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Revisiting the relationship between CRM, business strategy and firm performance by complementing the sources-position-performance framework with value curve analysis

An empirical study of the competitiveness in the industrial and small business segments of the liberalized electricity market in Portugal

Maria Ana Pinto Osório

Católica Porto Business School
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Final Work in Organisational Context presented to Universidade Católica Portuguesa in order to obtain the master's degree in Management

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Maria Pinto Osório

Under the guidance of
Professor Doctor Luís Pina Rebelo

Católica Porto Business School, Universidade Católica Portuguesa
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Resumo

O Mercado de Liberalizado de Eletricidade em Portugal é caracterizado por assumir estratégias "fortemente ancoradas no seu ambiente competitivo externo" (Raimundo e Domingues 2021) e por possuir um reduzido grau de inovação do produto em questão. Apesar de existir ainda uma presença significativa da empresa ex-monopolista no setor, as empresas procuram cada vez mais adotar uma posição atraente no mercado, captando a atenção dos intervenientes de uma forma diferente, única e inovadora, isto é, definindo uma estratégia de posicionamento.

Segundo diversos estudos, um posicionamento eficaz permite às empresas responder às necessidades dos seus clientes, diferenciando-se dos concorrentes e, desta forma, melhorar o desempenho financeiro da empresa, assim como, a lealdade e satisfação dos clientes (McAlexander et al. 1993; Porter 1996; Pham e Muthukrishnan 2002; Fuchs e Diamantopoulos 2010, 2012).

Para além disto, foram identificados diferentes estudos que analisam o impacto diferencial do CRM no desempenho das empresas, através da aplicação da framework sources-position-performance (Day e Wensley 1988; Reimann et al. 2010). Contudo, não foi encontrado nenhum artigo que analisasse o vínculo entre o CRM, as estratégias de posicionamento e o desempenho no mercado liberalizado de eletricidade em Portugal.

Este estudo apresenta ainda como fator complementar a análise das curvas de valor, para definição e estudo da perceção de valor dos clientes do setor de eletricidade dos respetivos segmentos. Esta ferramenta irá permitir, posteriormente, analisar e comparar a perceção dos clientes com as estratégias de posicionamento definidas pelas diferentes empresas de energia.

Posto isto, o objetivo principal deste estudo é analisar as relações entre o CRM, estratégias de negócio e desempenho das quatro maiores empresas do setor de eletricidade em Portugal, em particular, no segmento dos pequenos negócios e no segmento industrial, através da framework sources-position-performance e ainda, analisar através da ferramenta curva de valor, desenvolvida no âmbito da Estratégia de Oceano Azul, a perceção de valor dos clientes dos diferentes segmentos em estudo.

Este estudo é comporto por seis partes: na primeira parte será realizada uma revisão de literatura dos conceitos-chave ao desenvolvimento de todo o trabalho; na segunda parte será apresentada uma breve contextualização do setor português de eletricidade; a terceira parte é constituída pela definição das diferentes hipóteses; a quarta parte é constituída pela metodologia adotada no estudo, assim como, pela apresentação das variáveis presentes; na quinta parte são apresentados os resultados e a discussão; e por último, na sexta parte são relatadas as conclusões finais do estudo e ainda, as limitações e sugestões de pesquisas futuras.

Palavras-chave: Framework Sources-Position-Performance; Curvas de Valor; Estratégia de Negócio; CRM; Mercado Liberalizado de Eletricidade; Setor de Energia; Portugal

Abstract

In Portugal, the Electricity Market is characterized by assuming strategies strongly anchored in its external competitive environment (Raimundo and Domingues 2021) and by having a low degree of innovation of the product. Although there is still a significant presence of the ex-monopolist company in the sector, companies increasingly seek to adopt an attractive position in the market, capturing the attention of the stakeholders in a different, unique and innovative way, that is, defining a positioning strategy.

According to several studies, an effective positioning allows companies to respond to the needs of their customers, differentiating themselves from competitors and, thus, improving the company's financial performance, as well as customer loyalty and satisfaction (McAlexander et al. 1993; Porter 1996; Pham and Muthukrishnan 2002; Fuchs and Diamantopoulos 2010, 2012).

In addition, different studies have been identified that analyse the differential impact of CRM on company performance, through the application of the sources-position-performance framework (Day and Wensley 1988; Reimann et al. 2010). However, no article was found that analysed the link between CRM, positioning strategies and performance in the liberalized electricity market in Portugal.

This study also presents as a complementary element the analysis of the value curves, for the definition and study of the perception of value of the customers of the electricity sector in the respective segments. This tool will later allow to analyse and compare the perception of customers with the positioning strategies defined by the different energy companies.

That said, the main objective of this study is to analyse the relationships between CRM, business strategies and performance of the four largest companies in the electricity sector in Portugal, in particular, in the small business segment

and in the industrial segment, through the sources-position-performance framework and further, analyse through the value curve tool, developed within the scope of the Blue Ocean Strategy, the perception of value of customers in the different segments under study.

This study is divided into six parts: in the first part there will be a literature review of the key concepts for the development of all the work; in the second part, a brief contextualization of the Portuguese electricity sector will be presented; the third part consists of defining the different hypotheses; the fourth part consists of the methodology adopted in the study, as well as the presentation of the variables present; in the fifth part the results and the discussion are presented; and finally, in the sixth part, the final conclusions of the study are reported, as well as the limitations and suggestions for future research.

Keywords: Sources-Position-Performance Framework; Value Curve; Business Strategy; CRM; Liberalized Electricity Market; Energy Sector; Portugal

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Introduction

Previously, energy supply in the European Union was based on national and regional markets made up of vertically integrated companies, which were freely authorized to produce, transmit and distribute energy on the market. These companies ended up constituting natural monopolies that prevented new companies from entering the market. Therefore, the process of liberalization and union of the energy sector aims to create a resilient and integrated market (Tulloch 2018), which allows the free flow of energy across borders.

Increased competition in the energy market has required ex-monopolist companies to change both at a strategic and behavioural level, specifically, changes in their relationship with stakeholders. Over the years, customers in the energy sector have achieved significant importance in the market dictating, in many cases, the strategic direction of a company. According to Ruiz et al. (2008), companies increasingly seek to maintain a solid base with their customers in order to guarantee their survival, growth and financial performance.

Shemwell et al. (1998), defends that the driving factor of a competitive advantage in a world that presents a constant evolution of the competition, is the delivery of high-quality services that, in turn, result in a greater satisfaction of the customers. However, several studies claim that to achieve a sustainable competitive advantage it is necessary to adopt a more comprehensive approach than a simple focus on service quality or customer satisfaction (Woodruff 1997; Vargo and Lusch 2004; Steenkamp and Geyskens 2006; Rantala et al. 2019). They

argue that the creation of value for the customer must represent a new paradigm and focus on the companies' strategy.

Woodruff (1997, p. 142) describes customer value as something that "incorporates both desired and received value and emphasizes that value stems from customers' learned perceptions, preferences, and evaluations.". In addition to this, the author Rantala et al. (2019) argue that these customer experiences and perceptions regarding a service influence their loyalty and, consequently, affect the performance of a company. However, according to Kataria and Saini (2019) the intrinsic value of a company's product or service also influences customers' decision making, as it is through the perception of this value that they establish their purchasing decisions. It is extremely important nowadays for companies to demonstrate the value that their products or services hold, as well as ensuring that they deliver a superior value to the market compared to their competitors.

Over time, Customer Relationship Management (CRM) has shown great importance in collecting information and managing relationships that allows companies to understand how they can offer a value perceived and desired by customers. According to the authors Campbell (2003) and King and Burgess (2008), CRM has enormous potential in helping companies to understand more precisely, the behaviour and needs of their customers. In addition, CRM is a tool capable of systematically accumulating and processing information throughout the customer's life cycle, allowing companies to achieve profitable relationships with them and, in this way, differentiate their offerings (Mithas et al 2005).

In addition, the authors Kim and Mauborgne (2005) developed a tool capable of showing a competitive and attractive value proposal (value curve), which companies must adopt in order to achieve an advantage in the market. According to them, it is necessary to create an untapped market in order to change the current focus on competition to a focus on creating value and innovation of products or services (Blue Ocean Strategy).

Although there are several studies that analysed the impact of CRM on a company's positioning strategies and performance in different sectors (Day and Bulte 2002; Reimann et al. 2010) and that applied the value curve analysis to different markets, such as, the video games (Hollensen 2013), the mobile phones (Chang 2010) and the fitness industry (Vieira and Ferreira 2018), no author was found to analyse the liberalized electricity market in Portugal, in particular, the small business segment and industrial segment.

Therefore, the objective of this study is essentially to analyse the relationship between CRM, business strategy and performance through the sources-position-performance framework created by the authors Day and Wensley (1988), in two of the segments of the energy market in Portugal.

In addition, the value curve tool will be used to highlight the parameters most valued by customers in the different segments under study, in order to present a comparative analysis of the positioning strategies of the four largest companies, after the transition from a domain monopoly to a competitive market. Furthermore, the objective of this study is to answer the following research questions:

- *What is the relationship between CRM, business strategies and the performance of the four largest companies in the electricity sector in Portugal, in particular, in the industrial segment and in the small business segment?*

- *What are the attributes most valued by customers in the liberalized electricity market in Portugal, specifically, in the industrial segment and in the small business segment?*

It was discovered that in the liberalized electricity market in Portugal, in particular in EDP Comercial company, there is no clear relationship between CRM and the company's differentiation strategy and performance variables. However, there is a strong possibility that this relationship exists and is directly

proportional. Also, it was discovered that the relationship between EDP Comercial's CRM and the cost leadership strategy exists.

In addition, it was also apparent through this study that EDP Comercial's business strategies in the liberalized electricity market, specifically in the small business and industrial segments, meet the parameters valued by customers in the different segments under study, when selecting an electricity company in the liberalized market.

It is important to explain that in this study business customers were selected because, according to Hollyoake (2009), the difference between the relationship among two companies versus the relationship among a company and a customer is the experience, which proves to be an integral part of the general dynamic/proposition customer management (CM). Also, citing the respective author, business customers are "more likely to demand a certain experience package as part of a tendering process, and to actively monitor progress against their key experience performance indicators.".

That said and given that the customers of the different segments in the electricity sector in Portugal have distinct and very specific needs, namely, the consumer facilities, the study of these customers in the energy market was considered important.

The analysis carried out in this dissertation is particularly relevant both for companies in the liberalized energy market in Portugal that want to grow in this sector and compete with the ex-monopolist company, and for the EDP Comercial company itself, which intends to maintain its leadership in the market. This study allows companies to understand the attributes most valued by customers and their switching behaviour, as well as define marketing and service strategies that generate value for customers.

The structure of this work is composed of six parts. In the first part, a literature review was carried out that aims to introduce several key concepts for the

development of this study, such as: the liberalization of the energy market; the different adversities that monopolistic companies face with the entry of new companies in the market; the sources-position-performance framework; the clarification of the concepts used in the framework, namely, resources and positioning strategy and the explanation of the value curve analysis. In the second part, a brief contextualization of the electricity market in Portugal is carried out. In the third part, the different hypotheses are presented and in the fourth part, the research method adopted in this study is described, as well as the different variables present in it. In the fifth part, the results are shown. And, finally, the conclusion regarding the study is presented, as well as its limitations and suggestions for future research.

Chapter 1
Literature Review

1.1 Electricity Market Liberalization

The process of liberalizing national electricity markets in the EU has evolved and expanded gradually. This process consists of deregulation of the retail market with the objective of progressively eliminating regulated prices, increasing the quality of services and improving the economic efficiency of the sector, promoting the possible entry of competing companies (Karahan and Toptas 2013; Ghazvini 2019).

According to Kuleshov et al. (2012), the electricity markets that are vertically integrated present only one company responsible for supplying energy and providing services. This contrasts with the competitive decentralized electricity market models presented by the authors Finon and Boroumand (2011), who argue that the production, distribution and commercialization of this utility must be disaggregated.

The lack of competition in the energy supply market results in a higher price being paid by consumers who only have one option to choose from. According to Platt (2012), with the entry of new companies, the profit and operating costs of energy suppliers, when compared according to the average consumer bill, are kept as low as possible. In addition, increased competition results in improved

innovation and greater cost efficiency, leading to a reduction in prices for domestic and industrial consumers (Halkos 2019).

In general, the liberalization of the electricity market begins with the privatization of state monopolies and the breakdown of existing vertically integrated structures (Joskow 2008), creating the opportunity for even smaller companies to enter and compete in this sector (Ghazvini 2019). In addition, the liberalization of the retail electricity market allows consumers to act as active players in the market, looking for the best offer among a wide range of companies. This, in turn, encourages different suppliers to innovate their products or to present differentiated services.

In particular, in the case of the European Union the changes implemented in the energy market have a broader purpose and meaning than just economic concerns. This sector reform is part of a general strategic planning aimed at real political and market unification of the member states (Halkos 2019). The main objectives of this process are to distinguish between the competitive (supply to customers) and non-competitive (network operation) elements; to allow the competitive elements to have access to the energy infrastructure; to remove barriers to competition; remove restrictions on switching and introduce independent regulators to monitor the industry (European Commission 2012).

According to Green et al. (2009), the development of this process was essentially due to the need to improve the quality of market regulation both at national level and at the level of the European Union.

1.1.1 From Monopoly to Competition

Previously, all electricity markets were characterized by being dominated by a monopoly, vertically integrated company, which carried out all the activities present in the sector.

In monopoly conditions, efficient electricity production comes from only one supplier, public or private, which is subject to government regulations on prices, investment and service quality (Joskow 1997). In addition to this, there are not enough incentives for vertically integrated electric power companies to improve their economic efficiency, as in this type of market consumers only have one option to choose from. According to the authors Dyner and Larsen (2001), the objectives of these same companies are, among other types, motivated essentially by political reasons promoting the growth of the company, the maximization of income, the increase in employment, the provision of additional services, among others.

Over time, with structural reforms and restructuring processes, the electricity markets began to gradually present bilateral, competitive and non-competitive market conditions (Maradin 2021). This transformation of the sector has important consequences for ex-monopolist companies that face new competitors and new contexts. According to the authors Wieringa and Verhoef (2007), these companies despite having a competitive advantage associated with the fact that they are already known by consumers, are not used to facing competitors, suffering from an inflexibility to adapt to change and the surrounding bureaucracy. The same authors also state that, in general, monopolistic companies do not have a focus on the customer or high-quality products/services (Mussa and Rosen 1978) and that, therefore, it is important that they understand the risk of loss of customers and, in particular, the determinants of switching behaviour.

The entry of new companies on the market can encourage greater control of costs and stimulate innovation of products and services (Muradov et al. 2019). Quoting the same author, "competition is one of the driving forces of economic development. It is the fundamental principle of the activity of the markets and is involved in innovation, productivity and economic growth". Thus, and in order

to overcome the lack of customer confidence regarding changes in the market, the new participating companies must implement either an innovation of their product/service or a pricing policy capable of capturing the attention of consumers (Panzar and Willig 1977). These must include creativity and innovation in their business strategy in order to overcome the advantages presented by the ex-monopolist company (Kourdi, 2007).

However, the authors Grbac and Radulovic (2008) argue that monopoly companies in the energy sector manage to maintain their dominant position in the market, through the use of innovative and quality marketing strategies that create greater proximity between the company and the customers. In agreement with the respective authors are Wieringa and Verhoef (2007), who claim that consumers' exchange intentions can be avoided through a better quality of the relationship between the energy company and its customers.

Therefore, it is important that companies that intend to compete in the energy market define their strategy succinctly, so that they can offer something innovative and unique, that adds value and that allows them to gain a competitive advantage over the ex-monopolist company already present in the sector.

1.2 Sources-Position-Performance Framework

Khaligh et al. (2020) argue that the concept of competitive advantage is related to the fact that the market perceives a higher value of a company's product or service, in relation to its competitors. This conceptualization based on the value perceived by customers is associated with positional market superiority. However, the concept of competitive advantage can sometimes be related to the

term "distinct competence" to mention a superiority over a capability or resources (Day and Wensley 1988).

According to the authors Day and Wensley (1988), none of the concepts is entirely right or entirely wrong and, when applied together, they manage to describe a condition of competitive advantage and the way in which it was achieved. They also argue that the ambiguity in the notion of competitive advantage can be overcome by breaking down the concept into 3 component and irreplaceable parts: the sources, positions, and performance outcomes (SPP). This breakdown gave rise to the creation of the Source-Position-Performance framework which, according to the respective authors, is the basis for a sustainable competitive advantage.
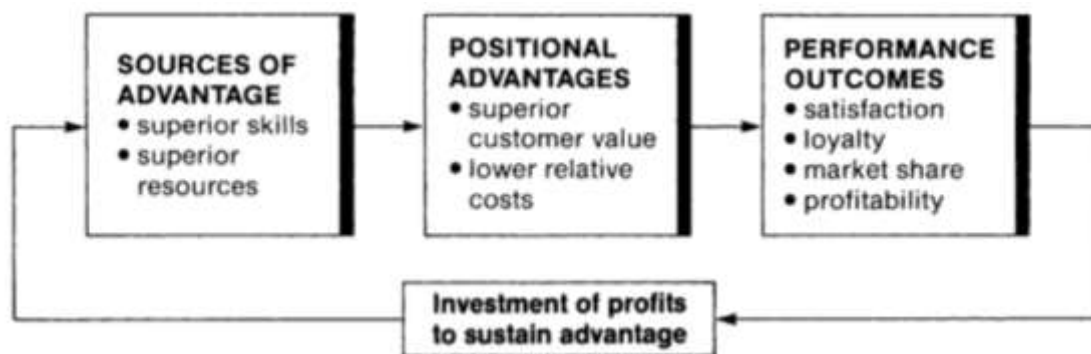
Figure 1: The elements of competitive Advantage (Day & Wensley, 1988)

In general, the proposed linear determinism structure argues that companies through superior capabilities and resources are able to achieve a competitive position, which allows them to add more value to their customers (differentiation) and present lower relative costs (cost leadership). This will allow companies to improve their performance, namely profitability, market share and customer relations (Day and Wensley 1988; Jayachandran et al. 2005; Acquaah e Yasai-Ardekani 2008; Reimann et al. 2010). However, in order to maintain a sustainable positional advantage, it is necessary to create barriers that make it difficult to imitate superior capabilities and resources and citing Day and

Wensley (1988), "As these barriers to imitation are continually decreasing, the company must continue to invest to maintain or improve the advantage.".

The sources-position-performance framework, in defending that organizational resources and capabilities are the main sources of competitive advantage, is incorporating elements presented in the resource-based view (Reimann et al. 2010). According to this logic, the basis for a sustainable competitive advantage is associated with the creation of a resource that is valid, durable, superior when compared to competitors and difficult to imitate or replace (Amit and Schoemaker 1993; Barney 1991; Barney and Hesterly 2008).

Although the sources-position-performance framework is understood as an extension of the study carried out by Porter (1980), it presents small divergences in relation to it. According to Porter (1998), companies are able to achieve a competitive advantage in the market through the application of one of two main strategies, namely, product differentiation and low-cost strategy.

Porter (1998) argues that differentiation implies being distinct and different from competitors, namely, offering a superior value in the market and, thus, improving the performance of a company gaining a competitive advantage. Also, according to Cavusgil and Knight (2015), differentiation isolates a company from competition by engendering brand loyalty and associated lower sensitivity to price. A company can adopt a differentiation strategy applying it in several ways, such as offering innovative resources, launching effective promotions, providing superior service, developing a strong brand, among others (Li and Zhou 2010; Kaliappen and Hilman 2017) to achieve competitive advantage and superior performance (Sun and Lee 2019).

In contrast, cost leadership may involve creating higher margins than competitors, achieving lower manufacturing and distribution costs (Reimann et al. 2010). To this end, companies seek to create efficient scale facilities, reduce

costs and tightly control overheads, minimize the costs of R&D, services, sales, marketing and advertising (Miles 2013; Kaliappen and Hilman 2017).

Also, according to Lorenzo et al. (2018), the company adopts a cost leadership strategy when it intends to increase its market share, based on the specialization in certain products or services, as well as on the efficient use of technology and shortening of the distribution channels to reduce costs. In turn, companies that invest in the development of products or services that offer unique and necessary qualities to their customers and that aim to achieve a competitive advantage in the market, adopt a differentiation strategy.

Although both strategies mentioned by Porter can be used together, the previous literature argues that there is an incompatibility between both, also stating that their joint application can lead to the adoption of a stuck-in-the-middle position (Porter 1980; Kaliappen and Hilman 2017). However, in agreement with the authors Day and Wensley (1988) are more recent studies that argue that both strategies can be used in parallel (Kotha and Vadlamani 1995) and that, in many sectors, applying only one of the two strategies can make a company vulnerable to its competitors (Reimann et al. 2010).

1.2.1 Sources

According to the sources-position-performance framework created by Day and Wensley (1988), there are two main sources of positional advantage, namely, superior capabilities and resources.

The superior resources, citing the respective authors, are "tangible requirements for advantage that enable a firm to exercise its capabilities". These can be characterized in different ways, such as a strategic location of a company's facilities, automated assembly lines that provide more efficient and faster production, greater coverage of distribution channels, among others. In turn, superior capabilities are associated with a company's ability to produce a product

or service that is distinct from its competitors. Also, capabilities can be understood as "discrete practices" (Knott 2003, p. 935) that allow companies to achieve their goals through a "coordinated deployment of assets" (Sanchez et al. 1996, p. 8).

The authors Day and Bulte (2002), argue that a superior capacity needs to support a company's competitive strategy in order to extract its full potential in an efficient and productive way. Also, according to Khalifa (2009), a company's strategy aims to develop a competitive advantage, and in order to achieve it is necessary that it creates difference and value where it is important. For this, it is necessary for the company to pay attention to its most critical stakeholders in order to capture and retain their loyalty, which are constantly persuaded by competitors (Campbell and Alexander, 1997).

It is undeniably noticeable that customers are the most important active stakeholders in the business. A company's goals, such as its growth and evolution, will not be achieved if customers are not getting the value they expected to acquire with a particular product or service (Khalifa 2009). Generally, a customer's purchase decision is based on the perceived value of the different offers on the market.

A company achieves a positional advantage when it offers relevant benefits perceived and valued by customers, and when it is not easily imitated by competitors. This conception of value includes both the perception of the superiority of a product (product advantage), as well as the perception of superiority in managing the relationship with customers (relational advantage). The value perceived by customers in relation to a certain product or service of a company, when recognized as superior in relation to competitors, has an impact on their loyalty (Brodie et al. 2009; Grosso and Castaldo 2015) and provides a positional advantage in the market (Day and Wensley 1988; Adner and Zemsky 2006; Grahovac and Miller 2009). It is through this positional advantage that

subsequently translates into a superior performance in customer retention, positive sales evolution and increased profit (Day and Bulte 2002).

In agreement with the respective authors mentioned, there are several studies that argue that customer satisfaction and the ability of companies to relate to them are two variables that are strongly related to customer retention, profitability, and increased sales (Hallowell 1996; Day and Bulte 2002; Čolaković e Bajrić 2017). Reimann et al. (2010), state that knowledge about how companies can profit from their relationships with customers is of significant importance. In addition, other studies argue that the ability of a company to acquire, manage and process relational information in an efficient manner, allows it to achieve a sustainable competitive advantage (Cravens et al. 1997; Higgins 1998; Huber et al. 2001; Porter 1996; Woodruff 1997; Hogan et al. 2002).

In the different studies carried out by Day (1994, 2004) and in simultaneously with Van den Bulte (2002), the authors define CRM as the organizational tool most capable of providing companies with a positional advantage. They also claim that CRM, in addition to being a tool, is a multifunctional process capable of providing customer retention and the effectiveness of marketing initiatives, through continuous dialogue with the most valuable customers, allowing to define an individualized and personalized treatment to them (Grönroos 2006; Dash and Das 2009; Shams 2017).

Also, the authors Reimann, Schilke and Thomas (2010) describe CRM as an element that focuses on the practices that companies use to regularly manage their customers, extracting the greatest possible value from the relationship with them.

By associating the CRM concepts of the different authors with the resource-based view, we can give to this tool a connotation of organizational capability because, according to the aforementioned logic, the basis for a sustainable competitive advantage is associated with the creation of a resource that is valid,

durable, superior when compared to competitors and difficult to imitate or replace (Amit and Schoemaker 1993; Barney 1991; Rafiki et al. 2019). Consequently, CRM as an organizational capability, acts as a source of sustainable competitive advantage, capable of improving the positioning and performance of a company (Reimann et al. 2010).

Since this study is an adaptation of the model created by Reimann et al. (2010), the relationship between CRM and a company's performance will be studied according to a decomposition of the concept into customer satisfaction, profitability and market effectiveness.
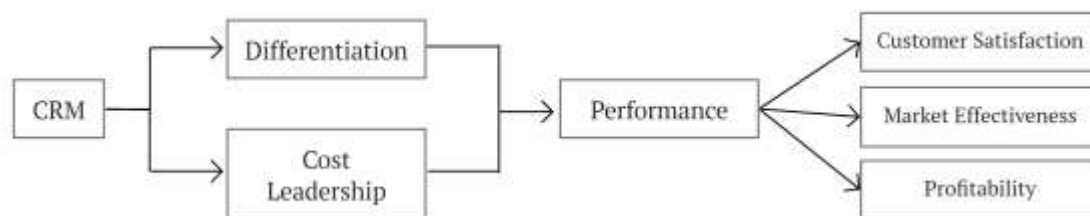
Figure 2: The structural model of CRM, differentiation, cost leadership, and performance taken from the study created by Reimann et al. (2010)

1.2.2 Positioning Strategy

There is an extensive literature that justifies the importance of positioning, referring to this as the central factor of success in the launch and performance of new products or services on the market, and also in highlighting the peculiarities of a company and its products and services in compared to direct competitors..

A properly defined and successful positioning results in a brand preference that influences consumers' decision to choose a particular company over other competing brands and, consequently, results in a better competitive advantage (Pham and Muthukrishnan 2002). The authors Fuchs and Diamantopoulos (2010), state that customers' preference for a particular brand has an impact on their loyalty, thus increasing a company's opportunities for financial success,

namely, its market share, profitability and revenues (McAlexander et al. 1993; Porter 1996; Smith and Wright 2004; Eklof et al. 2018; Otto et al. 2019). In addition, when a company creates and maintains the customer loyalty it develops a mutually beneficial long-term relationship (Pan et al., 2012), that provides financial and non-financial benefits (Siu et al., 2013) based on its ability to increase customer value, thereby improving its performance (Kandampully et al., 2015).

There are several different approaches to measuring the effectiveness of a company's position presented by the literature. However, according to the authors Fuchs and Diamantopoulos (2012), all of these can be categorized into two general approaches, namely, based on the company and based on the customer.

According to Roth (1992), company-based approaches consist of collecting information from the respective employees of a company, including managers and executives, about the positioning they perform, comparing and subsequently linking this information with the real financial performance of the company, in particular, sales, market shares and profitability. This approach is the target of several criticisms because there may be a difference between what companies want consumers to value from their products or services (i.e., intended position) and the value they actually perceive (i.e., perceived position) (Lee et al. 2018). Still, and quoting the author Lovelock (1996, p. 168), "people make their decisions based on their individual perceptions of reality, rather than on the marketer's definition of that reality". Thus, it is noticeable that the great shortcoming of this approach is the fact that the perceived position of customers may differ from the intended position of a company, that is, that the position desired by a company is not perceived by consumers.

In contrast, the customer-based approach is considered conceptually more solid since the success of a company's positioning is related to the understanding

and perception of the value of a product or service by customers (Sweeney and Soutar 2001). In this type of approach, information extraction is carried out through research and studies carried out directly with consumers and can take different forms.

1.3 Value Curve Analysis

According to Kim and Mauborgne (2004, 2005), the most successful companies in a given sector are the ones that create or find unique and innovative growth opportunities in new undisputed and unexplored market spaces, namely, the "Blue Oceans".

The "Blue Ocean" strategy proposed by Kim and Mauborgne (2004), it aims to create a standout among competitors, creating value innovation that reduces costs and, at the same time, increases value for consumers. This strategy is essentially a systematic combination of differentiation and low-cost strategies (Dvorak and Razova 2018) which, unlike the Red Ocean Strategy, seeks to create an undisputed market space (Shafiq et al. 2017).

The same authors Kim and Mauborgne (2004) created the value curve tool, which they later called it a "strategy canvas", which serves to define the general view of an organization's strategy and facilitate its analysis. According to them, "The value curve is the basic component of the strategy canvas and constitutes a graphical representation of the relative performance of a firm in terms of the competitiveness variables of its industry […]".

Khalifa (2009) argues that the strategy canvas has two purposes, specifically, to indicate the current strategy of an organization and its respective competitors in the market and also to reveal which of the dimensions that add value to the market companies are investing and focusing on. Therefore, this tool, well

applied and analysed by companies, can be a source of positional and competitive advantage, allowing them to observe "the future in the present" (Pérez et al. 2010). That is, through value curves, companies are able to obtain a large amount of information and strategic knowledge about their current and future competitive position in the market, and also information about the parameters most valued by customers in relation to a future product or service, comparing even with existing products or services.

In addition, it is increasingly necessary for companies to place a greater focus on the customers than on competitors, in order to be able to better adjust the products or services to their needs, thus managing to outperform competing companies, acquiring competitive advantages and achieving business success (Ziggers and Henseler 2016; Yang and Zhang 2018). Consequently, the value curve becomes a central tool in the development of a competitive and attractive value proposition. This allows a company to determine which characteristics of a product or service have the potential to create value for customers.

According to Kaplan (2005), the way in which a company develops a competitive and innovative value proposal in a market should include certain attributes, explicitly, related to a product or service (price, quality, availability, selection and functionality), relationship attributes (service, partner) and image attributes (brand). Still, the authors Sheehan and Bruni-bossio (2015) argue that the correct application of these parameters will provide an acceptable value delivery to customers and, in turn, an increase in the profitability of a company.

In the present study, the strategy canvas tool will be used to draw the different value curves of companies in the energy sector, based on the information obtained in the survey regarding the parameters most valued by customers when choosing a company. This tool will make it possible to assess and compare the perceptions of customers in the respective segments under study and the

positional strategies adopted by each company in the liberalized electricity market in Portugal.

Chapter 2
Research Context

Background Information of Portugal's Energy Market

The energy market is one of the largest active markets in Portugal due to its number of customers, individuals and companies, and its high volume of business. This has undergone several changes over time, with liberalization being the most evident in the current context.

Previously, the energy sector in Portugal existed under a regulated market with a monopoly by EDP Serviço Universal (EDP-SU). However, and despite the high level of maturity, between 1995 and 2006, Portugal gradually accepted the opening of the market to new companies, following the gradual example of other European Union countries. Currently, all consumers living in mainland Portugal are now entitled to choose their energy supplier, with 85% of the total number of customers and 95% of registered consumption belonging to the retail free market (ERSE 2020). This new market generated an intensification of competition that was reflected mainly in prices and in the improvement of the quality of service provided by companies in the sector.

In 2019, according to the Report published by ERSE on the retail electricity and natural gas markets, there were 34 companies operating in the market in Portugal, spread across the four segments, namely, the domestic, small business, industrial and large consumers segment. All of these segments are differentiated

by the voltage of the network to which the consumer facilities are connected (Table 1).

Segment	Definition
Large consumers	Group of customers whose consumption facilities are connected to very high voltage (MAT) and high voltage (AT) networks.
Industrial	Group of customers whose consumption facilities are connected to medium voltage (MV) networks.
Small Business	Group of customers whose consumption facilities are connected to low voltage networks, with a contracted power greater than 41.4 kW (BTE, special low voltage).
Domestic	Group of customers whose consumption facilities are connected to low voltage networks, with contracted power less than or equal to 41.4 kW (BTN, normal low voltage).

Table 1: Definition of the different segments - Source: Energy Services Regulatory Authority, Informative Summary Liberalized Market Electricity, December 2020

In addition, according to the information published by ERSE in the Informative Summary of the Liberalized Electricity Market, the liberalized market in December 2020 reached an accumulated number of about 5.3 million customers, presenting an increase of 3.5 thousand customers compared to the previous month. This evolution corresponds to a growth of 0.07% and 1.8% compared to the respective month of the year 2019.

The liberalized electricity market in Portugal is characterized by having three/four large suppliers that compete with each other, namely, EDP Comercial, Endesa, Iberdrola and Galp that constantly dispute their market share. The leading company is EDP Comercial, and this phenomenon can be explained by the longstanding relationship that the company already had with consumers in the regularized market and also by the fact that customers are used to the services of the brand itself and their equipment.

Despite the fact that EDP Comercial is at the top of the leadership in the liberalized energy market in Portugal, constituting in 2019 around 76% of the total customers (Table 2) and 40% of the total registered consumption (Table 3), it has been showing a decline in its market share to the detriment of their competing companies.

Market share by number of customers - LIBERALIZED MARKET				
Month	EDP Comercial	Endesa	Iberdrola	Galp
01/12/2016	84,9%	3,7%	2,2%	5,6%
01/12/2017	83,8%	4,3%	2,9%	5,3%
01/12/2018	80,8%	5,7%	4,9%	5,1%
01/12/2019	78,4%	6,5%	6,2%	5,2%
01/12/2020	75,5%	7,5%	6,3%	5,0%

Table 2: Market share in the electricity sector in Portugal according to the number of customers - Source: Energy Services Regulatory Authority (ERSE)

Market share by annualized consumption - LIBERALIZED MARKET				
Month	EDP Comercial	Endesa	Iberdrola	Galp
01/12/2016	46,0%	18,1%	14,8%	7,8%
01/12/2017	42,8%	18,3%	15,6%	9,0%
01/12/2018	41,8%	16,8%	17,1%	7,6%
01/12/2019	41,7%	16,6%	17,6%	6,6%
01/12/2020	40,1%	17,2%	16,4%	7,3%

Table 3: Market share in the electricity sector in Portugal according to the annualized consumption - Source: Energy Services Regulatory Authority (ERSE)

The following methodology section describes the details of the different dimensions as used in the data collection instrument, as well as describing the way in which data is collected.

Chapter 3
Hypotheses development

Indirect performance effects of CRM

Studies by Palmatier et al. (2006), Sawhney and Zabin (2002), Payne and Frow (2005), Reimann, Schilke and Thomas (2010) argue that business strategies should be considered when evaluating the effects of CRM on the performance of a company, and that companies should present an orientation focused on business strategies and customer strategy.

Applying the sources-position-performance structure, the authors Reimann et al. (2010) argue that the performance effect of CRM (as a source), mediated by the company's business strategies (such as positions), generates superior firm performance and promotes a sustainable competitive advantage.

More recently, Sozuer et al. (2020) argue that a company to achieve a sustainable competitive advantage, needs to outline which customers it wants to satisfy (segmentation) and how it intends to do it (positioning). That said, the importance of CRM becomes evident as it allows companies to obtain detailed information about their customers and, in this way, respond effectively to their needs and expectations, offer a superior value compared to the competition, predict more accurately the demand and also optimize operations.

The fact that CRM allows companies to effectively collect and analyse customer information, guarantees the development of customer management

practices that allows them to maximize the value of the relationship throughout their life cycle (Santouridis and Veraki 2017). It is also this tool that allows companies to develop effective strategies for different segments, in order to differentiate their offerings and customize their marketing activities and decisions (such as communication, price, distribution and brand differentiation) according to the value and needs of the client (Peppers and Rogers 2004, p. 401; Mithas et al. 2005; Ramaseshan et al. 2006; Richards and Jones 2008).

In addition, CRM allows companies, when integrated into their operational structures, to reduce sales and service costs, increase buyer retention and decrease customer replacement costs (Reichheld 1996). This is only achievable because, through CRM, it is possible to establish long-term relationships between companies and their customers, thus reducing costs in their management (Reichheld and Sasser 1990).

Furthermore, the successful implementation of CRM processes allows companies to identify their most profitable customers and achieve greater customer loyalty (Reichheld 1996), which in turn results in less volatility (Reimann 2010) and a more effective forecast demand (Bharadwaj 2000). Both of these aspects contribute to an increase in the capacity of companies to plan ahead, thus reducing storage costs and making their use of resources efficient (Reimann 2010).

There is a clear link implicit in the sources-position-performance framework developed by the authors Day and Wensley (1988), when considering CRM as the source that allows companies to reach a differentiation or a cost leadership position, which has an impact on the company performance.

Consequently, the hypotheses present in this study are:

H1: For each of the four largest companies in the liberalized electricity market in Portugal, there is a relationship between CRM and their differentiation strategy.

H2: For each of the four largest companies in the liberalized electricity market in Portugal, there is a relationship between CRM and their cost leadership strategy.

H3: For each of the four largest companies in the liberalized electricity market in Portugal, there is a relationship between differentiation strategy and their performance.

H4: For each of the four largest companies in the liberalized electricity market in Portugal, there is a relationship between cost leadership strategy and their performance.

H5: For each of the four largest companies in the liberalized electricity market in Portugal, there is a relationship between CRM and their performance.

It is important to mention that in the development of this study the main objective was not to "test" the respective hypotheses, but only to discuss them according to an extraction of market information.

Chapter 4
Methodology

Overview

To obtain a better understanding of the energy market and the role that CRM has in this sector, in particular, in the small business segment and the industrial segment, an adaptation of Reimann, Schilke and Thomas (2010)'s model was followed. This model is based on the sources-position-performance framework and in this study it was applied to the liberalized electricity market in Portugal, in particular, in what concerns the four largest companies in the sector.

As such, an online survey was applied to the managers of the different electricity trading companies. The structure of the survey addressed to the managers of the companies was based on the questionnaire used by the forementioned article. After collecting information through the survey, a cross-sectional exploratory-descriptive analysis was carried out.

Finally, the sources-position-performance framework approach by Reimann et al (2010) was complemented with the use of the strategy canvas developed under the Blue Ocean strategy (Kim and Mauborgne 2004, 2005) to achieve a better knowledge of the perception of business customers regarding the performance in terms of service provided by the different electricity suppliers. In order to do so, value curves were drawn for the different services provided by companies in the small business segment and industrial segment from the

perspective of customers and, a comparative analysis of the positioning strategies of the four largest companies defined by managers and the parameters most valued by customers was carried out. Critical success factors to build value curves were assessed based on an online survey distributed among the business community present in the national territory (Appendix 1). This was developed after an analysis of the existing literature about the different dimensions or critical success factors valued by customers when evaluating and choosing a service (Hartmann e Ibáñez 2007; Achchuthan 2014; Aggarwal e Kumar 2018). Also, it was written in Portuguese to facilitate the correct understanding of the questions and thus raise the response rate.

In addition to the questionnaires, the collection of information was complemented with secondary sources, such as: institutional websites, annual and monthly reports prepared by the Energy Services Regulatory Entity (ERSE) and also information taken from the SABI platform about the main companies operating in the electricity market.

4.1 Questionnaire's Structure

The questionnaire applied to the managers of the different companies consists of 15 questions distributed over 2 sections. The first section consists of questions related to CRM and an open question about another types of resources or capacities that managers consider superior in relation to the competition. In the second section, questions were raised related to the differentiation and cost leadership strategies, and also about performance. The questions were presented on five-point rating scales (for example, 1 = "Strongly disagree" and 5 = "Strongly agree").

The questionnaire applied to the business customers consists of 16 questions distributed over 3 sections, namely, an introductory part where questions are asked about the respondent company, such as its sector of activity, its electricity

supplier, the period of service provision, the amount billing and satisfaction with the service provided; the second section explores the possibility that the customer has already been exposed to the regularized market, addressing his satisfaction with the previous service, and also comparing the current service with the service provided by the company in the RM; and finally, the third section that analyses the parameters valued by the customer when choosing his energy supplier, as well as, different dimensions of a service such as tangibility, reliability, responsibility, guarantee and empathy.

All the variables studied in the questionnaire, as well as the questions in which they are inserted, were developed according to a literature analysis about the parameters valued by customers in relation to a service provided (Hartmann and Ibáñez 2007; Achchuthan 2014; Aggarwal and Kumar 2018). This selection is due to the fact that, although the authors Parasuraman, Zeithaml and Berry (1988) play an important role in the creation of a global scale entitled SERVQUAL, which aims to measure the quality of services in different sectors based on expectations and customer perceptions, there are studies that argue that this generic scale does not transfer the necessary information when applied to specific sectors (Ladhari 2008).

That said, some of the attributes that the authors Hartmann and Ibáñez (2007), Achchuthan (2014) and Aggarwal and Kumar (2018) defined for the energy sector were considered in this study and that are associated with the 5 dimensions of services (tangibility, responsibility, reliability, guarantee and empathy). These attributes are price, corporate values (environmental and social commitment), service quality, appealing and easy to understand equipment, value added services, brand trust and company performance.

To ensure that there were no missing values in both surveys, all the questions were marked as mandatory, implying that the respondent could not move to the next questions without answering the previous ones. However, it is important to

mention that there was the option "Other", giving the respondents freedom to add attributes if they did not agree with those present.

4.2 Data Collection

Sampling procedure – The questionnaire created for and applied to the managers of the energy companies was shared in different ways. For the EDP Comercial company, internal contacts from EDP Distribuição were used, acquired throughout a curricular internship, and kindly shared so that the survey would be applied to the EDP Comercial managers that are responsible for the company's CRM. For the remaining companies in the electricity sector, the survey was shared according to data taken from the SABI database, where the names of the respective managers and the institutional email were removed. Since the companies competing with EDP Comercial did not respond successfully to the survey, a message was sent via LinkedIn to the respective company managers with the request to participate in it. Thus, 11 emails were sent, resulting in only 3 responses related to the EDP Comercial company. The messages sent via LinkedIn had no influence on the responses to the survey.

The questionnaire created for and applied to business customers was shared according to a list extracted from the SABI database, which was organized in alphabetical order, and subsequently, a selection of companies was made in 5 out of 5, to create randomness in the sample. The restrictions used in the database that gave rise to the listing of companies were, namely, restrictions associated with the essential conditions for a small and medium-sized company (SME). That is, the number of workers over 10 and less than 250, turnover or operating income between 2 and 50 million euros, and a total asset between 2 million and 43 million euros. Besides, it was also restricted to companies that provide their institutional email contact so that, subsequently, the survey could be sent individually to each company addressed to the company's General Director or Financial Director.

Thus, 2003 emails were sent, resulting in 185 spontaneous responses (120 related to Medium Voltage consumption installations and 65 related to Low Voltage consumption installations), representing a response rate of 9.24%. It is important to note that only the completed surveys were considered in the sample, uncompleted surveys were rejected from the analysis (375 responses, that is, a rate of 67%).

Respondent characteristics – The sample from the EDP Comercial managers is composed of 3 male managers, aged between 45 and 60 years.

The sample for the industrial segment is composed of 18% of companies in the food sector, 15% of the textile and footwear sector, 10% of the automobile and construction sectors, 5% of the metalworking, metallurgy and ceramics sectors, 6% of the transformation sector, 3% of the chemical and plastics sector and also of the logistics and transport sector and about 31% of other sectors of activity. In turn, the sample of the small business segment comprises 14% of companies in the construction sector, 11% of the textile and footwear sector, 9% of the food sector, 8% of the pharmaceutical sector, 6% of the automotive sector, 5% of the technology sector and 48% of other sectors of activity.

Sample characteristics – Both samples from the different segments present a great representativeness of the EDP Comercial company in its entirety. Regarding the industrial segment, 37% of the sample consists of customers of the company EDP Comercial, 4% of EDP-SU, 15% of Endesa, 12% of Iberdrola, 7% of Galp, 6% of Aldro, 5% of Audax, 4% of Axpo and 11% of Other electricity trading companies. In the small business segment, the sample consists of 69% of customers of the company EDP Comercial, 9% of EDP-SU, 5% of Endesa, 3% of Iberdrola and also of the company Axpo and Audax, 2% of Galp, of Ylce, Aldro, Ecochoice and Enforce.

4.3 Data Description

Through this study, and in order to identify and analyse the CRM and the positioning strategy of the four largest companies in the energy market, as well as analyse their performance, the following variables will be studied:

Customer Relationship Management (CRM) – CRM is a tool that allows aggregating and analysing customer data, with the purpose of generating superior value for the company and for customers. In addition, it is a process that involves the integration of marketing, sales, customer service and functions of the organizations supply chain, which allows to effectively monitor and understand the innate needs of customers, essential for their retention (Rathore et al. 2016).

In the operationalization and analysis of this variable, we followed Reimann et al. (2010), in which they measured CRM as a second-order construct of type IV: formative first-order (CRM initiation, CRM maintenance and CRM termination) and formative second-order.

Differentiation – With regard to this variable, there are two positioning strategies previously identified by Porter (1985) and that will be analysed in this study: differentiation and cost leadership. Regarding the differentiation strategy, as in the study by Reimann et al. (2010), four of the dimensions identified in different articles have been identified, such as communication differentiation (Boulding et al. 1994; Hill 1990), price differentiation (Hooley and Greenley 2005; Hupperich et al. 2018; Phillips 2020), distribution differentiation (Costanzo et al. 2003; Kotler and Keller 2012) and brand differentiation (Chaudhuri and Holbrook 2001; Smith and Park 1992; Li 2020). According to Hill (1990), communication differentiation can be understood as advertising and promotion actions, as they are essential marketing communication tools to deliver a

company's image and distinguishing message in relation to its competitors. Price differentiation corresponds to the strategy used by companies that determine the price of a product or service according to the needs of their potential customers (Hupperich et al. 2018). Typically, this differentiation strategy involves charging different prices to different customers for the same product or for partially different versions of that product (Phillips 2020). Distribution differentiation, according to Kotler and Keller (2012), consists of efficient and effective planning on the coverage, specialty and performance of a company's distribution channel, with the aim of making the purchase of a product easier, more enjoyable and rewarding. This type of strategy involves presenting mechanisms of distribution different from those of competitors (Costanzo et al. 2003). Finally, Berger and Heath (2007) state that when there is an identification between the customer and a brand, we are talking about brand differentiation. This type of differentiation capable of winning customers, covers cultural traditions and orientations of the brand itself, which become important factors responsible for evoking the psychological identity of people and, sometimes, acting as a symbol that remains in the minds of consumers (Li 2020).

Differentiation will be measured according to several indicators adapted from existing scales, used in the study Reimann et al. (2010). The respective authors used measures from the articles by Kotha and Vadlamani (1995) and Nayyar (1993) to assess the price and communication differentiation, from the article by Bienstock et al. (1997) to assess the distribution differentiation and articles by Chaudhuri and Holbrook (2001) and Davis and Schul (1993) to assess brand differentiation.

Cost Leadership – In the words of Baack and Boggs (2008), cost leadership is "the result of some extra efficiency in the cost structure in comparison to competitors". Also, according to Murray (1988), this efficiency can be created

from extra-beneficial access to distribution channels or resources or be consolidated in several economies in the production or distribution process, such as economies of scale, scope, marketing, among others.

This variable will be assessed according to the reflective measure used in the study Reimann et al. (2010) and according to an analysis of the percentage of costs per business volume of the different companies, calculated through information taken from the SABI database.

Although this study focuses essentially on the analysis of the industrial and small business segments, this variable was analysed as a whole, that is, taking into account the total operating costs of companies. From a competitive point of view, this analysis proves to be more relevant in the sense that, although the cost leadership strategy does not fully reflect the reality of the two segments under study, it is more advantageous for a company to present reduced total costs in its generality of the business, than just presenting reduced costs in a certain segment.

Performance – We followed the lead of Vorhies and Morgan (2005) as well as Schilke et al. (2009) and Reimann et al. (2010) in measuring firm performance as three different outcomes, such as, market share or market effectiveness, profitability and customer satisfaction.

Market share – through this outcome we are able to understand who are the winners and losers in a market (Day & Wensley 1988). However, if we only analyse this dimension, we will be carrying out a very simplistic analysis of a market, because in reality the competitive advantage occurs over the years and consists of other dimensions. Buzzell (1981) presents in his study an interpretation of market shares and their evolution.

Profitability – several studies argue that there is a relationship between a company's market share and profitability (Buzzell et al. 1975; Szymanski et al. 1993). This can be considered as the result obtained by a company after deducting all expenses incurred in a given period of time. Citing Day & Wensley (1988), profitability "is the reward from past advantages after the current outlays needed to sustain or enhance future advantages have been paid.". However, the interpretation of this outcome is considered complex due to the different approaches that this concept involves, namely, an accounting approach and a financial approach (Alberts and McTaggart 1984; Rappaport 1981).

Customer Satisfaction – according to Aggarwal and Kumar (2018), customer satisfaction is achieved when their expectations and perceptions regarding the purchase of a certain product or service are met or exceeded. There are two distinct points of view regarding the definition of customer satisfaction: a cognitive point of view that defines a customer's satisfaction as the evaluation that results from comparing the expectations and the customer's perception of the value of a product or service provided (Spreng and Olshavsky 1993; Anderson and Sullivan 1993); and an emotional point of view that defines customer satisfaction as a positive emotional state that resulted from a good consumption experience (Bagozzi et al., 1999; Oliver 1997; Liljander and Strandvik 1997).

The value curve tool used in this study allows, in turn, to study the cognitive point of view of customers, as it indicates the attributes they most value in a given product or service.

In this study each of the concepts associated with performance was measured using three items based on Vorhies and Morgan (2005), applied in the study Reimann et al. (2010). In addition, an analysis of the return on sales (ROS) was

carried out using data taken from the SABI database and also an analysis of customer satisfaction, which they themselves evaluated in the survey applied to business customers, in order to study effectively the two variables associated with performance.

4.4 Estimation Procedure

To analyse the relationship between CRM, positioning strategies and performance in the four largest companies in the electricity sector in Portugal, the respective hypotheses were tested according to a cross-sectional exploratory analysis. In the global characterization of the sample, the numerical variables are summarized through the mean, standard deviation (SD), maximum and minimum.

Although there is a variety of statistical tests that verify the fit of data to the normal distribution based on different assumptions and algorithms, there is an influence of the sample size on their efficiency. In the case of small samples, as can be seen in this specific study, the Shapiro-Wilk or Shapiro-Francia tests prove to be the most appropriate for analysis (greater specificity).

Therefore, to verify the existence of relationships between the variables, the Shapiro-Wilk normality test was performed and, subsequently, a Spearman correlation analysis was presented. The hypotheses were considered statistically significant if test values (p-value) were less than 0.05. Statistical analysis was performed using IBM SPSS software version 27.

It is important to reinforce what was mentioned above, namely, that in the development of this study the main objective was not to "test" the respective hypotheses, but only to discuss them according to an extraction of market information.

In order to map the value curve of the small business and industrial segment of the energy sector, the surveyed customers were asked to place the attributes

previously studied in relation to the assessment of service quality in order of preference (Barron and Barrett 1996; Stillwell et al. 1981). Although there are studies that contradict the effectiveness of this question format (Ovadia 2004), according to Revilla and Couper (2018) it proves to be very attractive because it allows to obtain different information in just a single question.

The method used to analyse the responses to this question and subsequently draw up the value curve, was to calculate the average of each of the attributes of the services provided by energy companies for all respondents. In order to obtain a more complete analysis, an evaluation of the differences in the value curves will be carried out according to the change from the regularized market to the liberalized market, customer satisfaction, the duration of the provision of services and invoicing volume. It is important to mention that the duration of the provision of services was differentiated between remaining loyal for at least the last 15 years or not, given that 2006 refers to the moment when negotiations and the different phases of the process for liberalization of the energy market in Portugal ended.

Chapter 5
Results and Discussion

The main objective of this study, as previously mentioned, was to study the relationship between CRM, business strategies and the performance of the four largest electricity companies in the Portuguese market, in the small business segment and in the industrial segment. However, due to certain limitations inherent in the current context, it was only possible to study the intended relationship in the EDP Comercial company. Once again, it is important to refer that in this study the main objective was not to "test" the respective hypotheses, but only to discuss them according to an extraction of market information, namely, through a questionnaire applied to managers and business customers in the industrial and small business segments and also through market data.

That said, the hypotheses that will be studied are:

H1: There is a relationship between the EDP Comercial's CRM and its differentiation strategy in the liberalized electricity market in Portugal.

H2: There is a relationship between the EDP Comercial's CRM and its cost leadership strategy in the liberalized electricity market in Portugal.

H3: There is a relationship between the EDP Comercial's differentiation strategy and its performance in the liberalized electricity market in Portugal.

H4: There is a relationship between the EDP Comercial's cost leadership strategy and its performance in the liberalized electricity market in Portugal.

H5: There is a relationship between the EDP Comercial's CRM and its performance in the liberalized electricity market in Portugal.

As has been mentioned, this study is essentially based on the article Reimann et al. (2010) to analyse the relationship between the variables under study. That said and adapted from the model created in the respective article, the relationships to be analysed in this study are presented below in schematic format (Figure 4).
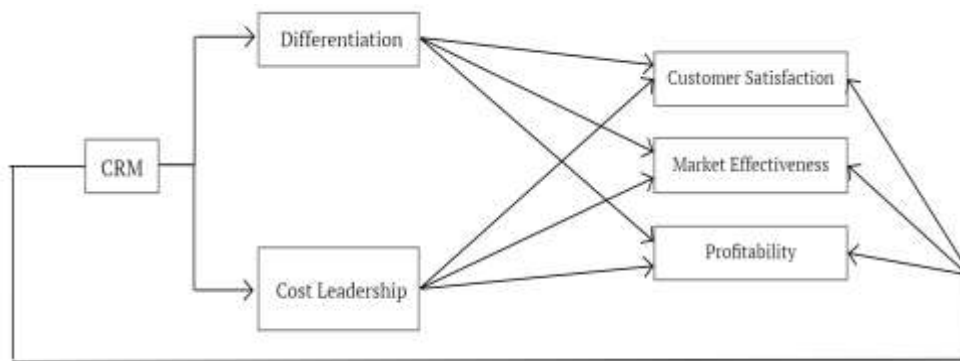

Figure 3: Adaptation of the model created in the study by Reimann et al. (2010)

5.1 Results of the survey carried out for managers

In order to better analyse and expose the answers of the three interviewed managers, a summary table with the valuations attributed by them to each question will be presented below.

Variables	Questions		1	2	3	Average
		We have a formal system for identifying potential customers.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We have a formal system for identifying which of the potential customers are more valuable.	(5) Totally Agree	(5) Totally Agree	(4) Partially Agree	4,67
		We use data from external sources for identifying potential high value customers.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We have a formal system in place that facilitates the continuous evaluation of prospects.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
		We have a system in place to determine the cost of reestablishing a relationship with a lost customer.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
CRM Initiation	Q1. To what extent do you agree with the following statements?	We have a systematic process for assessing the value of past customers with whom we no longer have a relationship.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We made attempts to attract prospects in order to coordinate messages across media channels.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We have a formal system in place that differentiates targeting of our communications based on the prospect's value.	(5) Totally Agree	(5) Totally Agree	(4) Partially Agree	4,67
		We systematically present different offers to prospects based on the prospects' economic value.	(4) Partially Agree	(5) Totally Agree	(5) Totally Agree	4,67
		We have a systematic process/approach to reestablish relationships with valuable customers who have been lost to competitors.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We have a system in place to be able to interact with lost customers.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00

Variables	Questions		1	2	3	Average
CRM Maintenance	Q2. To what extent do you agree with the following statements?	We have a formal system for determining which of our current customers are of the highest value.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We continuously track customer information in order to assess customer value.	(4) Partially Agree	(5) Totally Agree	(5) Totally Agree	4,67
		We actively attempt to determine the costs of retaining customers.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We track the status of the relationship during the entire customer life cycle (relationship maturity).	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We maintain an interactive two-way communication with our customers.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We actively stress customer loyalty or retention programs.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
		We are structured to optimally respond to groups of customers with different values.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We systematically attempt to customize products/services based on the value of the customer.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We systematically attempt to manage the expectations of high value customers.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We attempt to build long-term relationships with our high-value customers.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
		We provide individualized incentives for valuable customers if they intensify their business with us.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
CRM Termination	Q3. To what extent do you agree with the following statements?	We have a formal system for identifying non-profitable or lower-value customers.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We have a formal policy or procedure for actively discontinuing relationships with low-value or problem customers (e.g., canceling customer accounts).	(4) Partially Agree	(3) Neither agree nor disagree	(4) Partially Agree	3,67
		We try to passively discontinue relationships with low-value or problem customers (e.g., raising basic service fees).	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
Communication Differentiation	Q11. Comparing EDP Comercial with its major competitors, to what extent do you agree with the following statements?	We make greater efforts than our competitors to enhance the quality of our sales promotion.	(3) Neither agree nor disagree	(4) Partially Agree	(3) Neither agree nor disagree	3,33
		We make use of innovative promotional methods.	(3) Neither agree nor disagree	(4) Partially Agree	(3) Neither agree nor disagree	3,33
		Our promotional activities aim at emphasizing our distinctiveness from competition.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
Price Differentiation	Q11. Comparing EDP Comercial with its major competitors, to what extent do you agree with the following statements?	Our pricing strategy targets segments that are different from our competitors.	(2) Partially Disagree	(2) Partially Disagree	(2) Partially Disagree	2,00
		Our customers view our pricing as distinct from our competition.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		Our products target high-priced segments.	(2) Partially Disagree	(2) Partially Disagree	(2) Partially Disagree	2,00
Distribution Differentiation	Q11. Comparing EDP Comercial with its major competitors, to what extent do you agree with the following statements?	We are highly selective in our choice of channel supply partners.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		Compared to our competition, our approach to distribution is more selective.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		We pursue a differentiation strategy by place.	(2) Partially Disagree	(2) Partially Disagree	(2) Partially Disagree	2,00
Brand Differentiation	Q11. Comparing EDP Comercial with its major competitors, to what extent do you agree with the following statements?	Customers can easily recall our brand.	(5) Concordo Totalmente	(5) Totally Agree	(4) Concordo Parcialmente	4,67
		Our brand is different from all other brands in terms of actual product attributes (features that can be physically identified).	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		Our brand is different from all other brands in terms of overall perceived quality (incl. non-tangible, psychological perceptions of the customer).	(5) Totally Agree	(5) Totally Agree	(5) Totally Agree	5,00
		We pursue a differentiation strategy by branding.	(5) Totally Agree	(5) Totally Agree	(5) Totally Agree	5,00
Cost Leadership	Q12. Comparing EDP Comercial with its major competitors, to what extent do you agree with the following statements?	We continuously improve our processes in order to keep cost low.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
		We are constantly improving our operating efficiency.	(4) Partially Agree	(5) Totally Agree	(4) Partially Agree	4,33
		Our manufacturing costs are lower than our competitors'.	(3) Neither agree nor disagree	(3) Neither agree nor disagree	(3) Neither agree nor disagree	3,00
		Our economy of scale enables us to achieve a cost advantage.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
		We have achieved a cost-leadership position in the industry.	(4) Partially Agree	(4) Partially Agree	(4) Partially Agree	4,00
Customer Satisfaction	Q13. Please evaluate the customer satisfaction of the EDP Comercial company over the past year relative to its major competitors (1 - extremely dissatisfied and 5 - extremely satisfied).	Customer satisfaction	4	4	4	4,00
		Delivering value to our customers	4	4	4	4,00
		Delivering what our customers want	4	4	4	4,00
		Retaining valued customers	4	4	4	4,00
Market Effectiveness	Q14. Please evaluate the market effectiveness of the EDP Comercial business over the past year relative to its major competitors.	Market share growth	(3) Average	(4) Partially Above Average	(3) Average	3,33
		Growth in sales revenue	(3) Average	(3) Average	(3) Average	3,00
		Acquiring new customers	(3) Average	(3) Average	(3) Average	3,00
		Increasing sales to existing customers	(4) Partially Above Average	(4) Partially Above Average	(4) Partially Above Average	4,00
Profitability	Q15. Please evaluate the profitability of the EDP Comercial company over the past year relative to its major competitors.	Business unit profitability	(3) Approximately the same	(3) Approximately the same	(3) Approximately the same	3,00
		Reaching financial goals	(3) Approximately the same	(4) Partially better	(4) Partially better	3,67
		Return on investment (ROI)	(3) Approximately the same	(3) Approximately the same	(3) Approximately the same	3,00
		Return on sales (ROS)	(3) Approximately the same	(3) Approximately the same	(3) Approximately the same	3,00

Table 4: Summary table of respondent managers' answers

We can see through the summary table that all managers use the Likert scale present in the questions in a different way, with no homogeneity of the scale reported by the same manager.

It is important to mention that although only three answers were obtained from three different EDP Comercial managers, respondents have full knowledge of the company's CRM, reflecting its reality in the best way possible.

To summarize all the information and make data analysis accessible, Table 5 and Figure 5 were created, summarizing in a simplified way the information present in the managers' responses.

	N	Minimum	Maximum	Mean	Std. Deviation
CRM Initiation	3,00	4,00	4,36	4,15	0,19
CRM Maintenance	3,00	3,73	3,91	3,82	0,09
CRM Termination	3,00	3,00	3,33	3,22	0,19
Communication Differentiation	3,00	3,33	4,00	3,56	0,38
Price Differentiation	3,00	2,33	2,67	2,56	0,19
Distribution Differentiation	3,00	3,00	3,00	3,00	0,00
Brand Differentiation	3,00	4,50	4,75	4,67	0,14
Cost Leadership	3,00	3,80	4,20	3,93	0,23
Customer Satisfaction	3,00	4,00	4,00	4,00	0,00
Profitability	3,00	3,00	3,25	3,17	0,14
Market Effectiveness	3,00	3,25	3,50	3,33	0,14

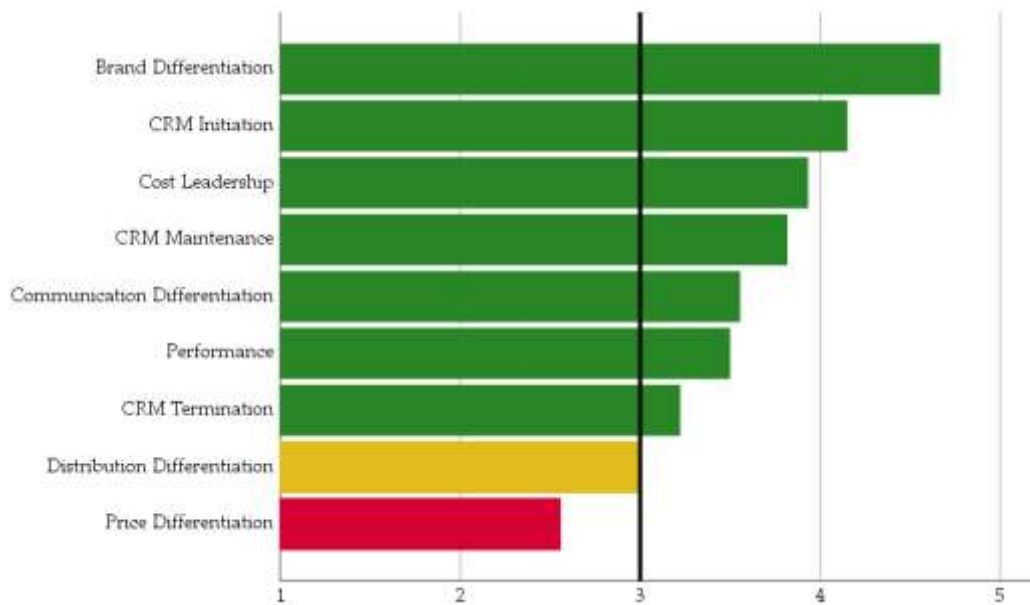**Table 5:** Descriptive analysis of the different variables

Figure 4: Average valuation of each variable

Through the analysis of Table 4 and 5 and Figure 4, we can see that the variables that obtained the highest valuation according to the managers' perspective were the brand differentiation, the customer satisfaction, the CRM initiation and maintenance, the cost leadership strategy and the communication differentiation. In turn, the distribution differentiation variable showed a neutral appreciation, while the price differentiation presented a negative valuation, that is, below 2 (partially disagree). It is important to note that there are no missing values in this sample.

In addition, we can see that, according to the three managers surveyed, there is a predominance in the positive valuation of brand differentiation, cost leadership and communication differentiation. However, although it is possible to observe the significant appreciation of the cost leadership strategy, it can also be seen that it has a high standard deviation. That said, it is evident that the respective variable has less consensus among the interviewed managers. Therefore, we can conclude that the brand differentiation and the communication differentiation are possibly the main business strategies implemented by EDP Comercial in the segments under study.

According to Norman and Streiner (2008), in order to have an adequate description and analysis of a sample, it is essentially necessary to carry out an assessment of the normality of data distribution.

As previously mentioned in section 4.4, the Shapiro-Wilk normality test was implemented in this study, which proves to be the procedure with greater specificity for small-sized samples. In this test, similar to the others, it is assumed that there is a hypothesis of normality of the data (H0), returning a p-value > 0.05 if they result in adherence to the normality parameters.

After performing the normality test, it was possible to differentiate the variables that had a normal distribution (CRM initiation, CRM maintenance and differentiation and performance in its general) and those that did not have a

normal distribution. Since the vast majority of variables did not show a normal distribution, an analysis of Spearman correlations was performed (Table 6).

Analysing Table 6, we can see that there is an inversely proportional relationship between the CRM in their global and the CRM termination, between communication differentiation and CRM termination, between price differentiation and CRM Global, between price differentiation and communication differentiation, between the variable cost leadership and CRM termination, between cost leadership and price differentiation and, finally, between market effectiveness and CRM Termination and price differentiation variables. This means that when there is a change in one of the variables, the one associated with it reacts in the opposite direction. For example, when there is a greater appreciation of communication differentiation, there is a lower appreciation of price differentiation.

On the contrary, data from the 3 respondents indicate that there may be a directly proportional relationship between the communication differentiation variables and CRM in its global, between price differentiation and CRM termination, between the variable relative to the totality of differentiation strategies and CRM initiation, between cost leadership and Global CRM and communication differentiation variables and, finally, between market effectiveness and CRM in its global and communication differentiation variables. This means that when a variable is positively affected, it has a positive influence on the associated variable and the other way around. Distribution differentiation and customer satisfaction have no correlation because they are constant variables.

Analysing the p-value of the variable relative to CRM in its global, we can verify that there is possibly a strong correlation between this variable and the cost leadership strategy and also, possibly there is a strong correlation between the CRM and the differentiation strategy in its overall and market effectiveness.

Although there is possibly a relationship between CRM and cost leadership strategy, since p-value < 0.05, we cannot say with certainty that there is this same relationship between CRM and differentiation strategy and the performance variables. In this case, as p value > 0.05 we cannot reject H0, which indicates towards the non-existence of a relationship between the variables.

Due to the small sample size (only 3 responses), no further statistical analysis was performed.

Table 6: Spearman's correlation matrix

		CRM Initiation	CRM Maintenance	CRM Termination	CRM Global	Communication Differentiation	Price Differentiation	Distribution Differentiation	Brand Differentiation	Differentiation Global	Cost Leadership	Customer Satisfaction	Market Effectiveness	Profitability
CRM Initiation	Correlation Coefficient	-												
	Sig. (2-tailed)													
CRM Maintenance	Correlation Coefficient	0,500	-											
	Sig. (2-tailed)	0,667												
CRM Termination	Correlation Coefficient	-0,866	-0,866	-										
	Sig. (2-tailed)	0,333	0,333											
CRM Global	Correlation Coefficient	0,866	0,866	-1,000	-									
	Sig. (2-tailed)	0,333	0,333	0,000										
Communication Differentiation	Correlation Coefficient	0,866	0,866	-1,000	1,000	-								
	Sig. (2-tailed)	0,333	0,333	0,000	0,000									
Price Differentiation	Correlation Coefficient	-0,866	-0,866	1,000	-1,000	-1,000	-							
	Sig. (2-tailed)	0,333	0,333	0,000	0,000	0,000								
Distribution Differentiation	Correlation Coefficient													
	Sig. (2-tailed)													
Brand Differentiation	Correlation Coefficient	0,866	0,000	-0,500	0,500	0,500	-0,500		-					
	Sig. (2-tailed)	0,333	1,000	0,667	0,667	0,667	0,667							
Differentiation Global	Correlation Coefficient	1,000	0,500	-0,866	0,866	0,866	-0,866		0,866	-				
	Sig. (2-tailed)	0,000	0,667	0,333	0,333	0,333	0,333		0,333					
Cost Leadership	Correlation Coefficient	0,866	0,866	-1,000	1,000	1,000	-1,000		0,500	0,866	-			
	Sig. (2-tailed)	0,333	0,333	0,000	0,000	0,000	0,000		0,667	0,333				
Customer Satisfaction	Correlation Coefficient													
	Sig. (2-tailed)													
Profitability	Correlation Coefficient	0,000	0,866	-0,500	0,500	0,500	-0,500		-0,500	0,000	0,500		0,500	-
	Sig. (2-tailed)	1,000	0,333	0,667	0,667	0,667	0,667		0,667	1,000	0,667		0,667	
Market Effectiveness	Correlation Coefficient	0,866	0,866	-1,000	1,000	1,000	-1,000		0,500	0,866	1,000		-	
	Sig. (2-tailed)	0,333	0,333	0,000	0,000	0,000	0,000		0,667	0,333	0,000			

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

5.2 Perception of value by customers

The delivery of a better combination of the attributes valued by customers in relation to a product or service, allows companies to offer a better value to the market compared to their competitors, thus promoting a sustainable competitive advantage (Ulaga & Chacour 2001).

That said, the different value curves will be presented and to facilitate the presentation of the data obtained on the parameters valued by customers, the information of each segment will be presented separately. It is important to note that the value curves according to the invoicing volume will not be presented because, given that they did not show any differentiation pattern for the categories that were presented.

5.2.1 Industrial Segment

The horizontal axis of the strategy canvas is composed of parameters or attributes that are related to the evaluation of an energy service and that are valued by customers. In contrast, the vertical axis represents the relative performance of each parameter, which can be increased or reduced.

That said, we can verify in Figure 5 that, in general, the parameter considered as primordial in the evaluation of a service and selection of an energy trading company is the price factor, which is curiously contrary to the perception presented by managers in section 5.1. Endesa's customers are those who most value this factor to the detriment of the rest.

Only Iberdrola's customers considered the added value of services related to renewable energy as the main parameter to be valued, followed by the price factor. In addition, it should be noted that the customers of this same company are those who most value corporate values, namely, the social and environmental commitment of an energy company.

In addition to this, Galp's customers, despite being the ones who least value the performance of the company, are those who most value the quality of service and trust in the brand and its service. On the other hand, EDP Comercial's customers are the ones who most value the appealing and easy to understand equipment and are position the trust in the company and its service attribute second in importance. These results may be related to the fact that the EDP company is already known to older consumers who previously only had this company as a choice in the regularized market and are already used to its service and equipment.
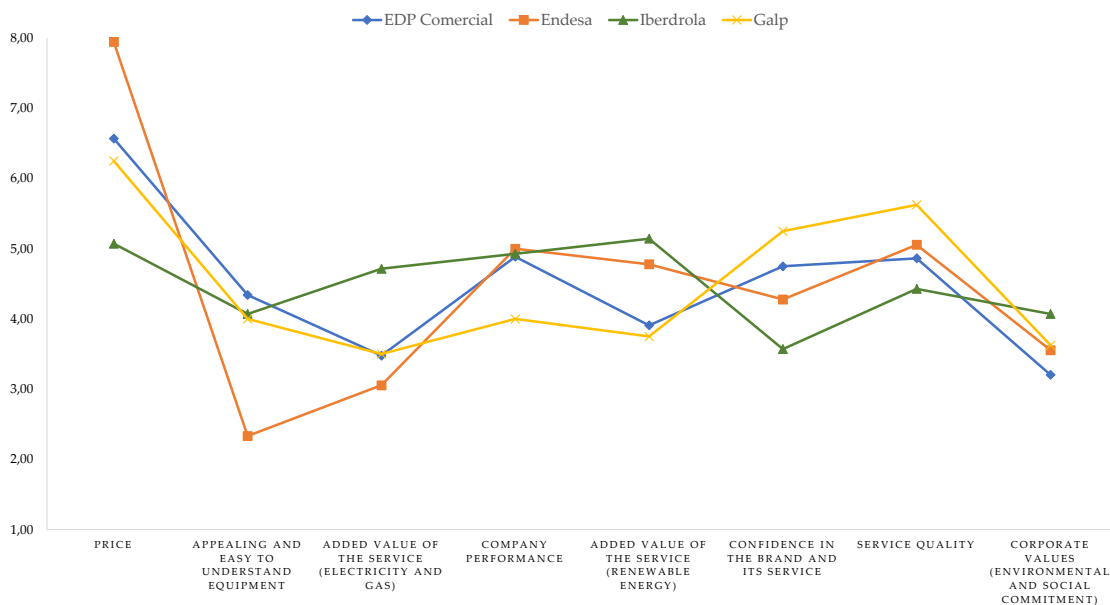

Figure 5: Value Curve of the four biggest energy companies in Portuguese Electricity Market – Industry Segment

It is important to mention that the value curves according to the change of supplier from the regularized market to the free market and according to the duration of the service provision are presented comparing only the EDP and the others, since the companies that compete with the EDP Comercial in the liberalized market have only had customers for less than 15 years. Thus, and in order to highlight the differences between the parameters valued by these

customers, all the averages of the 5 competing companies were considered together.

Through Figure 6, we can see that price is the parameter most valued by both types of customers: those who remained in the EDP company when they switched to the liberalized market and those who opted for another competing company. This appears to be the main reason for the change from the regularized market to the liberalized market.
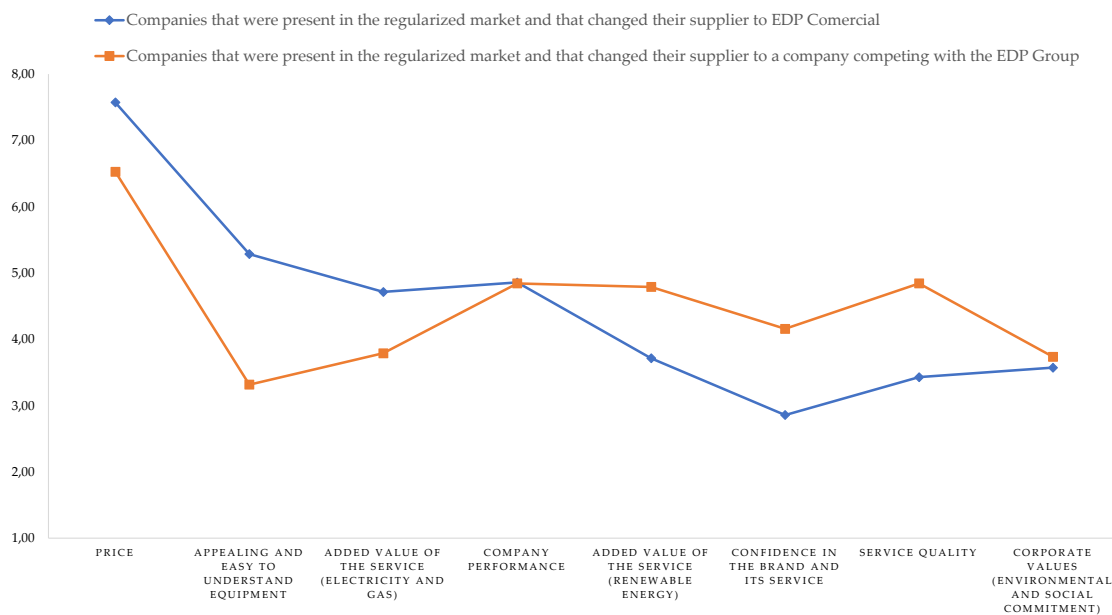

Figure 6: Value Curve according to the change of supplier on entering the liberalized market – Industrial Segment

In addition to this, we can once again observe that one of the parameters most valued by customers who remained in the EDP company when they switched from the regularized market to the liberalized market, is the appealing and easy to understand equipment. As previously mentioned, this may be due to the fact that customers have already experienced the company's service and, therefore, are used to its performance and equipment. Conversely, customers who opted for a company competing with the EDP Group when they switched to the liberalized market, essentially value more than the quality of service, confidence

in the brand, parameters that may have affected the choice of another electricity supplier.

It can be seen that the curves intersect at a given point (company performance attribute), which indicates that there is clearly a distinct positioning in a given set of attributes, namely, to the left and right of the intersection. This is in line with the blue ocean strategy which states that business success is about creating unique and innovative growth opportunities in new market spaces. Through Figure 6, we can see which of the dimensions that add value to the market companies are investing and focusing on, as there is an evident gap between appealing equipment, service quality and trust in the brand and its service.

Regarding the value curves according to the duration of the service provision (Figure 7 and 8), we can see that customers who have been supplied for less than 15 years by both EDP and other companies competing in the liberalized market, value the price factor. It is clear that there are two parameters that stand out to customers that have been provided by EDP Comercial for less than 15 years, they are the company's performance and trust in the brand and its service.

Figure 7: Value Curve according to the duration of service provision (< 15 years) – Industry Segment

These results may be associated with the historical evolution of the company itself. In contrast, companies that have been supplied for less than 15 years by competing companies, value the service quality more.

Figure 8, contrary to what happened in Figure 7, shows a reduced difference between the valuation of the different attributes. This indicates that there is, from the perspective of the most "recent" customer in the liberalized market, a reduced differential positioning between companies.

Through Figure 8, we can conclude that there are only EDP Comercial customers in the sample that have been supplied for more than 15 years. These, in turn, value the price, the appealing and easy to understand equipment and the confidence in the brand and its service.

It is important to remember that customers were differentiated between remaining loyal for at least the last 15 years, or not given that 2006 refers to the moment when negotiations and the different phases of the process for liberalization of the energy market in Portugal ended. Thus, this date, represents the moment when barriers to competition were dropped and a new competitive market was created.
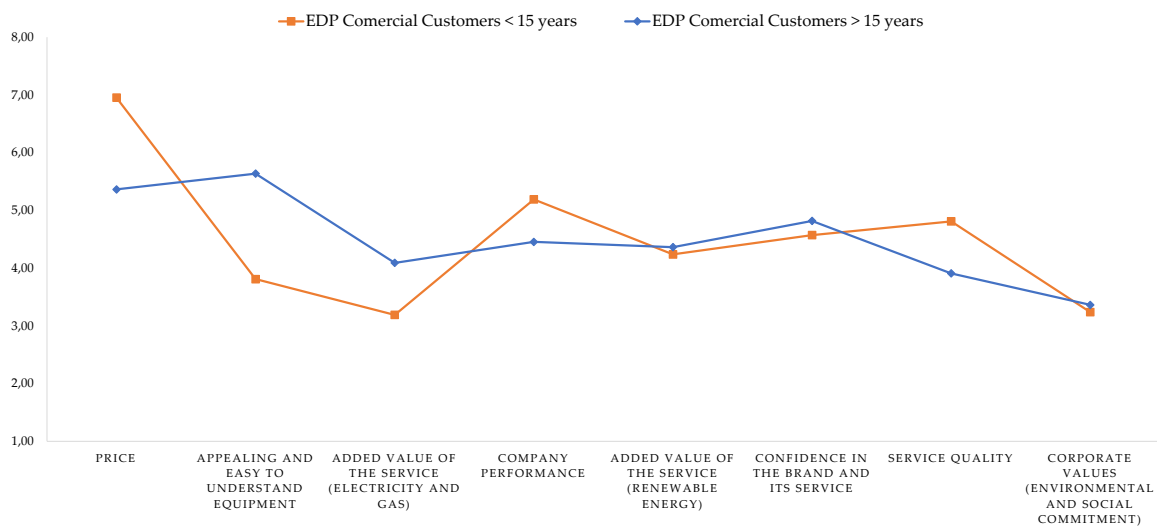

Figure 8: Value Curve according to the duration of service provision (> 15 years) – Industry Segment

We can see in Figure 8 that there is a difference in the valuation of distinct attributes by older (> 15 years) and newer (< 15 years) customers of the EDP Comercial company. Newer customers essentially value the price, the company's performance and the quality of its service, while older customers value the appealing and easy-to-understand equipment, as well as the trust in the brand and its service and the added value of the same.

In addition, we can see that there is a large discrepancy between the price and appealing equipment parameters, and, combining this information with Figure 7 it is clear that the most "recent" customers in the liberalized market have a greater appreciation of the price attribute, compared to older customers who experienced the EDP company's services in the regularized market.

The value curves presented in Figures 9 and 10 were drawn according to customer satisfaction and it is important to mention that customers who rated the service provided by their current supplier below 3 values were considered dissatisfied, and those who rated above 3 values were considered satisfied.

When we analyse both value curves, we realize that the factor responsible for the contentment and discontent of customers present in the liberalized market is essentially the price parameter.

Regarding EDP Comercial's customers, it is clear that customer satisfaction is essentially in the price, as there is a large discrepancy between the values obtained in the different parameters in comparison with the same (Fig. 10). On the contrary, we were able to observe through Figure 9 that EDP Comercial customers who are dissatisfied with the service provided by the company, despite valuing more, among all the attributes, the price parameter, this does not present a significant difference as seen in the value curve of satisfied customers (Figure 10). Attributes such as company performance and service quality have more important positions, standing out as being, like price, the parameters most valued by customers dissatisfied with the service.
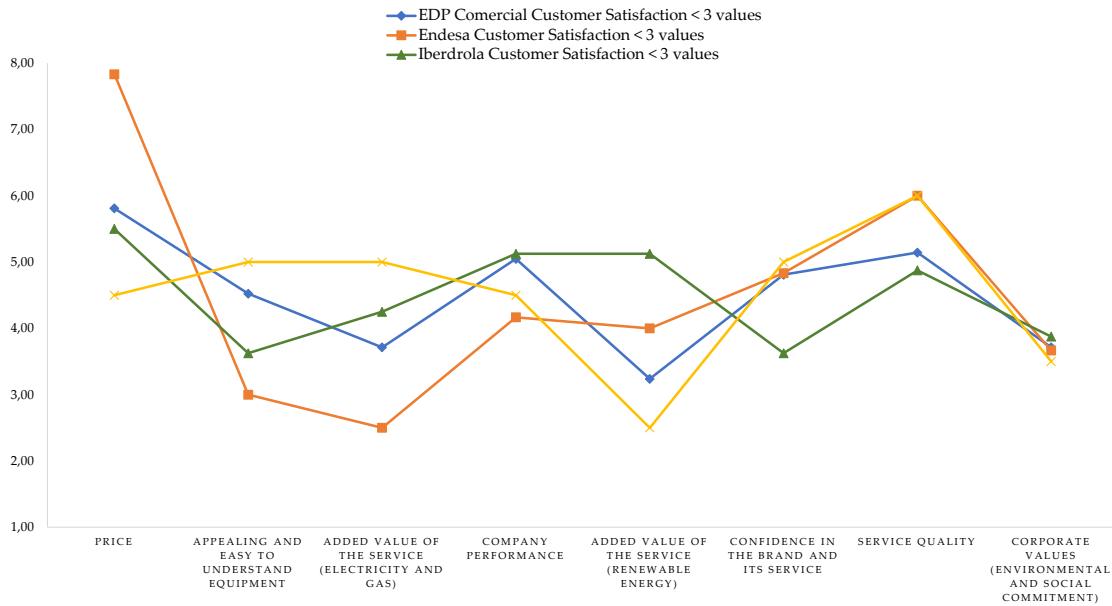
Figure 9: Value Curve according to the degree of customer satisfaction (< 3 values) – Industrial
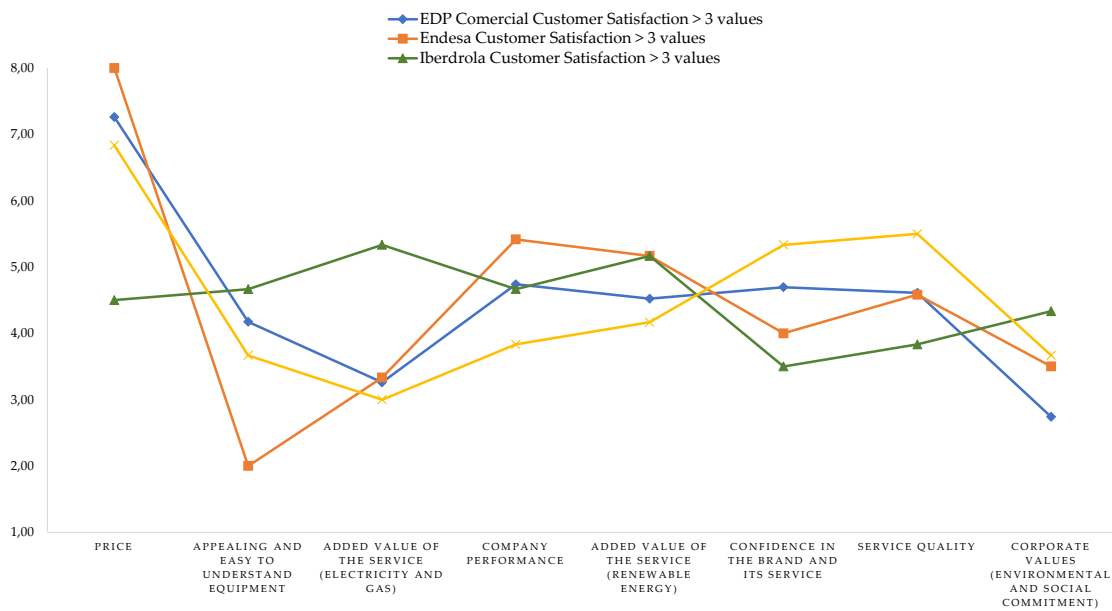
Segment

Figure 10: Value Curve according to the degree of customer satisfaction (> 3 values) –

Industrial Segment

In turn, the main attribute valued by Endesa's customers who are dissatisfied
and satisfied with the current service provided is price. Those who are
dissatisfied with the service fundamentally value the price, service quality and

confidence in the brand and its service parameters. In contrast, those who are satisfied value the price, the company's performance and the added value of services in relation to renewable energy. That said, it is easy to conclude that the key parameter for customer satisfaction and dissatisfaction is price, highlighting the importance of the service quality in dissatisfied customers and the company's performance in satisfied customers.

Regarding to Iberdrola's customers, we can see in Figure 9 that the parameters that dissatisfied customers value are the price, the company's performance and the added value of the service in relation to renewable energy. The price parameter in this group of customers does not assume any significant weight, as we can see in the respective figure, the difference between the value of this parameter and the others does not present a relevant difference. In turn, Iberdrola customers who are satisfied with the current service provided, fundamentally value the parameters related to the added value of the service.

Concerning to the Galp company, the main parameter valued by customers who are dissatisfied with the current service provided by the company, is the service quality followed by confidence in the brand and its service. In contrast, customers who are satisfied, mainly value the price, service quality and confidence in the brand and its service parameters. The price attribute presents a relevant difference compared to the other attributes, standing out as being the main responsible for the satisfaction of the company's customers.

5.2.2 Small Business Segment

With regard to the small business segment and analysing the value curves shown in Figure 11, Iberdrola and Galp's customers are those who most value the price parameter. Although this parameter in general constitutes a significant position, Endesa's customers consider the added value of services in relation to renewable energy as the main parameter, following the company's performance.

In addition, it is also important to highlight the appreciation of the parameter related to renewable energy by Galp's customers, as well as the appreciation of corporate values regarding the company's social and environmental commitment.

The EDP Comercial customers are the ones that present a greater appreciation in relation to the parameters of trust in the brand and its service, as well as the quality of service. Curiously, we can find here a similarity with the answers given by the EDP Comercial managers in section 5.1, as there is no great appreciation of the price attribute.
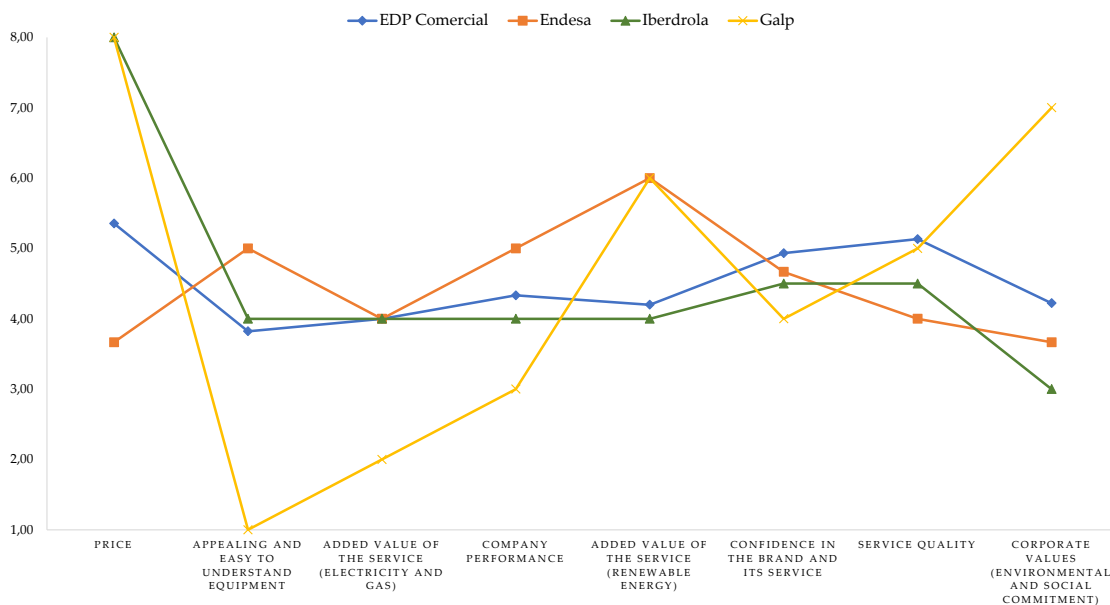

Figure 11: Value Curve of the four biggest energy companies in Portuguese Electricity Market – Small Business Segment

As in the industrial segment, the value curves according to the change from the regularized market to the liberalized market and according to the duration of the provision of services, will be presented according to a comparison between the EDP Comercial and the set of the remaining three competing companies, for the reasons explained above. Also, given the small sample size for the small business segment, the value curves related to the different degrees of customer

satisfaction will be presented in the same format in order to better transmit and analyse the information obtained.

Regarding the differences in the value curves according to the customers who changed from the regularized market to the liberalized market (Fig. 12), it is clear that in both segments the parameter most valued by customers who changed supplier and those who remained in the EDP company, is the price parameter. In addition to this, and as in the industrial segment, the parameter most valued after the price by customers who chose EDP Comercial in the liberalized market is confidence in the brand and its service.
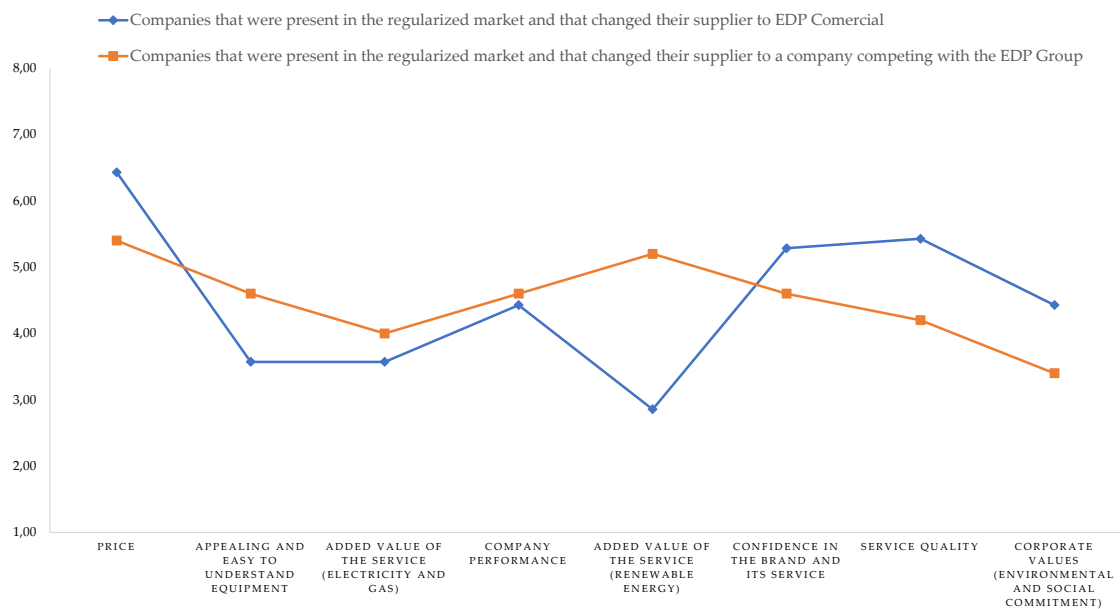

Figure 12: Value Curve according to the change of supplier on entering the liberalized market – Small Business Segment

On the contrary, customers who chose to change their electricity supplier when they switched to the liberalized market, essentially value the price attribute, the added value of the services in relation to renewable energy and the company's performance, which may be one of the factors influencing the change of supplier.

Although it is not as evident as in the industrial segment, we can see from Figure 12 that there is a different positioning of the companies, with EDP Comercial standing out from the customer's point of view for its price, quality of service, trust in the brand and its service and corporate values. Noticeably, we can find here a contrast with the perceptions presented by the managers in section 5.1, as according to them, the company does not implement price differentiation.

Regarding the value curves according to the duration of the services provided shown in Figure 13 and 14, we can conclude that, as in the industrial segment, the parameter most valued by both customers is price. However, in this segment we can see from customers who have been provided by EDP Comercial for less than 15 years, a greater appreciation of the added value of services in relation to the integrated electricity and gas packages and the appealing and easy to understand equipment parameter.
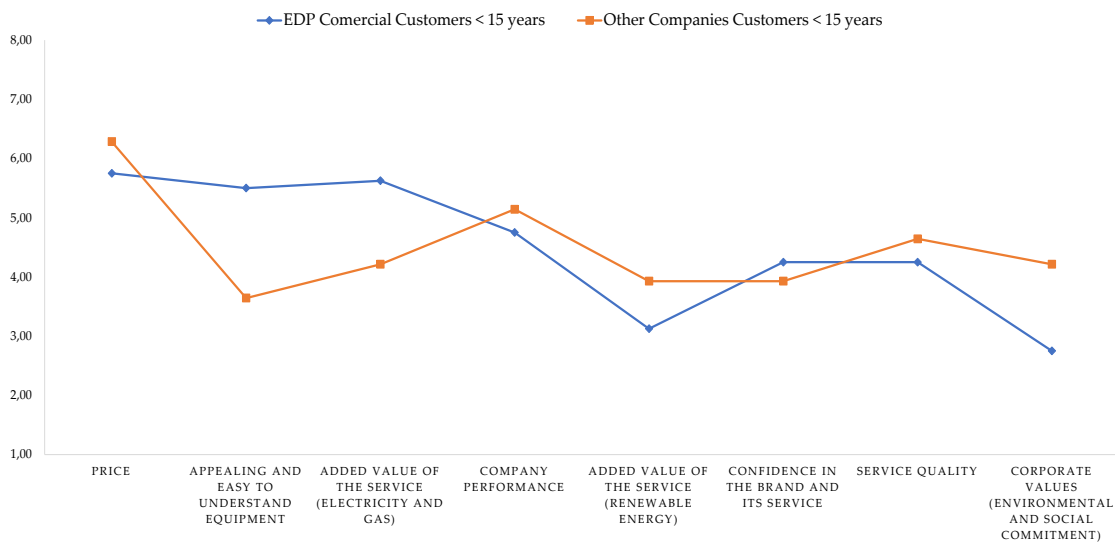

Figure 13: Value Curve according to the duration of service provision (< 15 years) – Small Business Segment

Conversely, customers who have been supplied by competing companies for less than 15 years attribute a greater appreciation to the company performance

parameter, service quality, corporate values and added value of services in relation to renewable energy.

In both samples, there are only customers of EDP Comercial that have been provided for more than 15 years. These, in turn, value the price parameter first, followed by the parameter trust in the brand and its service and in third place the corporate values.

From the perspective of customers who have been supplied for less than 15 years and for more than 15 years, there is a distinct positioning of the EDP Comercial company, as there is a difference to the left and right of the intersection of both value curves. This can be explained by the fact that customers who have been provided for more than 15 years have a different perspective of the service compared to more "recent" customers, as they have already been provided by the company in the regularized market.
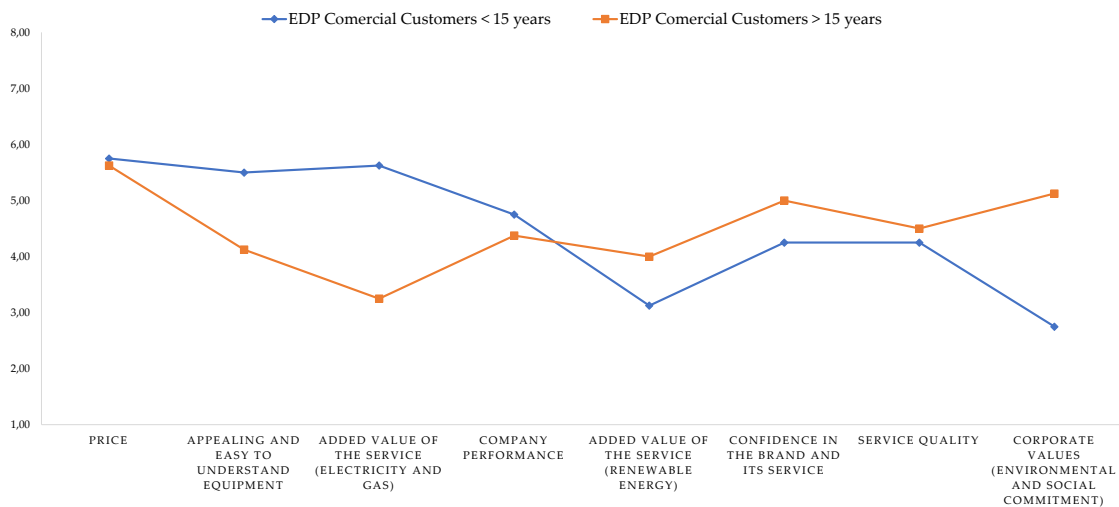

Figure 14: Value Curve according to the duration of service provision (> 15 years) – Small Business Segment

The value curves presented in Figures 15 and 16 were drawn according to customer satisfaction and, as in the industrial segment, customers who rated the

service provided by their current supplier below 3 values were considered dissatisfied, and those who rated above 3 values were considered satisfied.

Regarding the value curves in Figure 15 we can conclude that there is a greater appreciation of the price parameter by customers who are supplied by companies competing with the EDP Group and who are dissatisfied with their current service.
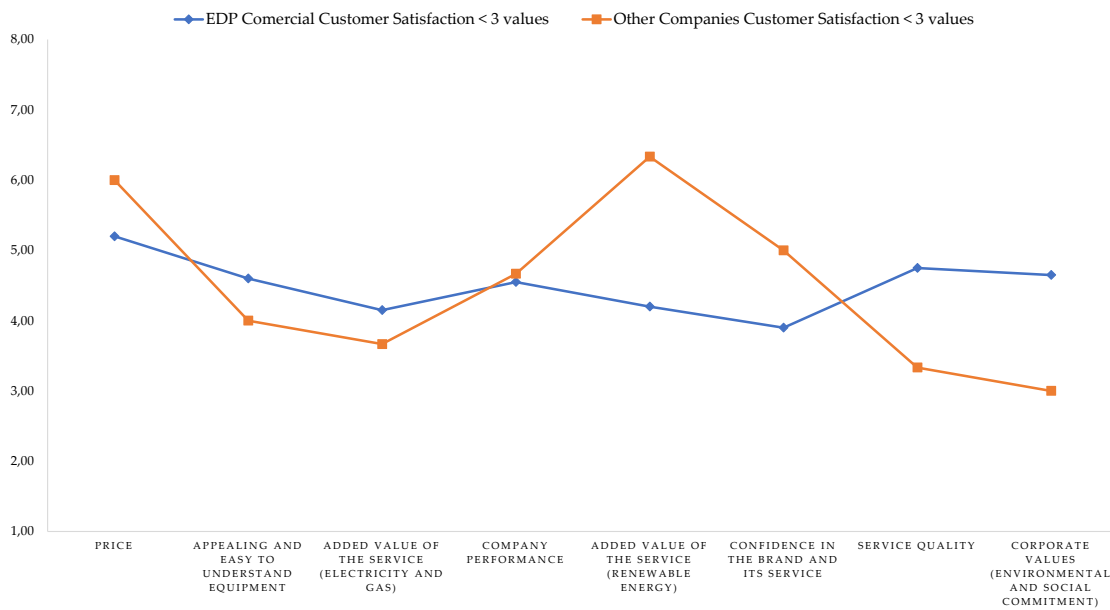

Figure 15: Value Curve according to the degree of customer satisfaction (< 3 values) – Small Business Segment

In addition, through Figure 15 we can see that there is a greater relevance attributed to the company's performance parameter by dissatisfied customers from competing companies. However, the dissatisfaction of EDP Comercial's customers in this segment is, in addition to the price, essentially related to the service quality and to the company's corporate values.

Figure 16: Value Curve according to the degree of customer satisfaction (> 3 values) – Small Business Segment

In turn, customers who are satisfied with the service provided by the EDP Comercial company demonstrate a greater appreciation of the parameter trust in the brand and its service, which is ahead of the price parameter. In contrast, customers who are satisfied with the current service provided by a company competing with EDP, value the price parameter first, followed by the service quality and company performance parameters.

It is important to emphasize that there is a small difference between most of the attributes valued by customers who are satisfied with the service provided by the EDP company and by competing companies, which indicates that, from the perspective of satisfied customers, there is a reduced distinctive positioning in the liberalized electricity market.

5.2.3 Comparison between segments

In summary, and comparing both segments, we can conclude that the parameter most valued by customers is price. Endesa's customers are the ones

that most value this attribute in the industrial segment, however, in the small business segment, they are the only customers that did not consider price as the main parameter, placing the added value of services (renewable energy) as a primary factor.

The customers of EDP Comercial, in both segments, are those who most value the parameter trust in the brand and its service. This is in line with the perspective of the different EDP Comercial managers who indicated brand differentiation as the company's main strategy. The fact that the company has been operating in the energy market in Portugal for a longer time, having previously been a monopoly in the regularized market, allows it to create a feeling of trust in the brand and in its service that seems to be valued by the company's customers.

Furthermore, despite the fact that in the industrial segment price is the attribute most valued by EDP Comercial customers, contrasting with the perspective of the company's managers, in the small business segment the perspectives of both sides are similar. This can be explained by the fact that the number of customers in the small business segment in the energy market is higher than in the industrial segment and, for that reason, there is a greater focus on it.

Analysing both segments in relation to customers who switched from the regularized market to the liberalized market for a company competing with the EDP Group, we can conclude that the most valued parameter is price. Thus, it is perceived that possibly the driving factor for the change in the trader in the switch from the regularized market to the liberalized market, is essentially due to the price.

Furthermore, we can see in the different segments that there is a discrepancy between some attributes in the different value curves, indicating that there is clearly a differentiated positioning from the customer's perspective in a given set

of attributes. This, in turn, meets the concept of "Blue Oceans" created by authors Kim and Mauborgne (2004, 2005), which portrays innovative market spaces unexplored by the competition.

Combining the information from the value curves according to supplier changes in the liberalized market with the value curves according to the duration of service provision, we can see that, from the perspective of customers in the different segments, there is a pricing policy on the part of companies in the market. This pricing policy is carried out by EDP Comercial to loyal customers, that is, those who have been with the company for over 15 years and who did not change their supplier when they moved from the regularized market to the free market, and the other companies practice this policy to customers who "stole" from the ex-monopolist company.

That said, it is possible to justify that the competitive advantage of EDP Comercial can be sustained by the loyalty of customers who remained with the company in the change from the regularized market to the free market, that is, who come from a monopoly situation.

Regarding the value curves according to the duration of service provision, what distinguishes both segments is the difference in the valuation of attributes by more "recent" and "old" customers in the liberalized market. In the industrial segment, there is a small "gap" between the attributes, indicating that, according to the customers' perspective, there is no distinct position among the four largest companies in the liberalized electricity market in Portugal.

In turn, in the small business segment, the difference between the attributes is not as small as in the industrial segment, with a slight difference between the positioning of companies from the perspective of the "oldest" and "newest" customers in the liberalized market. This difference is essentially present in the attributes of appealing and easy-to-understand equipment, the added value of services related to the joint light and gas packages and corporate values.

Regarding the degree of customer satisfaction, we can conclude that the price attribute is the most valued by customers of the companies Endesa, EDP Comercial and Iberdrola, in the industrial segment, who are dissatisfied with their current service provided. The same is true in the small business segment with customers who are dissatisfied with the service provided by EDP Comercial.

In the industrial segment, Galp's customers who are dissatisfied with the service provided, essentially value the service quality parameter. In turn, in the small business segment, customers of companies competing with the EDP Group that negatively assessed the current service provided, essentially value the parameter of the company's added value in relation to renewable energies, followed by the price attribute.

Also, in the industrial segment, customers of the Endesa, EDP Comercial and Galp who are satisfied with the service provided fundamentally value the price parameter, while customers of the company Iberdrola value the added value of the company's service. In turn, customers of the EDP Comercial company who are satisfied with the service provided, value the parameter trust in the brand and its service first, followed by the price attribute. On the contrary, customers of competing companies value the price parameter, followed by the service quality parameter.

It is concluded that there is a greater appreciation of the price, service quality, company performance and confidence in the brand and its service attribute, in most value curves. In general, these were considered in both segments the primary attributes to contemplate when customers choose or evaluate a company that provides energy services.

5.3 Analysis and discussion of results

Although the authors Wieringa and Verhoef (2007) present in their study several competitive advantages of monopolistic companies in the transition to a liberalized market, if there is no correct use of these advantages in the definition of a future strategy, the same companies that previously held a total dominance over the sector may end up losing their market share.

According to the respective authors, monopolistic companies have the positional advantage of being known companies with forcibly loyal customers, of resistance to change on the part of customers, in particular because there is uncertainty regarding the quality of the product or service delivered by the new intervening companies. Incidentally, these were all the advantages that EDP had when the energy sector was liberalized, as it was the only company that previously operated in the regulated market and had stablished relations with customers.

Furthermore, the positional and competitive advantage of the ex-monopolist company in the liberalized market can be explained according to the theory of Porter's five forces (Porter 1998) given that there would naturally exist barriers to the entry of new competitors. These are characterized by being associated with the fact that EDP has privileged information through its greater knowledge of consumers and their needs, as well as a history in its relationship with supply chains. Also, the company has advantages such as an ability to take advantage of economies of scale and range, namely due to the fact that the company already sell gas in the regulated market, and also because the company has already had a return on the initial investment applied in the various structures of the sector, among others.

According to the sources-position-performance framework (Day and Wensley 1988) on which we have revisited, CRM should prove to be a source of competitive advantage capable of helping to understand the customers'

perception of value, having a subsequent impact on the definition of company's positional strategy, thus improving its performance. By complementing this framework with Value Curve analysis, we should be able to understand whether the same customers' perception of value is indeed understood or driven by management.

According to the interviewed managers, EDP Comercial is a customer-oriented company with a CRM that has a moderately significant advantage over its competitors.

However, although EDP Comercial adopts, according to the interviewed managers, a brand and communication differentiation that meets the attributes of trust in the brand and its service and service quality valued by customers, it was possible to highlight a difference between the perception of value by customers and the strategies adopted by the company. In both segments, the attribute most valued is price, and according to the respective managers, the company does not adopt a differentiation based on price.

We suspect that this difference may result of an inflexibility of culture or organizational structure of the ex-monopolist company, which may be associated with different reasons, namely, the lack of understanding of its sources of competitive advantage, the failure to implement a positioning that reflect its sources or a resource-based view, or the failure to implement a positioning that influences the company's performance, that is, that influences the customers' perception.

According to a qualitative analysis of the information in its generality, although there is a positive, though not significant correlation, between EDP Comercial's CRM and the company's differentiation strategy (Table 6), we were able to verify in this study that there is no clear association between the variables as was expected according to the sources-position-performance framework. This is due to the fact that there seems to be scarce alignment between the perception

of the company's managers and the perception of its customers, rendering highly improbable the veracity of hypothesis 1.

Regarding the relationship between the differentiation strategy and the company's performance (H3), it was not possible to identify a clear relationship between the variables according to the analysis of data taken from the survey applied to managers. This is due to the fact that there is no significantly strong correlation to accept or reject the veracity of the hypothesis.

However, and given that, in general, the most valued attribute in the different segments under study by the customers of EDP Comercial and competing companies is *price*, this "misalignment" of the company's differential strategy and the customers' perception of value may explain the fact that the company has the second lowest average satisfaction rate, around 3.46 values (Table 7). This may justify why the company is continually losing its dominance in the liberalized electricity market in Portugal, hinting at the veracity to hypothesis 3, namely, that there is a relationship between the company's differentiation strategy and its performance.

Company	Customer Satisfaction (average)
EDP Company	3,46
Endesa	3,76
Iberdrola	3,44
Galp	3,78

Table 7: Customer satisfaction average of the different companies

Regarding hypothesis 5, which states that there is a relationship between EDP Comercial's CRM and its performance, we can see through table 6 that, although there is no correlation between CRM and customer satisfaction and no significantly strong correlation between CRM and a company's profitability, in contrast, a positively strong relationship is observed between CRM and market effectiveness. This is present in the fact that the company does not use CRM

effectively, that is, it fully corresponds to the needs of its customers and, therefore, presents a decrease in its market share (market effectiveness).

In addition, through Table 8 and 9 which shows the evolution of EDP Comercial's market shares in terms of the number of customers and in terms of annual consumption, we can see that the company's participation in the liberalized electricity market as a whole has declined. Combining this information with data taken from the survey applied to EDP Comercial managers, we can see that two of the inquired managers claim that the average length of stay of customers in the company is high. Note, however that we are reporting in Table 8 and 9 the only aggregate numbers we have access to, and that reflect the share of the global four market segments: domestic, small business, industrial and large consumers. Additionally, it is possible that this reduction in market share does not in itself mean a reduction in the number of the company's customers, but rather an increase in the number of customers who, when moving from the regularized market to the free market or when entering in the liberalized market for the first time, opted for companies that competed with the EDP Group. This reinforces the idea mentioned above in point 5.2.3 that EDP Comercial has advantages arising from its previous market dominance, such as customer loyalty.

Furthermore, this reduction in market share could mean the loss of larger customers, thus reducing the market share in terms of annualized consumption, especially in the first years, keeping the market share in terms of number of customers slightly constant. Despite this decrease in shares, the company demonstrates that it has recovered from the crisis in 2011, with the recovery in terms of the number of customers being higher in percentage points than in terms of annualized consumption.

Thus, although EDP Comercial managers claim that there is a high length of stay of their customers, they may only be referring to small consumers or just in comparison with their competitors, being in turn out of line with the reality.

That said, in a qualitative way we can also affirm that possibly the CRM of the EDP Comercial company is related to the respective performance indicator, market effectiveness, since the company is not being able to understand the market needs and attract new customers, losing market share.

Market share by number of customers	
Month	EDP Comercial
31/12/2006	-
31/12/2007	98,0%
31/12/2008	99,0%
31/12/2009	94,0%
31/12/2010	88,0%
31/12/2011	77,0%
31/12/2012	80,0%
31/12/2013	84,0%
31/12/2014	86,0%
31/12/2015	85,0%
31/12/2016	84,9%
31/12/2017	83,8%
31/12/2018	80,8%
31/12/2019	78,4%
31/12/2020	75,5%

Table 9: Evolution of EDP Comercial's Market Shares in terms of number of customers – source: Energy Services Regulatory Authority (ERSE)

Market share by annualized consumption	
Month	EDP Comercial
31/12/2006	-
31/12/2007	76,0%
31/12/2008	92,0%
31/12/2009	63,0%
31/12/2010	46,0%
31/12/2011	41,0%
31/12/2012	42,0%
31/12/2013	44,0%
31/12/2014	46,0%
31/12/2015	43,0%
31/12/2016	46,0%
31/12/2017	42,8%
31/12/2018	41,8%
31/12/2019	41,7%
31/12/2020	40,1%

Table 8: Evolution of EDP Comercial's Market Shares in terms of annualized consumption – source: Energy Services Regulatory Authority (ERSE)

Regarding hypothesis 2, which states the relationship between EDP Comercial's CRM and its cost leadership strategy, we can conclude, according to the correlations in table 6, that there is a strong positive association between the variables.

EDP Comercial Financial Information						
Year	Operating Income	Operational Profits (EBIT)	Operational Costs (*)	Business Volume	% Costs per Volume (*)	ROS (*)
31/12/2003	100 770 288	22 101 440	78 668 848	99 755 485	79%	22%
31/12/2006	343 023 269	-98 291 877	441 315 146	338 165 086	131%	-29%
31/12/2007	344 179 518	-28 739 340	372 918 858	342 597 476	109%	-8%
31/12/2008	170 721 608	-17 238 561	187 960 169	164 957 421	114%	-10%
31/12/2009	499 828 895	3 481 811	496 347 084	495 454 953	100%	1%
31/12/2010	750 675 000	-8 985 000	759 660 000	742 675 000	102%	-1%
31/12/2011	910 453 000	-39 642 000	950 095 000	904 940 000	105%	-4%
31/12/2012	1 143 370 000	-9 003 000	1 152 373 000	1 136 355 000	101%	-1%
31/12/2013	1 956 645 000	-12 936 000	1 969 581 000	1 955 056 000	101%	-1%
31/12/2014	2 417 077 000	-12 257 000	2 429 334 000	2 416 770 000	101%	-1%
31/12/2015	2 968 303 000	2 944 000	2 965 359 000	2 966 375 000	100%	0%
31/12/2016	3 189 215 000	30 491 000	3 158 724 000	3 186 024 000	99%	1%
31/12/2017	3 221 363 000	39 070 000	3 182 293 000	3 215 628 000	99%	1%
31/12/2018	3 277 540 000	-19 165 000	3 296 705 000	3 272 929 000	101%	-1%
31/12/2019	3 177 812 000	36 747 000	3 141 065 000	3 174 977 000	99%	1%
31/12/2020	-	-	-	-	-	-

(*) values that were not removed from the SABI database

Table 10: Financial information of the EDP Comercial company – source: SABI database

Observing Table 10 we can see that since 2006, the period in which negotiations for the liberalization of the energy market ended, the company has shown a significant evolution in its business volume. However, despite this positive evolution, the company has shown the same growth trend in its operating costs, showing a significantly high percentage of costs by volume that showed a "jump" in 2006 when the market was liberalized, thus slightly smoothing this difference.

Therefore, it is noticeable that, from 2003 to 2006, EDP Comercial suffered a loss of cost advantage, with a change in costs per business volume from 79% to 131% and in ROS from 22% to -29%, most likely due to the fact that, in 2006, the company started to divide market share with competing companies. Even so, we see that the percentage of costs per business volume has been decreasing, which may suggest that the company has been trying to improve its operational efficiency in an attempt to overcome the loss that occurred.

Also, it is important to mention that the calculation of operating costs consisted of the difference between operating income and operating results, which subsequently allowed the percentage of these costs to be measured by the company's turnover (Operating Costs / Business Volume). Also, the calculation

of the return on sales was made according to its formula, that is, dividing the Operational profit by the net sales (or Business Volume).

| Iberdrola Comercial Financial Information | | | | | | |
Year	Operating Income	Operational Profits (EBIT)	Operational Costs (*)	Business Volume	% Costs per Volume (*)	ROS (*)
31/12/2006	1 201 432	-264 133	1 465 565	1 198 967	122%	-22%
31/12/2007	854 025	-22 013 671	22 867 696	854 025	2678%	-2578%
31/12/2008	-	-	-	-	-	-
31/12/2009	1 889 867	-12 942 763	14 832 630	1 812 901	818%	-714%
31/12/2010	-	-	-	-	-	-
31/12/2011	3 943 742	-8 148 278	12 092 020	2 774 233	436%	-294%
31/12/2012	5 001 450	-8 532 250	13 533 700	4 348 776	311%	-196%
31/12/2013	18 624 488	-1 750 775	20 375 263	15 954 694	128%	-11%
31/12/2014	50 202 025	-2 015 050	52 217 075	48 164 394	108%	-4%
31/12/2015	130 605 063	274 131	130 330 932	128 809 380	101%	0%
31/12/2016	529 570 942	-263 295	529 834 237	528 140 871	100%	0%
31/12/2017	638 355 527	580 233	637 775 294	637 568 509	100%	0%
31/12/2018	771 609 581	-565 046	772 174 627	770 902 060	100%	0%
31/12/2019	830 070 328	1 915	830 068 413	828 212 325	100%	0%
31/12/2020	-	-	-	-	-	-

(*) values that were not removed from the SABI database

Table 11: Financial information of the Endesa company – source: SABI database

| Endesa Financial Information | | | | | | |
Year	Operating Income	Operational Profits (EBIT)	Operational Costs (*)	Business Volume	% Costs per Volume (*)	ROS (*)
31/12/2006	-	-	-	-	-	-
31/12/2007	-	-	-	-	-	-
31/12/2008	-	-	-	-	-	-
31/12/2009	-	-	-	-	-	-
31/12/2010	195 220 384	38 641 387	156 578 997	195 212 983	80%	20%
31/12/2011	643 122 175	2 126 608	640 995 567	642 869 212	100%	0%
31/12/2012	800 046 338	-108 588 975	908 635 313	799 934 652	114%	-14%
31/12/2013	800 689 650	30 258 607	770 431 043	800 577 832	96%	4%
31/12/2014	855 039 422	-1 689 007	856 728 429	853 432 911	100%	0%
31/12/2015	989 403 160	49 629 202	939 773 958	987 615 276	95%	5%
31/12/2016	949 741 754	55 275 406	894 466 348	948 686 735	94%	6%
31/12/2017	1 120 786 263	20 252 927	1 100 533 336	1 119 669 751	98%	2%
31/12/2018	1 076 707 949	-34 967 552	1 111 675 501	1 072 193 150	104%	-3%
31/12/2019	1 084 955 419	-1 538 787	1 086 494 206	1 084 633 478	100%	0%
31/12/2020	-	-	-	-	-	-

(*) values that were not removed from the SABI database

Table 12: Financial information of the Iberdrola company – source: SABI database

| Galp Financial Information | | | | | | |
Year	Operating Income	Operational Profits (EBIT)	Operational Costs (*)	Business Volume	% Costs per Volume (*)	ROS (*)
31/12/2006	0	-2 732 713	2 732 713	0	-	-
31/12/2007	175 988	-4 206 966	4 382 953	57 594	7610%	-7305%
31/12/2008	4 841 422	-2 901 775	7 743 197	4 127 680	188%	-70%
31/12/2009	2 602 192	-2 399 279	5001470,67	2 424 654	206%	-99%
31/12/2010	7 547 878	-3 208 185	10 756 063	7467181,31	144%	-43%
31/12/2011	25 558 110	-580 230	26 138 340	25 522 268	102%	-2%
31/12/2012	82 807 223	-822 520	83 629 743	82 333 437	102%	-1%
31/12/2013	224 911 701	3 077 106	221 834 595	224911701,3	99%	1%
31/12/2014	325 170 484	-1 263 692	326 434 176	325 165 661	100%	0%
31/12/2015	478 284 607	-11 422 874	489 707 480	478 174 187	102%	-2%
31/12/2016	502 305 480	-4 540 887	506 846 367	502151453,1	101%	-1%
31/12/2017	556 808 930	-19 061 507	575 870 436	556 320 277	104%	-3%
31/12/2018	593 893 878	-18 494 598	612 388 476	593 691 512	103%	-3%
31/12/2019	494 037 976	-2 737 890	496 775 866	492331770,6	101%	-1%
31/12/2020	-	-	-	-	-	-

(*) values that were not removed from the SABI database

Table 13: Financial information of the Galp company – source: SABI database

Analysing Tables 10, 11, 12 and 13 together, we find some evidence that suggests that EDP Comercial and Endesa are the companies that "dispute" for cost advantage in the market, with the lowest percentages of costs per business volume.

In turn, although Table 6 hints solely at a strong relationship between EDP Comercial's cost leadership strategy and its market effectiveness, we can attribute a possible relationship between this strategy and the company's profitability. This is due to the fact that in periods when a company presents lower percentages of costs per business volume, it also presents higher return on sales (Table 10). This suggests that the higher return on sales results from greater efficiency (reduction of operating costs) and not from a greater ability to charge a price premium for differentiation, which would be expected in this sector, reinforcing the idea that the company has a low ability to differentiate without being by price. As the return on sales (ROS) is an indicator of performance and operational efficiency, its value is an indicator of the company's profitability. Note, however that we are reporting in Table 10 the only aggregate numbers we have access to, and that reflect the share of the global four market segments: domestic, small business, industrial and large consumers.

Also, it is important to mention that, although there are other more complete profitability measures that include financial (or other sources of) revenues and costs and other impacts on net profit, it was only possible, according to the available information, to use the return on sales (ROS) in this study.

Although it was not possible in this study to draw conclusions about the relationship of EDP Comercial's cost leadership strategy with customer satisfaction, we can only attribute a certain veracity to hypothesis 4, which states that there is a positive relationship between the respective strategy and the company performance.

That said, although in this study it was not possible to attribute strong relationships between certain variables, it was possible, through a statistical analysis, to apply the sources-position-performance framework in its entirety to the EDP Comercial company, more specifically, to the relationship between CRM, cost leadership strategy and market effectiveness.

The correlations between the analysed variables and the compilation of information from the perspective of customers in the industrial and small business segments that qualitatively indicate that there are relationships between the variables under study are summarized in Table 14 below.

Finally Figure 17 summarizes the relationships in our proposed model (Figure 3) that could be estimated following our proposed methodology, albeit the aforementioned limitations.
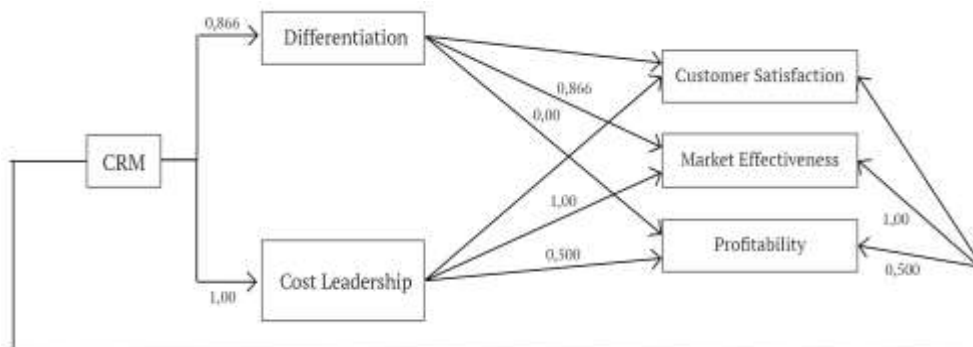
Figure 17: Summary scheme of relationships between variables adapted from the model by Reimann et al. (2010)

	Relationship Studied - EDP Comercial		Correlation	P-value	Test Result	Qualitative Analysis (*)
Variables	CRM	Differentiation Strategy	0,866	0,333	Do not reject the H0.	-
Source	managers surveyed / managers surveyed (*)	managers surveyed / customers surveyed (*)				
Variables	CRM	Cost Leadership Strategy	1,000	0,000	Reject H0.	-
Source	managers surveyed / managers surveyed (*)	managers surveyed / customers surveyed (*)				
Variables	Differentiation Strategy	Customer Satisfaction	-	-	-	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / customers surveyed (*)				
Variables	Differentiation Strategy	Profitability	0,000	1,000	Do not reject the H0.	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / SABI database information (*)				
Variables	Differentiation Strategy	Market Effectiveness	0,866	0,333	Do not reject the H0.	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / ERSE market information (*)				
Variables	Cost Leadership Strategy	Customer Satisfaction	-	-	-	-
Source	managers surveyed / managers surveyed (*)	managers surveyed / customers surveyed (*)				
Variables	Cost Leadership Strategy	Profitability	0,500	0,667	Do not reject the H0.	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / SABI database information (*)				
Variables	Cost Leadership Strategy	Market Effectiveness	1,000	0,000	Reject H0.	-
Source	managers surveyed / managers surveyed (*)	managers surveyed / ERSE market information (*)				
Variables	CRM	Customer Satisfaction	-	-	-	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / customers surveyed (*)				
Variables	CRM	Profitability	0,500	0,667	Do not reject the H0.	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / SABI database information (*)				
Variables	CRM	Market Effectiveness	1,000	0,000	Reject H0.	There is a relationship.
Source	managers surveyed / managers surveyed (*)	managers surveyed / ERSE market information (*)				

Table 14: Summary table of correlations and p-value of each variable under study and of collected qualitative information.

Although further research on evaluating the impact of CRM on competing companies would be interesting, in order to understand their attempts to overcome the superior position of the ex-monopolist company, it seems reasonable to assume that possibly there is, on the part of these same companies, a consideration of the customers' perception of value, which allows them to adopt strategies that meet the needs and desires of customers.

This thesis has, however, deepened the understanding of customer satisfaction for the major current players in the industry, through the use of Value Curve analysis, and customer satisfaction has, over time, proved to be an essential factor

for improving a company's performance as well as for achieving competitive advantage in the market where it operates. According to the author Bose (2002), a company that successfully responds to the needs of its customers, is more likely to become a leader in the market in which it operates.

With this in mind, a brief additional analysis of the main EDP competitor's institutional website was conducted in order to understand whether their publicly stated directional strategies were aligned with what we found to be their customers' perception of value. It is important to note that the websites of competing companies, like EDP Comercial website, have a section for domestic customers and another section for business customers. It was this second section, which presents general strategies aimed at business customers, that was analysed.

Analysing the Endesa and Iberdrola institutional websites (Appendix 3, 4, 5 and 6) and the offers they present, we can see that both have strategies aligned with their business customers' perception of value. In both segments and although there is a difference between the most valued attributes, customers assign a certain importance essentially to the price parameter and to the added value of services associated with renewable energy.

Through the Endesa institutional website we can verify that the company is investing mostly in price differentiation, offering a light bill and/or a gas bill every year and forever. In turn, the Iberdrola invests in differentiation based on the price and on the use of green energy, offering a 25% discount forever to those who use this type of energy.

These strategies implemented by the companies have allowed them to increase their market share in terms of number of customers and annualized consumption (Table 2 and 3), however, we can see through Tables 7, 11 and 12 that only the Endesa has managed to improve its performance (customer satisfaction, profitability and market effectiveness). This is due to the fact that return on sales

(ROS) is one of the performance and operational efficiency indicators of a company and, in the case of Iberdrola, it presents significantly negative values.

The low satisfaction of Iberdrola's customers (Table 5) may be associated with the fact that they essentially value the price attribute, and the company is, despite the discounts presented, offering high values from the customer's point of view. However, and despite Iberdrola presenting the worst average for the satisfaction of the business customers surveyed and still a low ROS, the company has managed to increase its market share in terms of number of customers (Table 2).

Regarding the Galp institutional website (Appendix 7 and 8), it can be seen that the company possibly adopts a strategy aimed at the quality of service provided to the customer. Through the different value curves of the two segments under study, it can be seen that the most valued attributes are price and service quality. This alignment of the company's strategy with the attributes valued by its customers can explain the high average satisfaction rate resulting from the responses to the survey.

However, despite being the company with the highest average in terms of customer satisfaction (Table 7) – a measure of performance - this is not reflected in profitability and market effectiveness, other performance measures in the model we followed, as it presents high percentages of costs per business volume, negative sales returns and a decrease in market share in terms of number of customers.

Finally, looking at the four biggest electricity companies in Portugal and analysing the three indicators related to a company's performance, namely customer satisfaction, profitability and market effectiveness, we find evidence that Endesa is possibly the only company that seems to have a more effective strategy, allowing it to provide services with a value perceived by its customers, challenging us to understand, through future research, which sources leverage it.

Chapter 6
Conclusion

EDP Comercial had the resources and capabilities inherent to the advantages of an ex-monopolist company to, according to the sources-position-performance framework, achieve a positional advantage and, consequently, an above-average performance in the liberalized electricity market. This is because, by having resources and capacities superior to those of its competitors, namely an existing operational structure and market know-how, it would be able to achieve a competitive advantage that would allow it to reach optimum performance.

Despite all these apparent advantages, the company seems to have a lack of alignment of its positional strategies in the industrial and small business segments (brand differentiation and communication differentiation) with the attribute most valued by its business customers, namely, price. This is reflected in the low satisfaction of the customers surveyed in relation to the service provided by the company, as well as in the decrease of market shares (market effectiveness).

That said, it was conceivable to recognize a possible relationship between CRM and company performance and between EDP Comercial's differentiation strategy and its performance. On the other hand, the misalignment between the company's differentiation strategy and the parameter most valued by customers, makes it highly unlikely that there is a relationship between the respective strategy and the company's CRM.

We suspect that the company's lack of understanding of the sources of competitive advantage, the failure to implement a positioning that reflects its sources or a resource-based view, and also, the failure to implement a positioning that influences the company's performance, may be the reason for this misalignment.

As we find in this study a certain robustness in the analysis of the customers' perspective in the industrial segment and small business segment, the misalignment of perceptions seems to point towards the failure of managers to understand the capabilities or sources of competitive advantage of the company (Nasution and Mavondo 2008), or the failure to mobilize the capabilities in order to translate them into positioning and performance.

In addition, it was statistically and qualitatively observed that there is a relationship between EDP Comercial's cost leadership strategy and the company's CRM and also between the respective strategy and its performance, namely, between the market effectiveness and profitability indicators. It is through this relationship between the CRM, the cost leadership strategy and the company's performance that the applicability of the sources-position-performance framework can be seen more clearly.

Limitations and avenues for further research

Although this study is a unique approach and analysis to the electricity sector in Portugal, it is possible to recognize some limitations.

Firstly, recognizing that the fact that we lived in a period of uncertainty and isolation due to Covid-19, did not allow the addition of personal means, such as, interviews, door-to-door feedback collection, between others. This had an impact on the response rate by managers of companies competing with EDP Comercial,

as it was not possible to use the door-to-door strategy to request their participation. In addition to this, remote work overcrowded online tools, namely, the e-mail of companies and their employees, thus hampering participation in the survey. However, it is considered that the response rate was quite satisfactory given the context.

Thirdly, to recognize that some of the data relating to the e-mail of small and medium-sized companies in Portugal are out of date in the SABI database, which also had an impact on the response rate to the survey developed.

Finally, the fact that the curricular internship at EDP Distribuição, currently E-REDES, was carried out in teleworking dynamics, did not allow for better feedback from the company, specifically, in accessing internal documents and information that could be useful to the study.

That said, it is suggested for a future study the analysis and application of the sources-position-performance framework of the authors Day and Wensley (1988), in the electricity sector in Portugal, exploring the CRM-performance relationship in more detail, that is, encompassing all or the main energy supply companies. In addition, it is also suggested the analysis of other superior resources and capacities capable of providing a continuous competitive advantage in the energy market and thus, improving the performance of companies.

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Appendix

Appendix 1. Images of the survey applied to business customers (English version)

CATOLICA
CATÓLICA PORTO BUSINESS SCHOOL

Introduction

Dear Participant.

This survey is part of a dissertation of the Master's Degree in Management at Universidade Católica Portuguesa.

The purpose of this survey is to analyze the parameters valued by business consumers in relation to energy companies and their service.

The survey is anonymous and, therefore, complete confidentiality of responses is guaranteed.

Thank you for your availability and cooperation.

Initial Questions

Q1. What is your company's industry type?

○ Food and Drinks
○ Automobile
○ Ceramics
○ Pharmacist
○ Textile & Footwear
○ Cork
○ Construction
○ Paper
○ Furniture
○ [_____] Other

Initial Questions

Q2. Which energy company provides you with electricity services?

○ EDP Comercial
○ EDP Serviço Universal - Mercado Regularizado
○ Endesa

- ○ Iberdrola
- ○ Cepsa
- ○ Galp
- ○ Muon
- ○ Ylce
- ○ Aldro
- ○ Axpo
- ○ Acciona
- ○ Audax
- ○ [   ] Other

Q3. How long has the company you previously selected been providing you with electricity services?

- ○ From the beginning of the activity.
- ○ 1-5 years
- ○ 6-10 years
- ○ 11-15 years
- ○ > 15 years

Q4. What consumer installations are connected to your network?

- ○ Low voltage networks
- ○ Medium voltage networks

Q5. What is the amount of your electricity bill?

- ○ < 50 euros
- ○ 50 - 100 euros
- ○ 100 - 150 euros
- ○ > 150 euros

Q6. From 1 to 5, what is your satisfaction with the electricity service provided to you (with 1 - extremely dissatisfied and 5 - extremely satisfied)?

Extremely Dissatisfied				Extremely Satisfied
1	2	3	4	5

Question Block 2

Q7. Have you ever been a client of EDP - Serviço Universal in the regularized market?

O Yes

O No

Q8. Select by **priority order** (1 - first place and 8 - last place) which of these parameters had the most impact on the reason for your choice of another electric energy trader?

	1	2	3	4	5	6	7	8	9
Price	O	O	O	O	O	O	O	O	O
Appealing and easy to understand equipment	O	O	O	O	O	O	O	O	O
Added value of the service (electricity and gas)	O	O	O	O	O	O	O	O	O
Company Performance	O	O	O	O	O	O	O	O	O
Added Value of the Service (Renewable Energy)	O	O	O	O	O	O	O	O	O
Confidence in the brand and its service	O	O	O	O	O	O	O	O	O
Service quality	O	O	O	O	O	O	O	O	O
Corporate Values (environmental and social commitment)	O	O	O	O	O	O	O	O	O
Other [　　　　　　　　]	O	O	O	O	O	O	O	O	O

Q9. How would you evaluate the current service provided by your electricity company and the service provided by the company EDP - Serviço Universal in the regularized market in the parameters presented (1 - Extremely Bad and 5 - Extremely Good)?

	EDP Comercial					Current Electricity Company				
	1	2	3	4	5	1	2	3	4	5
Price	O	O	O	O	O	O	O	O	O	O
Speed in solving problems/errors/anomalies	O	O	O	O	O	O	O	O	O	O
Service quality	O	O	O	O	O	O	O	O	O	O
Security and trust in the brand	O	O	O	O	O	O	O	O	O	O
Environmental and social commitment	O	O	O	O	O	O	O	O	O	O
Technology and inovation	O	O	O	O	O	O	O	O	O	O

Question Block 3

Q8. Select by **priority order** (1 - first place and 8 - last place) which of these parameters did you value the most when choosing an electric energy trading company?

	1 2 3 4 5 6 7 8 9
Price	○○○○○○○○○
Appealing and easy to understand equipment	○○○○○○○○○
Added value of the service (electricity and gas)	○○○○○○○○○
Company Performance	○○○○○○○○○
Added Value of the Service (Renewable Energy)	○○○○○○○○○
Confidence in the brand and its service	○○○○○○○○○
Service quality	○○○○○○○○○
Corporate Values (environmental and social commitment)	○○○○○○○○○
Other [ ]	○○○○○○○○○

Question Block 4

Q9. How would you rate the following statements?

	Without any importance	Slightly important	Moderately important	Very important	Extremely important
The equipment (e.g. meter) used by the electric company is modern and visually appealing.	○	○	○	○	○
Service-related documents (eg, invoices and letters) are visually attractive and easy to understand.	○	○	○	○	○
The price you pay for the service is tailored to your conditions.	○	○	○	○	○

Question Block 5

Q10. How would you rate the following statements?

	Without any importance	Slightly important	Moderately important	Very important	Extremely important
The service provided corresponds to the conditions previously agreed.	O	O	O	O	O
The company is interested in understanding your issues and providing support.	O	O	O	O	O
The service has been provided correctly and at the same level over time.	O	O	O	O	O

Question Block 6

Q11. How would you rate the following statements?

	Without any importance	Slightly important	Moderately important	Very important	Very important
The company is quick to solve problems/errors/anomalies.	O	O	O	O	O
The company's employees (eg, customer service and technicians) have a good responsiveness.	O	O	O	O	O
The company's employees are always willing to help in solving problems/anomalies.	O	O	O	O	O
The company handles service anomalies seriously and carefully.	O	O	O	O	O

Question Block 7

Q12. How would you rate the following statements?

	Without any importance	Slightly important	Moderately important	Very important	Extremely important
The company's employees convey confidence.	O	O	O	O	O

	Without any importance	Slightly important	Moderately important	Very important	Extremely important
The company knows what its responsibilities are and what it needs to do.	O	O	O	O	O
The company and its employees show a kind behavior towards customers.	O	O	O	O	O
The company conveys security in its actions.	O	O	O	O	O

Question Block 8

Q13. How would you rate the following statements?

	Without any importance	Slightly important	Moderately important	Very important	Extremely important
The company is concerned with providing individualized care to its customers.	O	O	O	O	O
The company knows the specific needs of its customers.	O	O	O	O	O
The company and its employees are transparent with customers.	O	O	O	O	O

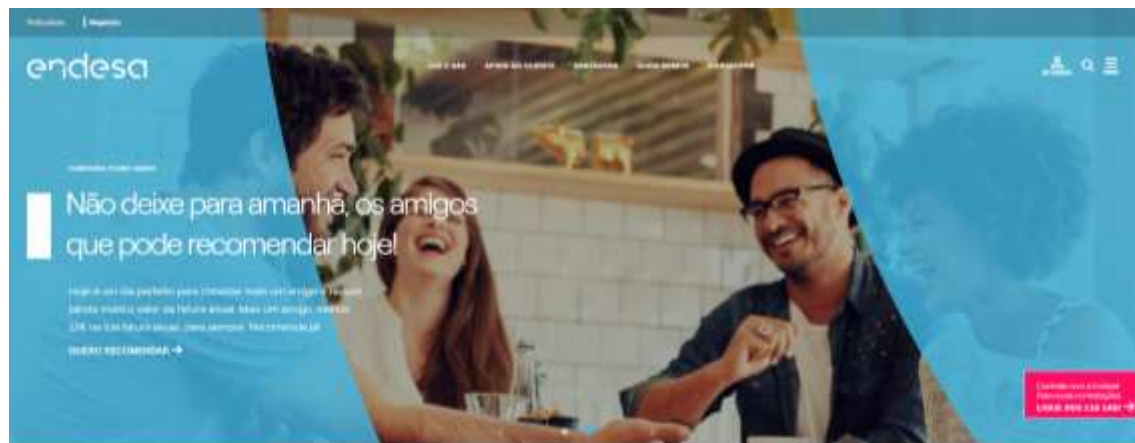**Appendix 2.** Example of a question validation

Questions	Validation
Q8	Validated by the authors Patrick Hartmann & Vanessa Apaolaza Ibánez in the article "Managing customer loyalty in liberalized residential energy markets: The impact of energy branding" (2006).

Appendix 3. Endesa Website

Conheça os Planos de Energia Endesa

Conheça os Planos de Energia Endesa

Appendix 4. Endesa's vision and strategy

Appendix 5. Iberdrola Website
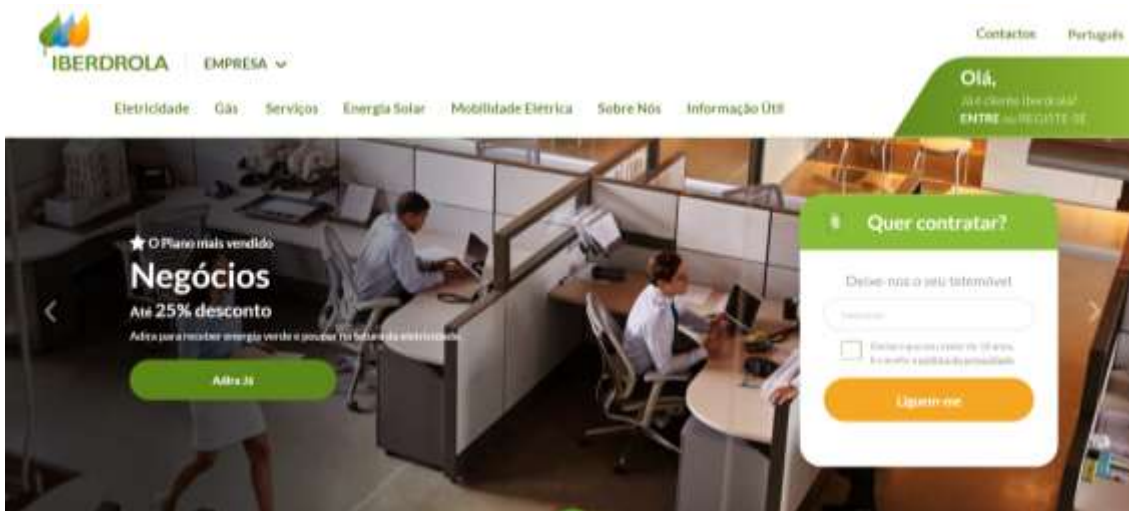
Appendix 6. Iberdrola's vision and strategy

Valores

Ética e responsabilidade corporativa

A IBERDROLA compromete-se com as melhores práticas de "Corporate Governance", com os princípios de ética empresarial e com a transparência em todos os âmbitos de actuação da Empresa.

A IBERDROLA prossegue o interesse social, comum a todos os accionistas de uma sociedade anónima independente, orientada para a exploração do seu objecto social, em conformidade com o disposto na legislação vigente e na "Corporate Governance".

Tal não exclui a consideração dos demais interesses legítimos, públicos ou privados, que visem o desenvolvimento de toda a actividade empresarial.

A IBERDROLA é uma empresa que se dedica e aprende com as realidades culturais e sociais das comunidades em que actua.

Resultados económicos

O compromisso da IBERDROLA com o cumprimento dos objectivos de crescimento e rentabilidade estabelecidos no Plano Estratégico da Empresa é o caminho para garantir o êxito de um projecto empresarial e satisfazer as demais expectativas de todos os colectivos implicados no presente e no futuro da IBERDROLA.

Respeito pelo meio ambiente

A aposta no desenvolvimento de energias limpas e o respeito pelo meio ambiente são alguns dos pilares do modelo empresarial da IBERDROLA e dois factores que distinguem o nosso Grupo como uma das empresas líderes do mundo no século XXI.

Sentimento de pertença e confiança

A IBERDROLA trabalha para construir grupos de interesse permanentes e o sentimento de pertencer a uma empresa notável, com base no qual se sentem parte integrante do projecto em que estão envolvidos.

Através de um diálogo permanente, a IBERDROLA quer ser a empresa capaz de criar confiança entre todos os envolvidos.

Segurança e Fiabilidade

A IBERDROLA trabalha para oferecer o fornecimento de energia e desenvolver outras actividades do Grupo num ambiente seguro e confiável. A segurança das pessoas nas instalações do Grupo, nas áreas circundantes e entre os clientes, assim como o desenvolvimento e transmissão das melhores práticas em matéria de segurança e prevenção para todo o Grupo, formam parte indispensável dos seus processos.

Orientação para o cliente

A IBERDROLA trabalha para conhecer as necessidades e expectativas dos seus clientes, procurando melhorar de forma contínua a sua satisfação e fidelização. O objectivo da IBERDROLA é oferecer a melhor qualidade de serviço, cumprindo as suas obrigações regulamentares.

Os compromissos assumidos pela IBERDROLA na visão e valores da empresa, longe de serem uma mera declaração dos princípios, são aplicados à sua prática diária e estão integrados na gestão quotidiana do Grupo IBERDROLA em todas as suas áreas de actividade.

Appendix 7. Galp Website

Appendix 8. Galp's vision and strategy