors that will affect the choice such as barriers, perceived control and subjective norms. To what extend the consumers are aware of the process, their level of knowledge and involvement will also affect whether they will choose another provider or will stay with their current one. This is why the problem comes down to whether to switch the current provider or not. This decision is affected by complex mixture of the factors affecting the choice of electricity providers and the factors that affect the switching intention.

The research found that the leading factor that is related to the switching intention is the attitude towards switching. It was also seen that if the consumers have positive attitude towards switching it is highly more likely that they will indeed switch their provider. The consumer's intention to switch is very affected by if other people, close to the consumers will approve of their actions. Two more factors that were found to affect the switching intention of the consumers are the level of satisfaction and the alternative attractiveness.

The research showed that the level of satisfaction has negative relation to the switching intention, and the alternative attractiveness has positive one. The findings from the research show that managers must be aware of what consumers find not satisfying in their current provider and what the consumers would like to find in a provider, in order to switch. Simplifying the bills, providing more information regarding services, improving the price-quality ratio are just some of the main points that the managers have to focus on. Further qualitative research might focus on exploring other possible factors that affect the choice of electricity provider.

More consideration for future research (besides addressing the limitations of the current research) might include comparison of various cultural contexts (including the Bulgarian one). Cultural specifications, knowledge and attractiveness of competitors might be used as some of the extensions of the TPB, where new set of hypotheses could be created and tested empirically. Another scenario might be, where in the future the current research might be replicated adding the past behavior as a concept once there is enough data for it.

Chapter 7 Bibliography

1. Ajzen, I., 1985. From Intentions to actions: A theory of planned behavior. *Action control: from cognition to behavior*, pp.11-39.
2. Ajzen, I., 1988. *Attitudes, personality, and behavior.* Chicago: Dorsey.
3. Ajzen, I. & Fishbein, M., 1980. *Understanding attitudes and predicting social behavior.* Englewood Cliffs, NJ: Prentice-Hall. Available at: https://www.researchgate.net/publication/235361088_Uncerstanding_Attitudes_and_Predicting_Social_Behavior_Prentice-Hall.
4. Anderson, T., 2013. *Research Paradigms:Ontology's, Epistemologies & Methods*. [Online] Available at: https://www.slideshare.net/eLearnCenter/research-methods-uoc-2013 [Accessed 7 May 2017].
5. AngloInfo Ltd., 2017. *Electricity Supply, Connections and Providers in Bulgaria*. [Online] Available at: https://www.angloinfo.com/how-to/bulgaria/housing/setting-up-home/electricity [Accessed April 2017].
6. Arbnor, I. & Bjerke, B., 1997. *Methodology for Creating Business Knowledge*. SAGE Publications Ltd.
7. Arvatu, A., Helderwerdt, R. & Bakardzhieva, S., 2016. *Country of Origin and its effects on brand perception of Danish consumers towards Romanian wine*. Aalborg: AAU.
8. ATEB, 2017. *Electricity Market of Bulgaria*. [Online] Available at: http://ateb.bg/en/%D0%BF%D0%B0%D0%B7%D0%B0%D1%80/ [Accessed April 2017].
9. Bansal, H.S. & Taylor, S.F., 2002. Investigating Interactive Effects in the Theory of Planned Behavior in a Service-Provider Switching Context. *Psychology & Marketing*, 19(5), pp.407–25.
10. Bonnemaizon, A. & Batat, W., 2011. How competent are consumers? The case of the energy sector in France. *International Journal of Consumer Studies*, (35), pp.348–58.
11. Borchers, A.M., Duke, J.M. & Parsons, G.R., 2007. Does willingness to pay for green energy differ by source? *EnergyPolicy*, (35), pp.3327–34.
12. Broberg, T. & Persson, L., 2015. Is our everyday comfort for sale? Preferences for demand management on the electricity market. *Energy Economics*, (54), pp.24-32.
13. Bryman, A., 1988. *Quantity and quality in social research*. the University of Michigan: Unwin Hyman.
14. Bryman, A., Bell, E., Mills, A. & Yue, A., 2011. *Business Research Methods*. Oxford University.
15. Burrell, W.G. & Morgan, G., 1979. *Sociological Paradigms and Organizational Analysis*. London: Heinemann.
16. Check Market, 2017. *How to determine population and survey sample size?* [Online] Available at: https://www.checkmarket.com/blog/how-to-estimate-your-population-and-survey-sample-size/ [Accessed 11 May 2017].
17. Clarke, H.M., 2014. Predicting the decision to report sexual harassment: organizational influences and the theory of planned behavior. *Journal of Organizational Psychology*, 14(2), pp.52-65.
18. Cohen, J., 1988. *Statistical power analysis for the behavioral sciences*. Second Edition ed. Lawrence Earlbaum Associates.

19. CROSS-Online Bulgarian Network, 2016. *Free Market of Electricity*. [Online] Available at: http://www.cross.bg/pazar-dostavchik-energiya-1524079.html#.WO91YlOGORs.
20. Crotty, M., 1988. *The Foundations of Social Research Meaning and Perspective in the Research Process*. SAGE Publications Ltd. ISBN: 9780761961062.
21. Defeuilley, C., 2009. Retail competition in electricity markets. *Energy policy*, (37), pp.377–86.
22. Duffy, B..S.K..T.G.a.B.J., 2005. Comparing data from online and face-to-face surveys. *International Journal of Market Research*, 47(6), pp.pp. 615– 639.
23. Eagly, A.H. & Chaiken, S., 1993. The psycology of attitudes.
24. Easterby-Smith, Thorpe & Jackson, 2012. *Management Research*. ISBN: 978-0-85-702-116-8.
25. Energeo, 2017. *The electricity market in Bulgaria*. [Online] Available at: http://energeo.bg/en/frequently-asked-questions [Accessed April 2017].
26. Energy Market Ltd., 2016. *Household consumers - Results after the first six months of free market*. [Online] Available at: https://energienpazar.bg/index.php/news [Accessed April 2017].
27. Energy Strategy of the Republic of Bulgaria, 2011. *Energy strategy of the Republic of Bulgaria 2020 for reliable, efficient and cleaner energy*. [Online] Available at: http://www.mi.government.bg/files/useruploads/files/epsp/23_energy_strategy2020%D0%95ng_.pdf [Accessed April 2017].
28. Engel, Blackwel, R. & Miniard, 2001. Consumer Behavior 9th ed.
29. European Commission, 2012. *Competition Overview*. [Online] Available at: http://ec.europa.eu/competition/sectors/energy/overview_en.html [Accessed 01 May 2017].
30. European Commission, 2014. *Occasional discussion papers by the Competition Directorate–General of the European Commission, Issue 3*. [Online] Available at: http://ec.europa.eu/competition/publications/cpb/2014/003_en.pdf [Accessed April 2017].
31. European Commission, 2015. *Antitrust: Commission accepts commitments by Bulgarian Energy Holding to open up Bulgarian wholesale electricity market*. [Online] Available at: http://europa.eu/rapid/press-release_IP-15-6289_en.htm [Accessed April 2017].
32. European Commission, 2015. *Antitrust: Commission market tests commitments by Bulgarian Energy Holding (BEH) concerning Bulgarian wholesale electricity market*. [Online] Available at: http://europa.eu/rapid/press-release_IP-15-5234_en.htm [Accessed April 2017].
33. European Commission, 2015. *Antitrust: Commission sends Statement of Objections to Bulgarian Energy Holding and subsidiaries for suspected abuse of dominance on Bulgarian natural gas markets*. [Online] Available at: http://europa.eu/rapid/press-release_IP-15-4651_en.htm [Accessed April 2017].
34. European Commission, 2015. *CASE AT.39767-BEH ELECTRICITY*. [Online] Available at: http://ec.europa.eu/competition/antitrust/cases/dec_docs/39767/39767_2018_3.pdf [Accessed April 2017].
35. EuroStat, 2016. *Internet use and frequency of use, 2016 (% of individuals)*. [Online] Available at: http://ec.europa.eu/eurostat/statistics-explained/index.php/File:Internet_use_and_frequency_of_use,_2016_(%25_of_individuals).png [Accessed 2 May 2017].

36. Farah, M., 2017. Application of the theory of planned behavior to customer switching intentions in the context of bank consolidations. *International Journal of Bank Marketing*, 35(1), pp.147-72.

37. Fishbein, M., 1967. A behavior theory approach to the relation between beliefs about an object and the attitude toward the object. *Readings in attitude theory and measurement*, pp.389-400.

38. Fishbein, M., 1980. Theory of reasoned action: Some applications and implications. *Nebraska Symposiumon Motivation*, pp.65–116.

39. Ghazvini, M. et al., 2015. A multi-objective model for scheduling of short-term incentive-based demand response programs offered by electricity retailers. *Applied Energy* , (151), pp.102–18.

40. Glass, Peckham & Sanders, 1972. Consequences of failure to meet assumptions underlying the analyses of variance and covariance. *Review of Educational Research*, 42, pp.237-88.

41. Godin, G. & Kok, G., 1996. The theory of planned behavior: A review of its application to helth related behaviors. *American journal of health promotion*, (11), pp.87-98.

42. Goett, A., Hudson, K. & Train, K., 2000. Customers' Choice Among Retail Energy Suppliers: The Willingness-to-Pay for Service Attributes. *The Energy Journal*, 21(4), pp.1-28.

43. Government of Bulgaria, 2015. *Buletin of the condition and development energy of the Republic of Bulgaria*. [Online] Available at: https://www.me.government.bg/files/useruploads/files/eoos/buleti_-energy-_2015-eng.pdf [Accessed April 2017].

44. Greve, W., 2001. Traps and gaps in action explanation: Theoretical problems of a psychology of human action. *Psychology Review*, (108), pp.435–51.

45. Groves, R.M. et al., 2009. *Survey Methodology.* New Jersey: John Wiley & Sons.. ISBN 978-1-118-21134-2..

46. Hale, J., Householder, B. & Green, K., 2002. The Persuasion Handbook: Developments in Theory and Practice. *Theories of persuasion*, (14), pp.259-86.

47. Herman, E. & Georgescu, M.-A., 2014. SOCIAL CORPORATE RESPONSIBILITY REGARDING HOUSEHOLD CONSUMER SATISFACTION WITH THE ELECTRIC POWER SUPPLY SERVICES. *Amfiteatru Economic*, 14(35), pp.123-37.

48. Hoffmann, R.G., 1999. Effectiveness of a school based program to enhance knowledge of sun exposure: Attitudes towards sun exposure and sunscreen use among children. *Children's Health Care*, (28), pp.69-86.

49. Hughes, C., 2006. *Qualitative and Quantitative approaches*. [Online] Available at: http://www2.warwick.ac.uk/fac/soc/sociology/staff/academicstaff/chughes/hughesc_index/teaching researchprocess/quantitativequalitative/quantitativequalitative/ [Accessed 11 May 2017].

50. Huh, S.-Y. et al., 2015. What do customers want from improved residential electricity services? Evidence from a choice experiment. *Energy Policy* , (85), pp.410-20.

51. IEA, 2005. *International Energy Agency*. [Online] Available at: https://www.iea.org/publications/freepublications/publication/LessonsNet.pdf .

52. ILEX Energy Reports, 2013. *Wholesale electricity price projections for Bulgaria*. [Online] Available at:

http://www.poyry.com/sites/default/files/bulgarianreportflyer_q12013.pdf [Accessed April 2017].

53. Investor BG, 2017. [Online] Available at: http://www.investor.bg/energetika/472/a/jivotyt-poskypva-ne-na-shega-ot-1-april-236804/ [Accessed 14 April 2017].

54. Jamieson, S., 2004. Likert scales: how to (ab)use them.. *Medical Education,* 38, pp.1212-1218.

55. Jekov, N., 2014. *Bulgaria: Turmoil in the Bulgarian electricity market.* [Online] Available at: http://www.energyworldmag.com/12/09/2014/turmoil-in-the-bulgarian-electricity-market/ [Accessed April 2017].

56. Jessoe, K., Rapson, D. & Smith, J.B., 2014. Towards understanding the role of price in residentialelectricity choices: Evidence from a natural experiment. *Journal of Economic Behavior & Organization*, (107), pp.191–208.

57. Jesson J., M. & Lacey F., 2011. *Doing'Your'Literature'Review'Traditional'and' Systematic.* Sage Publications Ltd.

58. Johnson, & Frank, , 2006. Public understanding of environmental impacts of electricity deregulation. *Energy Policy*, (34), pp.1332–43.

59. Kaenzig, J., Heinzle, S. & Wustenhagen, R., 2013. Whatever thecustomerwants,thecustomergets?Exploringthegap between consumerpreferencesanddefaultelectricityproducts in Germany. *Energy Policy*, (53), pp.311-22.

60. Kaiser, H., 1974. An index of factor simplicity. *Psychometrika* , 39, pp.31–36.

61. KapitalBG, 2016. [Online] Available at: http://www.capital.bg/biznes/kompanii/2016/02/19/2708403_5_mln_elektro mera_si_tursiat_dostavchik/ [Accessed April 2017].

62. Kaplan, D., 2007. *Structural Equation Modeling - Foundations and extentions.* Second Edition ed. University of Wisconsin - Madison, USA: Sage.

63. Kenny, D., 1979. *Correlation and Causality.* John Wiley & Sons Inc; 1St Edition edition (August 1979).

64. Khojasteh, M. & Jadid, S., 2015. Decision-making framework for supplying electricity from distributed generation-owning retailers to price-sensitive customers. *Utilities Policy* , (37), pp.1-12.

65. Khojasteh, M. & Jadid, S., 2015. Decision-making framework for supplying electricity from distributed generation-owning retailers to price-sensitive customers. *Utilities Policy 37 (2015) 1e12*, 37, pp.1-12.

66. Kim, M.S. & Hunter, J.E., 1993. Relationships among attitudes, behavioral intentions and bevahior: A meta-analysis of past research. *Communication Research*, (20), pp.331-64.

67. Kothari, C.R., 2004. *Research Methodology - Methods and Techniques.* Delhi, India: New age international limited publishers.

68. Kotler, P..K.K.L..B.M..G.M..&.H.T., 2009. *Marketing management.* Harlow, England: Prentice Hall.

69. Kuada, J., 2010. *Research Methodology, A guide for University Students, Centre for International Business, Department of Business Studies,.* Aalborg , Denmark.

70. Kuhn, T., 1962. *The structure of scientific revolutions..* Chicago, IL: University of Chicago Press.

71. Levin, P.F., 1999. Test of the Fishbein and Ajzen models as predictors of health care workers' glove use",. *Research in Nursing and Health,* 22(4), pp. 295-307.

72. Lubke, G.H. & Muthen, B.O., 2004. Applying Multigroup Confirmatory Factor Models for Continuous Outcomes to Likert Scale Data Complicates Meaningful Group Comparisons.. *Structural Equation Modeling*, 11, pp.514-534.

73. Marešová, P., 2012. Research of the Behavior of Consumers in the Insurance Market in the Czech Republic. *Journal of Competitiveness*, 4(2), pp.20-37,.

74. Marks, D., 2008. The Quest for Meaningful Theory in Health Psychology. *Journal of Health and Psychology*, 13(8), pp.977–81.

75. Martins, R.C., Hor-Meyll, L.F. & Ferreira, J.B., 2013. Factors Affecting Mobile Users' Switching Intentions: A Comparative Study between the Brazilian and German Markets. *Brasilian Administration Review*, pp.239-62. Available at: Available online at http://www.anpad.org.br/bar Rio de Janeiro, v. 10, n. 3, art. 1, pp. 239-262, July/Sept. 2013. http://www.anpad.org.br/bar.

76. McFadden, D., 1986. The choice theory approach to market research.. *Marketing Science*, (5).

77. MegapoolBG (Institute for energy management), 2015. *Liberalization of the Bulgarian Electricity Marker.* [Online] Available at: http://www.mediapool.bg/krivorazbranata-liberalizatsiya-na-energiyniya-pazar-news230941.html [Accessed April 2017].

78. Merriam-Webster, 2017. *Merriam-Webster.com.* [Online] Available at: https://www.merriam-webster.com/dictionary/paradigm [Accessed May 2017].

79. Miniard, L.E..&C.J.B., 1981. An examination of the Fishbein behavioral intentions model's concept andmeasures.. *Journal of Experimental Social Psychology*, (17), pp.309–29.

80. Miniard, P.W. & Page, T.J., 1984. Causal relationship in the Fishbein behavioral intention model. *Advances in consumer research*, 11, pp.137-42.

81. Mooi, E. & Sarstedt, M.A., 2011. *Concise Guide to Market Research.* Springer Berlin Heidelberg. http://bit.ly/1rkgpRj.

82. Nencom, 2017. [Online] Available at: http://en.nencom.com/guide/electricity/electricity-bill [Accessed 19 May 2017].

83. Neuman, L.W., 2006. *Social Research Methods – Qualitative and Quantitative Approaches 6th Edition.* Boston: Pearson Education.

84. NSI, 2017. *National Statictics Institute of the Republic of Bulgaria.* [Online] Available at: http://nsi.bg/ [Accessed 11 May 2017].

85. Ogden, J., 2003. Some problems with social cognition models: A pragmatic and conceptual analysis. *Health Psychology*, (22), pp.424–28.

86. O'Keefe, D., 1990. *Persuasion: Theory and research.* Newbury park, CA:Sage.

87. Ozbafli, A. & Jenkins, G.P., 2015. The willingnesstopaybyhouseholdsforimprovedreliabilityof electricity serviceinNorthCyprus. *Energy Policy*, (87), pp.359-69.

88. Pallant J., 2007. *SPSS Survival Manual - A step by step guide to data analysis using SPSS for Windows.* Third Edition. ed. Buckingham • Philadelphia: OPEN UNIVERSITY PRESS. ISBN-10: 0335 223 664 (pb).

89. Patilit, 2016. Research Methodology: For Beginners. *INTERNATIONAL RESEARCH JOURNAL OF MULTIDISCIPLINARY STUDIES,* 2(1).

90. Pearl, J., 2000. Causality: Models, reasoning, and inference..

91. Phillips, D.C., 1987. *Philosophy, Science and Social Inquiry: Contemporary Methodological Controversies in Social Science and Related Applied Fields of Research.* Pergamon. ISBN-13: 978-0080334110.

92. Sanja, F. & Tanić, G., 2008. THE POLICY OF CONSUMER PROTECTION IN THE ELECTRICITY MARKET. *Electric power and market - Economic Annals.*, 53(178-179), pp.157-82.

93. Sejwacz, D., Ajzen, I. & Fishbein, M., 1980. Predicting and understanding weight loss: Intentions, behaviours and outcomes. *Understanding attitudes and predicting social behaviour*, pp.101-12.

94. Sirleshtov, K., 2017. *CMS Law-Now "World Bank report on recovery and liberalisation of Bulgarian power sector"*. [Online] Available at: http://www.cms-lawnow.com/ealerts/2017/01/world-bank-report-on-recovery-and-liberalisation-of-bulgarian-power-sector [Accessed April 2017].

95. Sirleshtov, K. & Maneva, R., 2015. *CMS Guide to Electricity Bulgaria*. [Online] Available at: https://eguides.cmslegal.com/electricity/1.0/print.aspx?chapter=bulgaria [Accessed April 2017].

96. Smith, B., 2003. *Blackwell Guide to the Philosophy of Computing and Information*. Oxford: Blackwell.

97. Song, H.J., Lee, C.K., Kang, S.K. & Boo, S.J., 2012. The effect of environmentally friendly perceptions on festival visitors' decision-making process using an extended model of goal-directed behavior. *Tourism Management*, 33(6), pp.1417-28.

98. Sturgis, P., 2016. *Structural Equation Modeling: what is it and what can we use it for?* [Online] National Center for Research Methods Available at: https://www.ncrm.ac.uk/resources/online/SEM2016/ [Accessed 1 May 2017].

99. Sutton, S., 1998. Predicting and explaining intentions and behavior. How well are we doing? *Journal of Applied Social Psycology*, (16), pp.267-85.

100. Tennis, J.T., 2008. *Epistemology, Theory, and Methodology in Knowledge Organization: Toward a Classification, Metatheory, and Research Framework*.

101. Tesfom, G. & Birch, N.J., 2011. "Do switching barriers in the retail banking industry influence bank customers in different age groups differently?". *Journal of Services Marketing,* 25(5), pp.pp.371-380. doi: 10.1108/08876041111149720.

102. Trafimow, D., 2009. The Theory of reasoned action. *Theory & Psychology*, pp.501-18.

103. Vecchiato, D. & Tempesta, T., 2015. Public preferences for electricity contracts including renewable energy: A marketing analysis with choice experiments. *Energy*, (88), pp.168-79.

104. Welsh, H. & Biermann, P., 2014. Electricity supply preferences in Europe: Evidence from subjective well-being data. *Elsevier (Resource and Energy Economics)*, (38), pp.38-60.

105. Winchester, D.D. & Huston, S., 2014. Does a relationship with a financial service professional overcome a client's sense of not being in control of achieving their goals?". *Financial Services Review*, 23(1), p.1.

Appendix 1

Questionnaire - (translated from Bulgarian), codes given in red

Questionnaire

Dear all, I am researching the Bulgarian household consumer's views and opinions regarding the electricity providers on the Bulgarian market as part of my Master Thesis project. Please take a moment of your time to complete the questionnaire below. Your opinion is very important for me. Be confident that the information you share is confidential and your anonymity is guaranteed. The information will be used for academic purposes. (Please note that only one representation per household is allowed).

Thank you for your time and participation!

Regards,
S. Bakardzhieva

Section 1 (Demographics)

Please answer the following question/statement by circling one of the following:

1. Gender

Male / Female

2. Age

0 -20

21 - 30

31 - 40

41 - 50

51 -60

61+

3. Current Electricity Provider

Eon

EVN

CHEZ

Section 2 (Hypothesis Questions)

Slavena Plamenova Bakardzhieva – International Marketing,   Aalborg University

1	2	3	4	5

Please select the answer that corresponds the most to your opinion, by circling a number: **Strongly Disagree Strongly Agree**

(please select only one number per statement)

4. Switching my electricity provider sounds like a very good idea for me [ATS 1]

1	2	3	4	5

5. Switching my electricity provider sounds like a very wise decision [ATS 2]

1	2	3	4	5

6. In my opinion, switching my current electricity provider will be very useful [ATS 3]

1	2	3	4	5

7. In my opinion, switching my current electricity provider will be very beneficial for my household [ATS 4]

1	2	3	4	5

28. Switching my electricity provider sounds like a smart thing to do [ATS 5]

1	2	3	4	5

28. I feel like I do not have a lot of control over the situation of switching my electricity provider [PBC 1]

1	2	3	4	5

28. I do not believe that I have the resources and the ability to switch my electricity provider now [PBC 2]

1	2	3	4	5

11. It will take a lot of time to switch my electricity provider [PBC 3]

1	2	3	4	5

12. It is very complicated to switch my electricity provider [PBC 4]

1	2	3	4	5

13. The contract that I have with my current electricity provider will restrict me from switching my electricity provider soon. [PBC 5]

1	2	3	4	5

14. There is a probability that I will change my current electricity provider soon [SI 1]

1	2	3	4	5

15. I am certain that I will change my electricity provider [SI 2]

1	2	3	4	5

16. It is very likely that I will change my electricity provider [SI 3]

1	2	3	4	5
1	2	3	4	5

17. People who influence my behavior will approve of me switching my current electricity provider [SN 1]

18. Most people that are important in my life will be supportive of me switching my current electricity provider [SN 2]

1	2	3	4	5

19. My close friends will approve of me switching my current electricity provider [SN 3]

1	2	3	4	5

20. My family members will be supportive of me switching my current electricity provider [SN 4]

1	2	3	4	5

21. Other provider's offers seen more attractive than the ones offered by my current electricity provider [AA 1]

1	2	3	4	5

22. I see more value in the options (services) offered by other electricity providers [AA2]

1	2	3	4	5

23. I was informed that now I can change my electricity provider freely [K 1]

1	2	3	4	5

24. I did know that the liberalization of the electricity market will allow for household users to choose their electricity provider [K 2]

1	2	3	4	5

25. I did know that I can change my electricity provider no matter in which region I am situated [K 3]

1	2	3	4	5

26. I am satisfied with the services provided from my current electricity provider [CS 1]

1	2	3	4	5

27. I would recommend my current electricity provider [CS 2]

1	2	3	4	5

28. I am happy with the price-quality ratio of the services provided from my current electricity provider. [CS 3]

1	2	3	4	5

29. My current electricity provider offers all the services (payment options, contract lengths etc.) that I need. [CS 4]

1	2	3	4	5

 Section 3 (Additional questions)

30. Which of the following statement is true for your current power provider:
   • Does not provide enough information about the services they offer
   • The attitude of representatives of the company (their employee in the office, over the phone, etc.) is incorrect (not professional)
   • Inefficiently resolves emerging issues (such as account errors, power failure, etc.)
   • Inaccurately calculates the energy I spend (my electricity bill)
   • There is a frequent power failure
   • I am dissatisfied with the quality-price ratio of services (electricity, service, etc.) for which I pay
   • I'm not aware of all the parts of my electricity bill and I do not know exactly how much and for what I pay each time.
   • None of these statements is valid for my provider (for me)

31. Mark which facts you were familiar with before completing the questionnaire: *
   • I know that the Power Market is divided into - Regulated and Free
   • I am aware that on the Regulated Market - prices, quotas and conditions are determined by SEWRC (On the regulated market, the electricity is supplied by the end supplier companies: (EnergoPro, CEZ and EVN)
   • I know that on the Free Market - the customer can freely choose his/her supplier and negotiate price and terms.
   • I am aware that on the Free Market - Licensed traders buy wholesale energy from producers in Bulgaria and / or other retailers abroad - they then sell the energy to end customers at freely negotiated prices.
   • I am aware that I can freely change my electricity supplier with an arbitrary, no matter where I am.
   • None of the above

32. I would like to change my electricity supplier but:
   • I think it's complicated

- I'm still thinking
- There are no providers offering better conditions than those offered by my current provider
- I think it's risky
- I would not want to change my provider
- I did not know that I could change my electricity supplier
- I have already changed my electricity supplier

33. I prefer to pay my bill: *
- Cash at the office of the company
- Through direct debit
- At an ATM with bPay
- With a payment order - the amount due is transferred to the account of the provider
- Through the electronic payment system ePay.bg
- E-banking through your service bank's web site
- Something else

34. I believe that the emergence of new electricity providers in the market will improve the conditions for household customers: *

Yes / No

35. I believe that State regulations will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services) *

Yes / No

36. I believe that the current leading suppliers (EnergoPro, CEZ and EVN) will hinder the efforts of new suppliers to improve the conditions for customers (lower prices, better services) *

Yes / No

37. I would like to receive electricity with a higher percentage of renewable sources *
Yes / No

38. I am ready to pay more to get electricity with a higher percentage (or 100%) of renewable sources *

Yes / No

39. Choose the correct statement (or the one that comes closest to your opinion): *
- I would not want to receive a higher percentage of green electricity because it is more expensive
- I would not want to receive a higher percentage of green (coming from renewable sources) electricity
- I would not wish to receive a higher percentage of green electricity for other reasons
- I would like to receive a higher percentage of "green" energy, although it will be more expensive

40. The increase in the percentage of electricity coming from renewable sources will have a positive impact on the environment. *

Yes / No

41. I prefer electricity coming from:
- Solar panels
- Wind turbines
- Biomass
- Hydroelectric power plant (HPP)
- Atomic (Nuclear) Power Plant (NPP)
- Thermal power plant (TPP)
- Something else
- I did not think about the type of electricity I want to get

42. I would prefer the electricity I use to be from:
- Local company (located near my place of residence)
- My current electricity supplier
- Different (new to the market) provider

43. I would prefer to sign a contract for: *
- 1 year
- 2 years
- 3 + years
- I do not want to be bound by a contract

44. Please choose which of the following would be important (to you) when choosing an electricity supplier *

- Price
- There is a high percentage of Green Energy
- Whether he is a known supplier (you know the company)
- Be a local company (is close to my settlement)
- Offer my preferred payment method
- Have a physical office in my city
- Have a high percentage of energy coming from Solar Panels
- There is a high percentage of energy coming from wind turbines
- Provide sufficient information about the services he offers
- Have different contract length options
- The company has a positive focus on environmental protection
- Corporate social responsibility (protecting and improving the well-being of society)
- There is a high percentage of Green Energy
- Whether he is a known supplier (you know the company)
- Be a local company (is close to my settlement)
- Offer my preferred payment method
- Have a physical office in my city
- Have a high percentage of energy coming from Solar Panels
- There is a high percentage of energy coming from wind turbines

- Provide sufficient information about the services he offers
- Have different contract length options
- The company has a positive focus on environmental protection
- Corporate social responsibility (protecting and improving the well-being of society)

45. Please mark with which facts you were familiar with before completing the questionnaire: *
- You have the right to register on the free market, choose and change your supplier's current
- When changing a supplier, power is not interrupted. The quality of the energy does not depend on the supplier you choose. The EDCs have the same responsibilities as before.
- The fact that you will have a choice (even if you do not exercise it) means that suppliers will compete with better prices, terms and service.
- On the free market you will be able to select suppliers offering additional and combined services (e.g.: electricity + gas, electricity + internet, etc.)
- None of these

46. When I enter the free market of electricity, I would like to: *
- Fixed price of electricity for the contract period
- Non-fixed price of electricity
- I do not want to go out on the free electricity market

47. Which of the following electricity supply offers would you choose based on price, green power percentage, supplier and type of market (free or regulated)? (The prices are without VAT and do not include the price for energy transfer) *
- My current electricity supplier Regulated Market 20% Green Energy (from renewable sources) Fixed price 0.136 BGN / kWh
- A known supplier (EnergoPro, CEZ, EVN) Free Market Fixed price 0.12 BGN / kWh 20% Green Energy
- Known supplier Free Market Fixed price 0.15lv / kWh 50% Green Energy
- Unknown provider Free Market Fixed price 0.14lv / kWh 50% Green Energy
- Known supplier Free Market Fixed price 0.22lv / kWh 100% Green Energy
- Unknown provider Free Market Fixed price 0.2lv / kWh 100% Green Energy
- Known supplier Free Market Non - fixed price 50% Green Energy
- Known supplier Free Market Non - fixed price 100% Green Energy
- Unknown provider Free Market Non - fixed price 100% Green Energy

Appendix 2

Table of communalities

Communalities

	Initial	Extraction
ATS2	.649	.643
ATS3	.592	.548
ATS4	.598	.602
ATS5	.722	.781
ATS1	.736	.808
SI2	.423	.545
SI3	.408	.521
SI1	.449	.559
PBC1	.630	.643
PBC2	.717	.732
PBC3	.767	.829
PBC4	.723	.754
PBC5	.717	.738
SN2	.730	.741
SN3	.823	.863
SN4	.850	.917
SN1	.647	.655
AA1	.583	.581
AA2	.727	.795
AA3	.709	.759
AA4	.721	.768
K1	.581	.747
K2	.527	.550
K3	.518	.550
CS2	.723	.759
CS4	.588	.533
CS3	.758	.863
CS1	.637	.606

Appendix 3

Total Variance explained (created by the author – EFA output via SPSS)

Total Variance Explained

Factor	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings[a]
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.623	34.367	34.367	9.055	32.339	32.339	5.162
2	3.537	12.632	46.999	3.263	11.654	43.992	5.903
3	2.587	9.241	56.240	2.340	8.358	52.350	6.069
4	1.730	6.177	62.417	1.567	5.596	57.946	5.416
5	1.589	5.676	68.093	1.288	4.599	62.545	6.100
6	1.459	5.210	73.303	1.109	3.960	66.505	3.562
7	1.021	3.646	76.949	.768	2.742	69.247	5.665
8	.617	2.205	79.153				
9	.494	1.763	80.916				
10	.484	1.729	82.646				
11	.467	1.666	84.312				
12	.431	1.541	85.853				
13	.412	1.472	87.325				
14	.370	1.322	88.647				
15	.350	1.251	89.898				
16	.342	1.223	91.121				
17	.315	1.123	92.244				
18	.305	1.089	93.333				
19	.282	1.006	94.339				
20	.237	.847	95.186				
21	.213	.760	95.947				
22	.207	.738	96.685				
23	.199	.709	97.394				
24	.178	.635	98.028				
25	.162	.577	98.606				
26	.157	.561	99.166				
27	.139	.498	99.664				
28	.094	.336	100.000				

Appendix 4

Spearman Correlation analyses between Switching Intention and the factors Knowledge, Customer Satisfaction, Subjective norms, Alternative Attractiveness, Attitude towards switching and Perceived Behavioral Control

Correlations

			K	SI
Spearman's rho	K	Correlation Coefficient	1.000	.307**
		Sig. (2-tailed)	.	.000
		N	557	557
	SI	Correlation Coefficient	.307**	1.000
		Sig. (2-tailed)	.000	.
		N	557	557

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			SI	AA
Spearman's rho	SI	Correlation Coefficient	1.000	.284**
		Sig. (2-tailed)	.	.000
		N	557	557
	AA	Correlation Coefficient	.284**	1.000
		Sig. (2-tailed)	.000	.
		N	557	557

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			SI	SN
Spearman's rho	SI	Correlation Coefficient	1.000	.379**
		Sig. (2-tailed)	.	.000
		N	557	557
	SN	Correlation Coefficient	.379**	1.000
		Sig. (2-tailed)	.000	.
		N	557	557

**. Correlation is significant at the 0.01 level (2-tailed).

Correlations

			SI	PBC
Spearman's rho	SI	Correlation Coefficient	1.000	.374**
		Sig. (2–tailed)	.	.000
		N	557	557
	PBC	Correlation Coefficient	.374**	1.000
		Sig. (2–tailed)	.000	.
		N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).

Correlations

			SI	ATS
Spearman's rho	SI	Correlation Coefficient	1.000	.470**
		Sig. (2–tailed)	.	.000
		N	557	557
	ATS	Correlation Coefficient	.470**	1.000
		Sig. (2–tailed)	.000	.
		N	557	557

**. Correlation is significant at the 0.01 level (2–tailed).