Lisbon School of Economics & Management
Universidade de Lisboa

MASTER

MANAGEMENT AND INDUSTRIAL STRATEGY

MASTER'S FINAL WORK

DISSERTATION

UNDERSTANDING SEGMENTATION OF NON-CORE BUSINESS SUPPLIERS: A CASE STUDY

MARIA ANA FÉLIX MORAIS

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SUPERVISION:
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ABSTRACT

Supplier segmentation is a much-discussed topic in the literature and one that is gaining importance in business-to-business (B2B) markets, also in areas that are not related to companies' core business.

This study aims to understand the supplier segmentation of non-core business suppliers. More concretely, it focusses on the dimensions that currently carry the most weight when it comes to supplier segmentation, the procedures used to manage the supplier portfolio, the influence that segmentation has on buyer-supplier relationships, and finally, the external factors that influence segmentation and how.

A case study was carried out with the corporate travel department of a company in the energy sector, involving participant observation and seven semi-structured interviews with a total of eight employees whose functions are related to this department and the management of the supplier portfolio.

This dissertation shows that segmenting and management of the non-core business supplier portfolio are important activities within companies. Segmentation is carried out considering the multiple dimensions: volume of purchases, quality, security of service delivery, supplier's irreplaceability, stability, uncertainty, and ability to innovate and be digital. In terms of portfolio management, the main differences between the segments arise in terms of relationships, since suppliers that are more important to companies have closer relationships with them. Finally, the COVID-19 pandemic, the internationalization of companies, digitalization, and legislation have consequences for the selection and management of suppliers.

KEYWORDS: Buyer-supplier Relationships; External Factors; Portfolio Management; Segmentation.

RESUMO

A segmentação de fornecedores é um tema bastante discutido na literatura, estando a ganhar importância nos mercados business-to business (B2B) e em áreas que não são o foco das empresas.

O presente estudo tem como objetivo compreender a segmentação dos fornecedores de atividades não essenciais ao negócio. Mais concretamente, foca-se nas dimensões que, atualmente, têm mais peso na segmentação de fornecedores, nos procedimentos utilizados para gerir o portfolio de fornecedores, na influência que a segmentação tem nos relacionamentos entre fornecedor e comprador e, por fim, nos fatores externos que influenciam a segmentação e como.

Foi desenvolvido um caso de estudo com o departamento de viagens corporativas de uma empresa do setor energético, com recurso a sete entrevistas semiestruturadas a um total de oito colaboradores cujas funções estão relacionadas com este departamento e com a gestão do portfolio de fornecedores.

Esta dissertação mostra que atualmente a segmentação e a gestão do portfolio dos fornecedores de atividades não essenciais ao negócio são atividades importantes nas empresas. A segmentação é efetuada considerando as múltiplas dimensões: volume de compras, qualidade, segurança na prestação do serviço, insubstituibilidade do fornecedor, estabilidade, incerteza e capacidade de inovação e digitalização. Relativamente ao portfolio, as principais diferenças entre os segmentos surgem ao nível das relações, uma vez que fornecedores mais importantes para as empresas praticam relações mais próxima com as mesmas. Por fim, a pandemia de COVID-19, a internacionalização das empresas, a digitalização e a legislação têm consequências ao nível da seleção e gestão de fornecedores.

PALAVRAS-CHAVE: Relacionamentos Comprador-fornecedor; Fatores Externos; Gestão do Portfolio; Segmentação.

INDEX

Glossary

B2B – Business-to-business

KSM – Key supply management

MIP – Mixed-integer program

OBT – Online booking tool

RPA – Robotic process automation

ACKNOWLEDGMENTS

Firstly, a huge thank you to my advisor, Professor José Novais Santos, for helping me when I felt lost and for always transmitting great knowledge, guidance, and crucial positive energies.

Mom, dad, and brother, thank you for the stability and support you gave me throughout this stage.

To Diogo, I thank you for the constant presence, support, and strength you gave me.

To my family and friends who are family, thank you too, because without knowing you have been very important in these last few months.

To my oldest friends from Castelo Branco and those who showed up in Lisbon, I apologize for have been absent these last few months. Thank you for your constant motivation and concern.

A special thanks to Karolina and Marta, who shared these intense months with me in such a similar and close way.

Last but not least, thank you to my internship colleagues for their trust and support. I learned a lot from all of you, and you were very important for the conclusion of this dissertation.

I carry you all in my heart, thank you.

1. INTRODUCTION

Supplier segmentation is an old topic, with Kraljic defining an approach and matrix to the subject in 1983, where he argued that the "simple" action of buying should be given more prominence within the company, changing to "supplier management". For example, while Kraljic (1983) divided suppliers into four segments, Palmer and Millier (2004) defined five different segments.

According to Day at al. (2010), segmentation base is a standard used in the evaluation and in the definition of likely or real interactions with suppliers, using defined objects of analysis. Portfolio models rule the "categorizing and prioritization of suppliers" (Day et al., 2010, p. 625).

Many authors have studied the subject, and different dimensions can be nowadays considered important when segmenting suppliers. The way in which supplier segments are managed has also evolved over time, with the proximity between seller and buyer increasing. Pardo et al. (2011) argue that in the past, companies were rivals, making competitive exchanges, and nowadays, relationships between buyer and supplier are more collaborative. Finally, there are also several external factors which can be linked to segmentation in some way.

This study aims to understand the supplier segmentation of non-core business suppliers. In doing so, this study challenges the idea of Boejgaard and Ellegaard (2010) that companies do not practice it or only segment suppliers related to the core business. Four research questions stem from the research aim: (1) What are the dimensions that affect supplier segmentation? (2) How are the different segments managed? Are there differences? (3) How do changes in segmentation affect relationships with suppliers? (4) What external factors affect segmentation? And how?

A single case study was developed with the department of corporate travel of a large company of the energy sector. The study includes multiple sources of qualitative data (Saunders et al., 2019) such as participant observation and seven semi-structured interviews to eight employees.

The second chapter presents a theoretical framework of what already exists and is known about the subject studied. Chapter 3 presents the methodology, explaining how data was collected and analyzed (Saunders et al., 2019). Chapter 4 illustrates the case study, followed by Chapter 5, that exposes data analysis. Finally, in Chapter 6 are presented the main conclusions, limitations, and suggestions for future research.

2. LITERATURE REVIEW

2.1 Segmentation

Segmentation is used since the 1950s from a customer’s perspective, to identify sub-groups of consumers with different needs, wants and requirements (Palmer & Millier, 2004). Nowadays, despite the earliest usage of segmentation, it is also applied to allocation of resources, being one of the most critical tasks for workers in B2B, as by undertaking it, companies can achieve superior competitive advantage (Palmer & Millier, 2004). Regarding supplier segmentation, according to Day et al. (2010, p. 626), it is “a process that involves dividing suppliers into distinct groups with different needs, characteristics, or behaviour, requiring different types of inter-firm relationship structures in order to realise value from exchange”.

The supplier segmentation model, which is a merging of segmentation bases, is used to divide the different suppliers that belong to the network into distinct categories, thus it is used to divide into distinct categories the supply base of the companies, so a specific methodology of governance can be chosen and applied (Day et al., 2010). Kraljic (1983) defended and spread prioritization, categorization, and selection processes using different variables such as “products, single relationships, aggregated supplier groups by spend, and product markets” (Day et al., 2010, p. 626).

There are several different ways of segmenting. Palmer and Millier (2004) argue that segmentation can be done by considering variables such as product usage, market behaviour, the understanding of customer’s needs, through the usage of a psychographic approach that finds out motivations, attitudes, and values, based on the strategy of the firm, or based on the strategy stablished by competitors. Then, there is the “nested approach” proposed by Bonoma and Shapiro (1984), which can combine these several, or other, variables to segment markets (Palmer & Millier, 2004). What these different ways of implementing segmentation have in common is that, in all of them, there are several segments, each requiring a different implementation strategy (Rezaei & Ortt, 2013).

Kraljic (1983) approach is the most popular approach to supplier segmentation (Day et al., 2010). It classifies products and services bought according to two dimensions: (1) profit impact, and (2) supply risk. Then, by using the low and high levels in both dimensions, a 2x2 matrix is created, and four segments emerge: (1) non-critical items, (2) leverage items, (3) bottleneck items, and (4) strategic items, each one associated to one specific supply strategy (Rezaei & Ortt, 2013). The matrix presented in Appendix A shows each of the segments.

Currently, most supplier segmentation approaches are “extensions of Kraljic’s approach (1983)”, in which there are several two-dimensional approaches, each with its own variables, neglecting other important ones (Rezaei & Ortt, 2013, p. 508). Are examples (1) difficulty of managing the purchase situation and strategic importance of the purchase, (2) supplier specific investments and buyer specific investments, (3) technology and collaboration, (4) commitment and commodity importance, and (5) supplier dependency risk and buyer dependency risk (Rezaei & Ortt, 2013).

Even more, the standard methods of supplier segmentation show inconsistencies because they cannot make a bridge between the supplier segmentation itself and other activities related to suppliers, such as their selection and development (Rezaei & Ortt, 2013). Rezaei and Ortt (2013) also argue that the methodology applied in segmentation operate with a finite number of criteria, and at the same time each method has different sets of criteria suggested, making it difficult for managers to choose a particular one.

According to Palmer and Millier (2004), when segmenting, there are five different types of segments with distinct characteristics, presented in Appendix B. In addition, there are also emerging methods that can also be used as a basis for segmentation such as managerial intuition – data gathered through experience –, and the role of artificial neural networks (Palmer & Millier, 2004).

Taking into consideration supplier capabilities (x axis) and supplier willingness (y axis), each firm by “considering its own organizational and environmental situation, such as its sourcing strategy and competitive posture, can select a handful of variables to construct the dimensions as a self-designed segmentation base” (Rezaei & Ortt, 2013, p. 508). Going deeper, Rezaei and Ortt (2013) created a new way of segmenting suppliers and explained how the segments created "can be used to formulate supplier strategies" (Rezaei & Ortt, 2013, p. 514).

More concretely, they propose a fuzzy rule-based system which works in the following way: experts "select a handful of criteria for suppliers' capabilities and evaluate suppliers considering these criteria"; the same for suppliers' willingness (Rezaei & Ortt, 2013, p. 514). Then, the same experts "design and implement a fuzzy rule-based to evaluate" both suppliers' capabilities and willingness (Rezaei & Ortt, 2013, p. 514). After that, the outputs of the fuzzy rule-based systems are used to segment suppliers, scoring their capabilities and willingness (Rezaei & Ortt, 2013). Finally, a sensitive evaluation is made and the management and development of the relationship with suppliers is carried out (Rezaei & Ortt, 2013). After all of that, what is achieved through this process helps with the formulation of supplier segmentation strategies (Rezaei & Ortt, 2013).

Millier (2000, p. 147) found that many companies are "miles away from putting in practice these linear and well run-in methods". Therefore, even though the power of segmentation is known, companies end up not practicing it, nor benefiting from its advantages, due to the difficulty of implementation (Boejgaard & Ellegaard, 2010). For instance, in practice and despite all the existing literature, "segmentation is a challenging and difficult task" (Palmer & Millier, 2004, p. 781) for mangers to put into action because of the following reasons: (1) context dependency, as generalized guidelines cannot cover all circumstances and conditions, (2) interactivity, as the implementation of "complex, linear, and step-by-step guidelines" may not be applicable in a context of constant changes by buyers and suppliers, (3) difficulty and demanding, as managers may have to focus on urgent, yet less important and short-term issues, than segmentation which requires time and attention, and (4) implementation, as after achieving the right segmentation approach, managers must hand over to partners in other departments the task of implementing the right actions to achieve the optimal segmentation attention, which requires appropriate culture and processes.

To overcome the four obstacles mentioned above, managers must engage with their products, customers, and marketplace (Palmer & Millier, 2004). However, attention must be paid to the fact that too much dependence on intuitive knowledge and insight of managers may lead to disregard of marketplace data that may propose alternative (and better one) solutions (Palmer & Millier, 2004).

Even more, Palmer and Millier (2004) identified internal marketing, communication, and coordination within the organizations as additional barriers to segmentation. Additionally, according to Boejgaard and Ellegaard (2010, p. 1291), segmentation is specially demanding in industrial markets, as these companies face more implementation problems than in consumer ones, and it happens since (1) customers are more heterogenic due to regular communication, (2) the exchanges involve social interaction, which complicates “stimulus-response patterns”, (3) customers are able to show to a larger audience since they can communicate their needs and wants straight, (4) as relations are multiplex, multiple stimulus channels are generated, (5) the offers are also multiplex, and they usually grow due to interaction, and (6) “segments are more unstable”.

Even so, by implementing segmentation, it is possible to act on several fronts, namely (1) understanding customers, (2) allocating resources, (3) adjusting the product mix, and (4) developing and evaluating new methods which take into consideration both products and markets (Palmer & Millier, 2004). So, despite all the barriers, segmentation process remains crucial to companies acting in industrial markets.

Day et al. (2010) identified value drivers that support segmentation bases management. Can be highlighted (1) the decrease of suppliers to an organization – supply base rationalization –, for instance, to diminish administrative costs or strength relationships which have lower prices and costs, and (2) the capacity to invest on deeper relationships with fewer suppliers, allowing the usage of complementary assets and access to innovation and to operational improvements. However, by decreasing the number of suppliers, companies may tend to increase the reliance and dependence on the remaining suppliers, so they must take this into consideration and do not create opportunities for the opportunism of suppliers (Day et al., 2010).

Additionally, supplier segmentation can have three possible functions, which are to be (1) “a prerequisite task in the management of supplier relationships”, (2) “used for ongoing relationship assessment”, (3) used “as a review mechanism to assess the impact of past relationships” (Day et al., 2010, p. 626). However, no matter how companies use supplier segmentation, the goal is always to manage risk and enhance value inside the entire supplier portfolio as a supply foundation (Day et al., 2010).

When talking about supplier segmentation from a purchasing perspective, there is not yet a coherent strategy regarding the rating of suppliers. At the same time, the ongoing portfolio models are clustered following “two principal taxonomic constructs of power and dependence and relational factors” (Day et al., 2010, p. 625).

At the same time, it is important to have a strong and well-defined supplier basis, with categorized, prioritized, and selected suppliers of a network, as the supplier strategy applied between companies has a strong impact in the creation of value and, at the same time, can oversee several sources of risk arising from interaction with suppliers (Day et al., 2010). Besides, portfolio models “act as proxies for the categorization and prioritization of suppliers”, and so their usage “defines the relative sophistication of purchasing” (Day et al., 2010, p. 625).

2.2 Supplier Portfolio Management

The same market delivers unique effects and consequences on different suppliers (Hosseininasab & Ahmadi, 2015). Due to that, according to Hosseininasab and Ahmadi (2015), it is crucial for companies to study and assess the relationships with suppliers and their relative changes throughout time, so companies guarantee an optimized supply chain. However, the literature often focusses on a single buyer-supplier relationships, or single type of it, even though it is important to evaluate interdependencies between relationships and managing scarce resources within different relationships (Olsen & Ellram, 1997). Whereas in the past the relationships between buyers and suppliers were based on simple transactions, with companies being rivals and making competitive exchanges, nowadays these relationships are more relational and collaborative (Pardo et al., 2011).

According to Sepehri (2013, p. 54), the management of supplier relationships can be sorted in three levels: (1) “individual and isolated relationships for dealing with certain functions”, (2) “portfolio relationships between the company’s suppliers themselves”, and (3) “portfolio relationships between the company and its suppliers”.

Further, when the relationship with suppliers is long-term, there is the possibility that buyers will benefit more, as this relationship can translate into stability in future plans and strategies, reliability regarding product quality and service time, better supply chain know-how and discounts, and higher inventory utilization (Hosseininasab & Ahmadi, 2015). It can also enable (1) better quality and cost, (2) improved cooperation, (3) reduction of risk, (4) knowledge acquisition, (5) new product development, and (6) higher financial performances (Pardo et al., 2011).

To sum up, in the selection phase managers should consider not only the value, development, and fall of suppliers, but also their stability in delivering the services (Hosseininasab & Ahmadi, 2015). The multi-criteria decision-making approach reveals to be efficient, and "not all suppliers may be suited to any buyer, and it is the characteristics of the buyer which determine supplier suitability" (Hosseininasab & Ahmadi, 2015). However, to execute the selection phase, managers should follow a specific criterion of evaluation of suppliers, defined and determined previously (Hosseininasab & Ahmadi, 2015).

While the common approach is to select the best available suppliers to date and then evaluate them regularly, the approach proposed by Hosseininasab and Ahmadi (2015) is based on a better initial selection of suppliers. Hence, in the common approach, companies evaluate (1) if superior suppliers have emerged or (2) the first suppliers selected remain the best choice. When the first option occurs, managers must weight (1) "the cost of keeping the current suppliers" and their relationships and (2) the cost related to choosing new (superior) suppliers and create those needed relationships (Hosseininasab and Ahmadi, 2015, p. 146).

As an alternative, Hosseininasab and Ahmadi (2015) proposes a process divided into two phases, where in the first one manager calculate the value of each one of suppliers and in the second one a mixed-integer program (MIP) portfolio model is applied, using the comparable values achieved previously. This portfolio model also "maximizes the average value of suppliers and their improvement throughout time, and minimizes the instability and covariance between selected suppliers" (Hosseininasab & Ahmadi, 2015, p. 155). Results regarding the application of this alternative procedure demonstrate that by doing a better selection of suppliers at first, the costs related to the periodic evaluation of the relationships decrease, and there is less likelihood that suppliers will have to be replaced (Hosseininasab & Ahmadi, 2015).

So, today it is more accepted that the process of choosing suppliers does not depend solely "on their eligibility at the time of the decision making", but also on the predictions and analysis of "the past changes and future potentials of suppliers" as it reduces "the need to periodically assess and replace existing contracts" (Hosseininasab & Ahmadi, 2015, p. 146).

According to Olsen and Ellram (1997), the analysis of suppliers consists of three steps, which are (1) analysing the company's purchases so the ideal relationship type of purchase can be discovered and used in bigger ones, (2) analysing the company's current relationship with suppliers to understand the way supply task is managed within the company, and (3) developing an action plan which allows the improvement of the current supplier relationships, by comparing the (ideal) step 1 with the (actual) step 2.

Focusing on the development of business relationships, key supply management (KSM) appears as "a set of practices, put in place by certain companies, that allow certain suppliers (here called key suppliers) to receive a specific, adapted treatment (i.e., different from the one usually used for other suppliers)" (Pardo et al., 2011, p. 854). However, it should be noted that not all companies have a positive and important impact on a company's performance, but just a limited number of them (Pardo et al., 2011). Moreover, by executing KSM, companies can achieve higher relational value than if they apply the usual supplier management, since with the last there is no interaction or networking between buyer and supplier (Pardo et al., 2011).

While purchasing portfolio models frequently separate purchases by different groups according to sets of purchases or supplier relationships and uplift the exploitation of power or depress risk, KSM is about organizational changes to support new kinds of (relational) exchanges with suppliers, so key supplier managers and purchasing managers "are two complementary devices to manage suppliers" (Pardo et al., 2011, p. 860), as the first ones do not substitute the last ones.

However, there are some critical barriers to develop collaborative buyer-supplier relationships (Emberson & Storey, 2006; Pardo et al., 2011). For instance, KSM cannot pop out because (1) is seen as a limited change and does not practice complete management, not considering, for example, reward systems nor the provision of adequate resources to carry out the work, (2) there are no control systems, (3) some stakeholders believe that with the implementation of KSM their functions or status decrease, (4) there is no formal structure in KSM project, (5) there is no well-designed model that demonstrates the impact of the KSM program, (6) the long-term is not fully considered, (7) there are many suppliers to consider as key suppliers, (8) there is no teamwork or either support from top management, and (9) there is lack of supplier orientation within companies (Pardo et al., 2011).

On the whole, supplier portfolios can be used in the designing and preservation of value (Day et al., 2010). Even more, management of supplier portfolio is crucial since by practicing it companies can reduce dependence on certain suppliers that could "impact cost, quality, or delivery reliability" in a negative way, reducing also the risk associated to it (Day et al., 2010, p. 626).

2.3 External Factors that Influence the Supplier Portfolio

The COVID-19 pandemic, the inflation, and internationalization process can have a significative impact on corporate travels. Herein, these three external factors are addressed regarding how they affect supplier portfolio.

"COVID-19 pandemic is having a strong impact on BtoB markets", by influencing the production to stop, due to "the difficulty of coping with payments", and by imposing "restrictions on the flows of people and goods within national and international markets" (Runfola et al., 2021, p. 105). At the same time, this pandemic had affected about 90% of the population around the world (Tsvetkova et al., 2022), which further aggravates all the negative consequences.

All the consequent events of the pandemic, such as the worldwide lockdowns or social distancing, have a negative influence on interaction, which is one of the most important characteristics of business relationships, and it can also influence in a negative way social relationships and face-to-face communication (Runfola et al., 2021).

Even more, according to the same authors, with the pandemic came "the need to leverage existing relationships" since "stablishing new interactions" in "social distancing conditions and limitation of transfer of people and goods" is more difficult than retain the actual ones (Runfola et al., 2021, pp. 110-111). If maintaining the existing suppliers, the company uses the freezing effect in the focal dyad interaction, where the interactions are retained in the minimum operating levels so both supplier and buyer can survive (Runfola et al., 2021).

As China showed economic growth during the COVID-19 pandemic, the “strengthening of relationships” can also be considered, increasing the “number of interactions between the actors”, known as a “rebound effect” (Runfola et al., 2021, p. 111). At the same time, there is also the “vicious effect” of the pandemic, which represents the decrease or extinguishment of relationships (Runfola et al., 2021, p. 105).

Regarding the hotel reservations, according to Guizzardi et al. (2022), the highest prices charged by hotels decreased by approximately 17%, and the minimum rates did not show meaningful changes despite the increased costs related to the COVID-19 safety measures.

COVID-19 itself brings a lot of uncertainty and tension to the interaction between those involved and, at the same time, influence negatively the interaction, due to the social distancing required by it (Runfola et al., 2021). Regarding uncertainty, it varies according to its sources and the way it is experienced, and it is difficult to measure as it includes different dimensions and levels (Runfola et al., 2021).

Finally, according to Runfola et al. (2021), the importance of digital tools and online technologies increased due to the pandemic, and it is now important to understand if those changes had influence in the corporate travels’ amount and concept.

In 2021, the idea of inflation started to raise in the United States, with consumer prices starting to move steadily upward (Hall et al., 2023). The year 2022 started with the same trend, and this pattern was similar since 2021 in the euro area and the United Kingdom (Hall et al., 2023). At the same time, “since the second half of 2020, shipping costs have soared”, with costs of shipping containers by maritime freight increasing over 500 percent when comparing with the pre-pandemic levels and costs of shipping bulk commodities by sea tripling (Carrière-Swallow et al., 2023, p. 1). Besides that, those changes can influence consumer prices (Carrière-Swallow et al., 2023) and purchasing power.

The internationalization process, according to Gammeltoft and Cuervo-Cazurra (2021), is the enlargement, both temporal and special, of the distribution of the resources and governance structures of the company across national borders. Gammeltoft and Cuervo-Cazurra (2021) also identify “three accelerators of the internationalization process", which are (1) the government, which supports directly and indirectly internationalization through reduction of risk, (2) the catch-up, by allowing companies "to upgrade capabilities via internationalization", and (3) the global value-chain, as emerging market firms can connect to global value chain and then become international (Gammeltoft & Cuervo-Cazurra, 2021, p. 2).

3. METHODOLOGY

The present study aims to understand segmentation of the travel department of a company on the energy sector. Further, it takes into consideration external factors that have had much influence worldwide over the last years, which are the COVID-19 pandemic, internationalization, digitalization, and legislation.

3.1. Research Strategy

This study adopted a multi-method qualitative, cross-sectional study with exploratory purpose (Saunders et al., 2019), which aims at understanding the supplier segmentation of non-core business suppliers. Because this study resorts to a case study strategy, the sample could not or should not "be chosen at random from a sampling frame" (Saunders et al., 2019, p. 315). More specifically, a purposive sampling was used so that the author could select a case that would better allow the answers to the research questions, meeting the objectives of the study (Saunders et al., 2019).

As the intention was to study segmentation, portfolio management and relationship with suppliers in an area that was not the company's core business, it was chose the corporate travel as it is an area with a very broad portfolio of suppliers.

3.2. Collection and Analysis of Data

As mentioned previously, this study was developed using primary data – through the realization of semi-structured interviews – and secondary data – through the consultation of organizational documents and author's personal notes – (Saunders et al., 2019).

A total of seven semi-structured interviews were carried out, eight employees were interviewed, with different functions in the areas of segmentation, supplier portfolio management and relationship with suppliers. One of the seven semi-structured interviews was with two interviewees, and all of them were carried out via videoconference – internet-mediated interviews (Saunders et al., 2019). After some interviews the data started to provide few new insights, and at the end of the 7th one, it was already saturated, so the collection of qualitative data stopped (Saunders et al., 2019).

The average duration was one hour, and all interviews were recorded in a consented manner, in addition to all data collection being authorized by the human resources team designated for that purpose. The interviews took place between August 16th and September 14th, and those involved were selected based on the author's knowledge of the topic in question, working in the corporate travel department or in other areas related to segmentation and management of the supplier portfolio. In the Appendix D can be found the detailed roles of the interviewees.

The script with the key questions addressed can be consulted in the Appendix C, although the order varied depending on the interviewees, who spoke freely (Saunders et al., 2019). It consists of one introductory part that explains the purpose of the study, followed by questions that emerged from the deconstruction of the research questions and consequent connection to the literature review. Interviews began after ensuring that the script focused on everything that was of interest to the study. In addition to the sound record, notes were also taken to collect the information (Saunders et al., 2019).

Moving to the secondary data, text documents were consulted and analyzed, more specifically the Group's official website, annual accounts report, emails exchanged with interviewed employees, author's personal notes, and transcripts of interviews carried out (Saunders et al., 2019; Yin, 2011).

Finally, after data collection, it was made an analysis of the results to then draw conclusions and respond to the research questions. Following Yin (2011), despite there was an informal analysis since the data collection period (by always checking if the data gathered was adequate), to be able to carry out the real analysis, it was required to start by compiling and sorting all data gathered during the collection. In this phase, a database was created, with all information from interviewees, author's personal notes, and archival research organized (Yin, 2011).

Then, the data previously compiled was disassembled in seven chunks provided by the conceptual framework, through a deductive coding (Yin, 2011). After that, data was reassembled, by identifying misfit to patterns, with the aim of finding broader patterns within the previously coded data (Yin, 2011). The result of these two steps can be seen in in the next chapter, the Case Study. Finally, data was interpreted by describing, unraveling, and then explaining the phenomenon studied considering the Literature Review, which can be seen in Chapter 5, the Discussion of Results (Yin, 2011).

4. CASE STUDY

Energy is a Group that stands out in production, distribution, and sale of electricity. Headquartered in Portugal, it operates in 29 geographies, having more than 13,000 employees around the world in the first half of 2023. The Group company linked to the production, distribution, and sale of electricity in Portugal is listed on the PSI-20 Index, and the Group exceeded 400 million euros in profits in the first half of 2023. The largest share of business is currently in renewable energy, with a weight of 56% of EBITDA and 77% of the Group's capex in 2022.

The case study was mainly carried out with the area responsible for the Group's corporate travel, which, although not belonging to the Group's core business, generates a turnover of 25 million euros annually. Even so, an interview was carried out with two employees who work with all the Group's suppliers.

4.1. Supplier Classification

Energy has a very structured and consolidated strategy of segmentation and consequent management of its supply chain. The area responsible for purchasing and supplier management of the Group used various criteria to build its supplier classification model, including Kraljic's matrix, dated from 1983. More details on this cross-group classification of suppliers can be found in Appendix E.

Despite there are strategic, critical, transactional, and potential suppliers, as travels do not belong to the core business of Energy, those suppliers of airlines, hotels, car rental, and taxis and "similar" are not considered strategic for the Group. However, travel agencies – suppliers in charge of assisting employees and the department with reservations and travel in general – are considered critical as they handle employees' personal data. Nevertheless, the department responsible for corporate travel, due to the direct contact it has with its suppliers and customers, makes its own segmentation, categorizing some as strategic.

Depending on the interviewed, supplier classification can be seen in two different ways. One is by dividing the different suppliers according to their scope - all airlines in one box, all hotels in another, and so one. The other option differs from the first one in airlines and hotels, as specific suppliers of each scope are strategic, with whom Energy has a large volume of business or who end up giving significant discounts to the Group, while the other suppliers of the same scopes are non-critical or leverage.

Regarding the first option, airlines are considered strategic suppliers since annual values spent are higher than with the other suppliers and because there are not as many airlines offering the necessary routes as hotels close to business units, for example.

Showing the matrix of Kraljic to the interviewed, they can see car rental suppliers as strategic or as bottleneck. Basically, from both perspectives the supply risk is high – while in hotels and aviation there is always an alternative, even if there is no agreement or if the route or price is not the best, in car rentals there are few possibilities capable of meeting Group's requirements –, but while some employees prefer to consider them as a niche – according to one of the interviewed, "there are very few companies in the car rental market that manage to respect our needs, I think that car rental turns out to be, for us, a niche" –, categorizing them as strategic suppliers, the others believe that in terms of cost reduction for the Group, these suppliers are not as significant as airlines or hotels, considering them as bottleneck.

As far as hotels are concerned, there is a lot of supply availability in the market, so the supply risk is low. However, the impact on costs is high since there are many reservations annually, and discounts for Energy employees are established in the agreements, meaning that the Group's costs are lower in these hotels. So, it is important for the department that these tariffs are negotiated and advantageous for the Group, but the offer is large and therefore these suppliers are not extremely critical. In this way, in some situations the cost of negotiating and executing agreements may not be justified and in these cases, employees are subject to general rates, with no special discount for the Group. That said, hotels are considered leverage suppliers.

Finally, taxis and "similar" are non-critical suppliers as the offer is great, there is always an alternative, and for the Group there is practically no advantage in establish those agreements since there is no discount for employees and consequently no savings for the Group. The only advantage is that the invoice automatically integrates with the *online booking tool* (OBT), which makes it easier for employees to regularize expenses. Still, many times this automation does not work.

Moving on to the second option, and about airlines, the department responsible for travel classifies as strategic those that are flag carriers, companies such as Ap, due to its presence in Portugal, As, due to its presence in Spain, Aa via the United States, Ak, due to the presence in Europe, and Ag as it is very large, with many routes. They are stable and have a market capacity and a financial history that satisfy the Group's needs. In addition, they offer essential and, to a certain extent, exclusive routes to the Group and are considered safe, being therefore considered strategic.

In terms of hotels, the more hotels a chain has, the more significant it becomes, as it ends up having a greater volume of overnight stays. There are also some small hotels that are quite relevant and strategic for the Group, because some geographies do not have much offer and Energy has employees who travel there, needing hotels. Then, some hotels can still be identified as leverage because they have a lot of impact in terms of volume, but they are not easy companies to work with, mainly because they make a lot of mistakes, so if the department stopped working with these suppliers, would not be critical. It is because they would be able to move many employees to other relevant chains, and those who, even without an agreement, would continue to sleep there, would be translated into a cost that is probably lower than the cost the department has solving the problems.

Finally, the non-critical suppliers are all those airlines and hotels that are not very significant, with low business volume.

4.2. Portfolio of Suppliers and Important Dimensions when Segmenting

Regarding the selection of suppliers, to be included in the portfolio, suppliers must comply with several requirements imposed by the Group. The dimensions considered when segmenting are mentioned below, but in general, about hotels it has to do with proximity to areas where there is activity, namely the business areas. Regarding aviation, it has to do with looking for companies that offer routes of interest to the Group, always giving priority to suppliers Ap, As, Aa, Ak and Ag. And when talking about car rental, the requirements are very restricted and market consultations are required as with this type of suppliers an agreement is not enough and there is the need to do a contract.

Two pillars are followed by the corporate travel department when dealing with supplier portfolio, and they are responding to customer needs and reducing costs for the company, always with associated quality. The first step is to meet customer’s need, then it is necessary to see who can provide that service, and finally the price is discussed, and for it to be worthwhile for Group and suppliers, it must be within the Policy plafond.

It is also important to notice the ability of suppliers to use technology and innovate. The integration with the OBT is crucial and for example smaller hotels often cannot integrate with it. So, it is with these hotels that the department must carry out an analysis, that is, if the hotel is important, even without capability to integrate with the OBT an agreement is signed.

It also matters if the supplier is unique or not because, for example, if there is only one airline capable of doing one specific route, it doesn’t matter if it is costly or not, the Group must make an agreement with that supplier anyway. So, for new agreements, priority is given to suppliers that work with the OBT. However, if they are unique, or if employees build high volumes in suppliers that do not work with it, then the department maintains these suppliers, being proved that customer feedback is crucial.

It is also important to find out if suppliers are recognized for the safety, have notoriety in the market and financial stability, manage to comply with the Group’s code of ethics, and meet the Group’s requirements. A risk assessment is carried out also. At the same time, is also necessary to understand if suppliers have a location in Europe or accept European rules, particularly in terms of payments. Basically, the Group is increasingly interested in the global scope of suppliers, always giving priority to hotel chains with hotels in several countries, to the detriment of locals, which apply different rules, procedures, and payment methods, for example.

Uncertainty connected to internationalization is another important dimension to consider when segmenting, because the department never knows exactly what the next geography is or if an airline will change the route, for example. And this impacts the selection of suppliers as the offer at that time may not be the right one or the most advantageous in the future. Also, current suppliers may not be able to keep up with Group’s evolution. Hence the need for the Group to maintain relationships with global suppliers, who can ensure services in new geographies from one day to the next.

The suppliers' stability, namely in the delivery of the service, is another important topic to consider when selecting suppliers. For example, if the employee has booked a rental car for 9 am, the car must be ready by that time. Then, it allows, among other things, to understand if there is financial capacity or if suppliers have a structure that can respond to Group's requests. Consequently, if the supplier shows stability in delivering its service, the department can provide a good customer experience, not having operational losses and building a trusting, long-term and partnership relationship, reducing future risks.

Moving to the management of the supplier portfolio, the same method for all types of suppliers is applied based on volume and quality. More specifically, an annual analysis of the travel database is done considering the volumes spent. Suppliers with highest volumes show that customers opt for them, becoming the negotiation priority and those that the department wishes to keep in the portfolio. It is with them that the department can negotiate higher discounts for next year. "People's feedback is very important", says one of interviewed. At the hotel level, the segmentation is based on the number of overnight stays that each hotel or hotel chain has annually. In these cases, the department defines a relevant target of overnight stays and plafonds according to the different cities. For example, the overnight stays and the prices are much higher in Lisbon than in Seia, so 40 nights in Seia are worth much more than 40 nights in Lisbon. From an aviation perspective, volumes are divided by routes, with differentiation according to the type of class.

Then there is a second criterion that has to do with the expansion of the Group. That is, what is envisioned in the business plan for the following year or for the next three years, depending on contracts with suppliers.

By applying these two steps, the department decides if certain supplier is to keep or to remove from the portfolio. This process is done in close relationship with other areas involved in the process. These areas are (1) employees C and D department, responsible for managing contracts/agreements and evaluating suppliers, and (2) employees E and F Unit, responsible for contracts, purchases, and management of supplier relationships of Energy. More details on these areas can be found in Appendix D.

Then, it is important to note that there are targets of supplier relationship for each segment. More critical suppliers, those with a higher volume, will have a closer type of management, with more regular and direct contact between both parties, which is explored deeply further on, in point 4.3. Collaboration.

So, in the management of supplier portfolio there are two basis which are product usage and customer needs, and they both aim to offer a service of excellence to customers, with relevance to them and always aligned with processes efficiency. Product usage (degree of use) in the sense that the more overnight stays, flights, and expenses with each supplier, the more important it is. Regarding customer needs, this can be seen because although there are no discounts with "similar" suppliers and integrations often fail, Energy does not remove the possibility of using the corporate profile in the apps of "similar" because it knows that this brings a good customer experience, since, when it works, it facilitates expenses regularization process.

In parallel, if, for example, the supplier is slow to respond, or does not comply with deadlines, it is always a choice to speak with him and try to solve the situation but knowing that if it is a hotel with virtually no annual overnight stays, the same effort will not be made to maintain the relationship as with a hotel with 200 annual overnight stays.

Managing a large portfolio of suppliers is always a complex task and varies depending on the size of the supplier and the criticality of the service it offers. The Group resorts to digitization to deal with so many suppliers, namely using the OBT, a robotic process automation (RPA) and a platform where employees can ask questions and solve problems. This topic is further explored in point 4.7. External Factors that Affect Segmentation and Management of Supplier Portfolio, and more details about these tools can be found in Appendix F.

4.3. Collaboration

The department responsible for corporate travel has suppliers whose relationships are collaborative, more about sharing the needs of both parties, where they always try to find a final solution that is good for both parties and try to seek justification and understand what is going wrong, through more regular situation meetings and more regular and profound monitoring (screening) throughout the year, aimed at solving problems directly and immediately. With these suppliers there are more volume, more at ease, and more strategic information sharing. It is with them that better discounts are obtained and the fact that there is a faster and more accurate exchange of information also brings operational efficiency. On the other hand, there are suppliers with whom there is a transactional relationship, where there is a service that the Group appreciates and with whom an annual follow-up email is sufficient when (re)negotiating the agreement.

Anyway, in any segment there is transparency and the website for suppliers is updated with the aim of always being as complete and enlightening as possible, and whenever there are significant changes to any process, alerts are sent to all suppliers in the portfolio that make sense, so that everyone feels included in the process, even if some more than others.

There are big chains with hotels all over the world, and they already know the way Energy works and the value that the Group also adds to them, and that is why very close and good relations arise with these suppliers, where whenever there is a new need for the department, they are willing to act and facilitate the creation of an agreement.

The interviewees believe that some advantages of segmenting and managing the portfolio of suppliers are even more visible if collaborative relationships are practiced. For example, in risk reduction at contract level, strengthening cooperation, and achieving a superior financial performance. Namely, in some cases, with this proximity, if a day-to-day problem arises, it is possible call the intermediary on the supplier’s side and the situation is easily resolved. “We’ve been trying over the years [practice collaborative relationships] because that allows us to be on another radar level”, says one of the employees of the corporate travel department. The same happens with long-term relationships, as sometimes the corporate travel department and some suppliers are in tune, and it doesn't take so many regular moments to know that that supplier is prepared to help, no matter what happens.

4.4. Advantages of Segmentation

Respecting the advantages of segmentation, it grants the department to understand what the employees’ movements are, allowing it to analyze what the constant needs are and making possible for the department to have a greater focus on certain areas or on certain routes. This is because it makes no sense for the department to be making an investment from a labor point of view, with people making endless deals with, for example, hotels with zero overnight stays. What makes sense is having necessary agreements that add some value to the Group, and segmentation allows it.

Next, the existence of different types of relationships and approaches depending on the segment to which each supplier belongs makes it possible to achieve greater effectiveness in risk management, efficiency gains and competitive advantage. However, there was an interviewed who mentioned not being in total agreement with the reduction of risk, because from the moment the Group depends more on two airlines instead of ten, when those two fails, it becomes more difficult for the rest of suppliers to get a ticket at the last minute, as they never had that such personalized treatment, and this brings risk for the department.

With continuous and regular monitoring of previously selected suppliers, the quality of the services purchased can also be improved. If suppliers and their respective costs and benefits are continually evaluated, more advantageous negotiations and cost reductions or increased discounts can be achieved.

Segmenting is also essential because it would be impossible to establish discounts, advantageous partnerships, and close relationship with all suppliers of the portfolio, as it would be impossible to have a high volume of bookings with all of them. So, segmentation is important since the department knows with whom they must invest time and resources throughout the year and with whom they can meet once a year.

Segmentation also allows the department to better understand the profile of each supplier and consequently be able to make better strategic decisions regarding each of them. Segmentation let, among other things, to understand the supplier’s delivery capacity, its geographic position, its ability to comply with the Group’s requirements, rules and regulations, the quality of service, or the history of supplier performance. For example, two car rental companies that are now involved in the market consultation process are also in the current portfolio of suppliers, so these companies are known within the department, which helps in the decision of maintain or exclude them of the portfolio.

4.5. Creation of Value

Derived from all the advantages of segmentation mentioned above, what the interviewees think is unanimous is that segmentation and respective management of the supplier portfolio creates value within Energy.

Firstly, the relationship between the department and suppliers gets narrower, as by segmenting, the focus will be with less suppliers, the strategic ones, and with less suppliers, opportunities in the relationship can be found easily. In addition, segmentation allows resources and efforts to be well targeted, increasing operational efficiency. And all these advantages of segmentation allow the creation or addition of value in the Group, because by reducing the portfolio, the administrative costs of managing it are lower and it is easier to strength relationships with those who stay in that portfolio. For example, the department moved from having several hotels agreed, which meant a lot of time invested in negotiating and controlling these agreements, to have a minimum number, effectively focusing on those that are most strategic and which really add value for Energy that “is what ends up strengthening our relationship”, says one of the interviewed.

Furthermore, as there are fewer suppliers, it becomes easier to match methodologies, processes and platforms used with all of them. Also, with fewer suppliers, it is easier to identify the supplier that can best meet the Group’s requirements for that activity and, for example in an emergency, the department already knows who to turn to, because that close relationship exists and all this creates stability which, consequently, adds value to the Group.

One of the employees interviewed says “I have to understand who my main suppliers are and work with them so that they are aligned with my assumptions and, in this way, also achieve what management has committed to in the market and the commitment that we assume before our shareholders, and that is to create value". Segmenting suppliers and then managing the supplier portfolio is “managing time and money, managing the time of our internal resources, managing the problems that occur with these suppliers”, says another of the interviewees.

4.6. Barriers to Segmentation and Management of the Supplier Portfolio

Regarding barriers to implementing segmentation, the interviewed highlighted globality and the necessity to constantly apply in all markets zoom out and zoom in. One interviewed recognize the complexity of segmentation “because we must evaluate different dimensions and it’s probably not entirely possible to do it with only 2 axes”.

The fact that the department sometimes must focus on more urgent activities than segmentation, namely KPI tasks and goals that must be achieved during the year in addition to the daily activities, is another barrier to segmentation. Energy has an entire Unit dedicated to supplier management and their sustainability so the operational areas have a model by which they can guide themselves, in addition to being able, individually, to make their own assessments and establish the relationships they feel they should establish (which is the case of the corporate travel department). The difficulty to deal with so many suppliers and coordinate the three areas involved in the segmentation process is another barrier identified by the interviewed.

Then, many times, during negotiation, when sharing some information, for example in the case of airlines, it is not known if supplier will try to invest the highest price in the route he sees that has a low market share or if there are negotiations between suppliers, which then also affect the prices they present to the Group. On the other hand, sometimes the department does not know the total interests of its suppliers, nor what leads to a certain action. This is also related to opportunism, as for example, some airline suppliers offer *x*% discount when could even offer *x*+5%. No hotel, airline or car rental will close because of Energy and so there is not much negotiating power and the only way the Group can get good discounts is by showing volume.

The uncertainty related to the delivery of the service and to internationalization, previously mentioned, is also a barrier. In addition, sometimes there are exclusive suppliers of certain products or services and, if the guidelines are strictly followed, suppliers will not be accepted, since there will be no response on the market that meets those guidelines. Or even the requirements imposed by Energy and corporate travel department are sometimes too restrictive, or complex, making potential suppliers boil down to a very short range of possibilities.

However, in order to overcome those barriers, a calendar was defined for everything, which allowed the creation of routines, and guidelines were created, using various sources, namely Kraljic. The department also uses digitalization, more specifically the tools mentioned previously and that can be seen in detail in Appendix F.

4.7. External Factors that Affect Segmentation and Management of Supplier Portfolio

Moving on to the external factors that affected or still affect corporate travel, it can be highlighted COVID-19 pandemic, with a decrease in travels to zero or almost zero when the pandemic was happening, due to the lockdowns, and an increase after that. Basically, after the restrictions were lifted, despite people restrained themselves in the number of trips to be made – since the home office brought the ability to optimize the management of meetings through videoconference, for example, and that undoubtedly had an impact on what the teams spent per year –, the internationalization increased the travels to values even higher than before the pandemic.

Regarding inflation, budgets are adjusted to it and therefore, if an employee really must go to Madrid, he will, regardless of the price of the flight. Of course, there is an attempt to find the cheapest option, but the impact of inflation is somewhat relative. Afterall, Energy has grown so much in the meantime that the number and costs of trips have effectively increased, being in 2022 higher than in pre-pandemic period (2019), unlike other companies that one of the interviewed spooked to.

COVID-19 did influence the interactions and relationships with suppliers, making it more difficult and less regular. Even so, all of this brings more advantages than disadvantages. For example, after the pandemic, interaction became more agile and faster, and meetings, being online, became more flexible and easier to schedule, avoiding wasted time and travel expenses. But there was also lack of face-to-face interaction, which translated into a break in connection with suppliers and even in trust. The fact that the department did not know when they could resume corporate travel and could not commit to dates or values to its suppliers created uncertainty. Many suppliers went on layoff, and then, upon returning to normality, some suppliers' pivots were not the same, which made communication difficult and created uncertainty. Furthermore, upon return Energy wanted to travel immediately, and many of the suppliers were not yet prepared to comply with Group's requirements, as there were many employees on layoff or who had been laid off in the sector, giving rise to some problems and difficulties.

Energy wanted to give the signal that it remained side-by-side, close to suppliers, and although uncertainty was felt, which has now disappeared, Energy tried its best not to pass it on to its suppliers. Internationalization brings a lot of uncertainty as well, as the department never knows where the Group is going to expand and is always dealing with different cultures and legislation.

Regarding the portfolio of suppliers, it remained unchanged during the pandemic, leaving aside analyses of deregulated data. Upon return, because these suppliers work a lot based on the history, and between 2020 and 2022 the numbers were not very representative, renegotiations were made based on 2019.

However, with internationalization, the department felt the need to change the portfolio of suppliers, beginning to pay more attention to the scope that suppliers have worldwide. Suppliers that manage to offer global positions have become very important and desired, because Energy is not interested in having 2,000 agreements with local suppliers but in having an agreement that offers a global position, where there are similar rules, procedures, and payment methods. Even more, in 2019, it can be said that about 80% of hotel agreements were national in Portugal, and now that figure is around 50%. According to one of the interviewed, “our strategy changes due to internationalization, it does not change because of the pandemic or inflation”.

Now, despite inflation did not bring new barriers to segmentation, COVID-19 pandemic in some way did, and internationalization certainly did. In relation to the pandemic, the disadvantages previously mentioned in this subchapter can be seen as barriers to segmentation.

About internationalization can be highlighted (1) the language, (2) the way of negotiating and the type of contracts/agreements, (3) the payment methods, which differ a lot, especially between continents, (4) the way suppliers are used to work, which are completely different from country to country and mostly from continent to continent, making the processes and the department’s attempts to reach a good port more difficult, and (5) the culture of each supplier.

Then there is digitalization, which influenced the segmentation and management of the supplier portfolio in a positive way, providing tools that facilitate the control and management of the supplier portfolio, such as an OBT, an RPA and a platform where employees can ask questions and solve problems. More details about these tools can be found in Appendix F.

Legislation is another important external factor with impact in segmentation, since sometimes it is not possible to go ahead with the agreement as legislation differs a lot from country to country. Even in Portugal, especially after the pandemic, a lot has changed, particularly regarding data protection. Contracts/agreements in this area involve personal and sensitive data (i.e., name, mobile phone number, identity card, passport, or payment method) and GDPR themes, and the department must shape to these changes.

Despite Travel Policy is not an external factor, it has connections with COVID-19 pandemic, inflation, and digitalization, so it was also mentioned in the interviews. The employees interviewed study the market to place plafonds – maximum amount each employee can use when booking flights, hotels, and car rentals – in the Policy that are adjusted to reality. After realizing what is adjusted, they take these values for negotiation, present a range of values to suppliers, and try to reach an agreement that is favorable for both parties, with tariffs within the Policy plafonds. If supplier does not give in to these values, what happens is that, although the rates are in the OBT, they will certainly not have a lot of volume as most employees do not have access to these plafonds.

Associating this with inflation, prices charged by hotels, even though they decreased a bit during the pandemic, are now at higher levels than before COVID-19. So, what has been done is an analysis of the markets to adjust the plafonds. Basically, "the Global Travel Policy will have to be adjusted to this new reality, since it is currently no longer contemplating options in some cities", mentions one of the interviewees.

Finally, the OBT of the Group was implemented in 2018 and in the revision of the Policy in 2019 it was established that its use was mandatory, so a signal was given to the organization that everything was supposed to be digital. In this way, the Policy changed the management of the portfolio a little, insofar as more digital tools were included, as well as the portfolio of suppliers itself.

5. DISCUSSION OF RESULTS

By segmenting, competitive advantage can be achieved since it allows the teams not just to better understand customers and allocate resources (Palmer & Millier, 2004) – making the department better understand supplier's necessities and then have different approaches with them –, but also to have at their disposal alternatives when they are necessary – and then to be able to negotiate with suppliers.

For these reasons, corporate travel department, "considering its own organizational and environmental situation" choose different dimensions to take into account when segmenting (Rezaei & Ortt, 2013, p. 508), creating its own supplier classification model and consequent management strategy, and evaluating suppliers in the selection phase according to the criteria defined by itself (Hosseininasab & Ahmadi, 2015). Segmentation is therefore "a prerequisite task in the management of supplier relationships" (Day et al., 2010, p. 626) and, despite these model and strategy have Kraljic's influence, many other authors and theories were used in their formulation.

What happens inside the department is that suppliers are divided in four distinct sub-groups, and not five as Palmer and Millier (2004) introduced. Suppliers are divided according to the annual business volume, annual costs (or the ability to offer discounts), and their uniqueness (Day et al., 2010), and considering the supplier availability in the market (or the supply risk) (Kraljic, 1983). After these first dimensions, suppliers are evaluated considering their characteristics and behaviors, also requiring different types of relationships (Day et al., 2010).

Based on Palmer & Millier (2004) and Kraljic (1983), the strategic segment of this department has high volumes, costs and discounts, close relationship, long-term perspective, and structured way of working. The leverage segment has high volume, costs and discounts, but inferior to those practiced by the strategic, the relationship is close but not so regular nor deep as with strategic suppliers, the perspective is long-term as well, and the way of working is not very structured. The bottleneck suppliers have low volumes and costs, medium discounts, close relationship, long-term perspective, and structured way of working. Finally, non-critical suppliers have low volumes, costs and discounts, transactional relationship, short-term perspective, and no structured way of working.

The segmentation practiced by the corporate travel combines different variables, in a "nested approach" (Palmer & Millier, 2004; Bonoma & Shapiro, 1984). More concretely, the need of hotels to be close to business areas, airlines to be safe, and taxis and "similar" with no advantage for Group but with the ability to provide good customer experience, show that segmentation is done following customer's needs (Palmer & Millier, 2004). Then, there is the dimension product usage (Palmer & Millier, 2004), as higher the volume, higher the importance of supplier, always understanding for what the supplier will be used for and whether it is more crucial or not complying with all the Group's requirements. Higher the degree of use, greater the ability to negotiate discounts, reducing costs for the Group, which is also fundamental and makes certain suppliers more strategic than others. The quality variable is implicit here, since if the volume is high, it is because the customer considers that this supplier has it.

To a large extent, a supplier remains in the portfolio if its volumes are high, showing that customers opt for them, justifying the resources used in the negotiations and proving that customers dictate the trend (Palmer & Millier, 2004). But, at the same time, airlines must be capable of offering essential and exclusive routes, car rentals be able to meet Group's requirements, hotels belong to a global hotel chain, and the market must always be previously studied to understand if all suppliers have a size that can support Energy's business, not failing to provide services. So, these show that segmentation is done also following the firm's strategy (Palmer & Millier, 2004).

Then, assuming that a risk assessment was already done and suppliers are hired, they have financial stability, notoriety in the market, and manage to comply with the Group's code of ethics and requirements, the department always opts for suppliers than can offer higher quality, satisfaction, and excellence, because this then impacts the Group's results and allows the department to lessen the manual control that is carried out by the team.

There are other important dimensions related to segmentation, such as the suppliers' capability to use technology and innovate, and digitalization. If the supplier is unique, the Group must accept it as it is, but by having different options to choose from, suppliers capable of using digitalization or innovate will stand out.

Uncertainty can be experienced in different ways and through varied sources when segmenting, depending on what causes it and, at the same time, it is hard to measure, depending on its dimensions and levels (Runfola et al., 2021). Despite Runfola et al. (2021) highlight the uncertainty caused by COVID-19 pandemic, throughout this case study, it can be identified in processes related to internationalization too, and can influence the customer experience, being seen as a barrier to segmentation.

In addition to taking into account the value, development and fall of suppliers when selecting them, their stability must also be considered, particularly in the delivery of the service (Hosseininasab & Ahmadi, 2015), since it can influence the satisfaction of Energy employees. At the same time, that stability makes it possible to build a trusting and long-term relationship, reducing future risks and allowing the team to understand whether suppliers can respond to the Group's requests or do not. These relationships, which the department has with some suppliers considered strategic, also allow it to have confidence in the service it acquires and to achieve higher discounts (Hosseininasab & Ahmadi, 2015), consequently reducing the costs for Energy.

The department uses the approach proposed by Hosseininasab and Ahmadi (2015) when selecting its suppliers, that consists of paying attention to several dimensions when choosing them, opting for doing a better selection at first. Subsequently, segmentation is quite demanding in industrial markets (Boejgaard & Ellegaard, 2010) but, at the same time, very imperative (Palmer & Millier, 2004), and therefore suppliers cannot be classified according to just two dimensions, unlike Kraljic (1983) defends on its approach.

After segmenting suppliers, it is crucial that their portfolio is managed, reducing dependence on certain suppliers that could "impact cost, quality, or delivery reliability" in a negative way as defended by Day et al. (2010, p. 626). By focusing on the portfolio, there is risk reduction (Pardo et al., 2011) and design and preservation of value (Day et al., 2010), as teams can focus on what really matters and with whom they defined as the best option. However, it is always necessary to pay attention to the scope of the portfolio and do not completely rely on the fewer suppliers, so as not to give rise to the leverage of opportunism on their part (Day et al., 2010).

The management of the supplier portfolio, very generally, is done following the same procedures for all segments. But it cannot be said that Rezaei and Ortt (2013) are completely wrong in arguing that each segment requires a different implementation strategy, as there are small peculiarities, namely in the management of relationships with suppliers, as well as in the efforts that teams make to retain suppliers despite the mistakes they make, depending on the segment to which they belong.

Despite the department, in general, practices "individual and isolated relationships for dealing with certain functions" with most suppliers, there are some with whom the portfolio relationships are "between the company and its suppliers" (Sepehri, 2013, p. 54). Therefore, unlike in the past, nowadays relationships are more relational and collaborative, as defended by Pardo et al. (2011), although some more than others. So, corporate travel department practices collaborative relationships with some of its suppliers, even though they are not strategic for Energy because the area, buyers and consequently the Group benefit from it. And it happens because, as defended by Hosseininasab and Ahmadi (2015), when there is a closer relationship, or a long-term one, there is stability in plans from future and strategies, service's reliability, better know-how regarding all the process, and better discounts, and, according to Pardo et al. (2011), better quality, strengthened cooperation, knowledge acquisition, and superior financial performance. Those close relationships also allow higher operational efficiency and consequently creation of value to the Group.

However, not all relationships are collaborative, as it is impossible to have this type of close relationship with all suppliers, nor is it important to share more in-depth information with all of them, nor, as suggested by Pardo et al. (2011), do they all have a positive or important influence on the Group. The suppliers with whom there are more volume and long-term partnership become the ones with more share of strategic information and where there is continuous collaboration, innovation, and improvement of established conditions for both parties.

They are called key suppliers in the KSM theory defined by Pardo et al. (2011), and receive specific and adapted treatment (Pardo et al., 2011). By practicing regular moments of communication with suppliers, a relationship is created, and cooperation is strengthened, and if there is a problem there ends up being more mutual help, and this makes the agreement itself strengthened through the various experiences that those involved are having. Basically, by using KSM, higher relational values can be achieved than with regular management of suppliers where there is no room for relations, interactions, or networking between the Group and its suppliers (Pardo et al., 2011).

If segmentation is practiced, the administrative costs related to supplier segmentation decrease, and the capacity to invest on deeper relationships with fewer suppliers, who then use complementary assets and make possible to access innovation and operational improvements, increase (Day et al., 2010).

However, corporate travel department feels that Energy's internationalization and size are barriers to segmentation, due to the complexity of having suppliers capable of providing services in all geographies. It is demanding to manage so many suppliers and then decide which ones to prioritize (Pardo et al., 2011), as well as to coordinate different areas or teams involved in segmentation process (Palmer & Millier, 2004). And despite there is one team dedicated to supplier management and their sustainability – and therefore the barrier identified by Pardo et al. (2011) related to no teamwork or support from top management does not apply –, as the department responsible for corporate travel wants to practice its own segmentation, sometimes it is faced with the fact that it has operational, more urgent and short-term tasks to solve, leaving segmentation a little aside, as it is complex and demanding (Palmer & Millier, 2004). Some market characteristics can be seen as barriers in segmentation too, such as impact of information, imperfect market conditions, and limited rationality, which leads to opportunism. And although there are structured and generalized guidelines that help teams to select suppliers according to Energy's needs, the truth is that sometimes these guidelines cannot be strictly followed or applied with all suppliers as they do not cover all circumstances and conditions (Palmer & Millier, 2004).

To overcome all the barriers, the department carefully studies potential suppliers before including them in the portfolio and resorts to the know-how of the team that manages suppliers and purchasing, to digitalization and to collaborative relationships with some suppliers.

COVID-19 pandemic, internationalization, digitalization, and legislation are external factors that also influence segmentation. Inflation felt in the last times, on the contrary, has no impact.

COVID-19 pandemic influenced corporate travel of Energy, decreasing volume and cost of trips due to the "restrictions on the flows of people and goods within national and international markets" (Runfola et al., 2021, p. 105). At the same time, the uncertainty felt during and in the post-pandemic period, together with lockdowns and social distancing imposed by the pandemic, had influenced face-to-face communication and business interaction (Runfola et al., 2021) between the suppliers of corporate travel and the department. Those consequences, in addition to stakeholders being in different stages of recovering, are barriers faced during the pandemic. But despite during this period the interaction was more difficult than usual, had decreased, and had switched to a remote model, both uncertainty and relationships between the department and its suppliers have already returned to the levels they had in the pre-pandemic period.

The department used the freezing effect in the focal dyad interaction, maintaining suppliers during this period and practicing interactions in the minimum operating levels so all stakeholders could survive (Runfola et al., 2021). The previously agreed values have decreased slightly, which partly corroborates Guizzardi et al. (2022) idea about the hotel rates having decreased, but here it does not apply in full because the rates charged were not the maximum, as he mentions. When returning to the normality, new agreements were made based on volume of before pandemic and having inflation in consideration.

Regarding inflation, despite there was a generalized increase in consumer prices since 2021 in USA, EU, and UK (Hall et al., 2023) and so in prices related to travels, the travels themselves did not decrease due to inflation. What inflation brought was an awareness of certain costs and the need to study the market to see if it is necessary to adjust the plafonds of the Travel Policy, as it is an inside-out process with Policies adapting to the Group's strategies and market trends and not the opposite.

However, the real impacts of COVID-19 pandemic and inflation cannot be measured, since the numbers say that there was an increase of travel inside Energy, namely intercontinental trips, and associated costs because of internationalization. Basically, and despite the recommendation to prioritize videoconferencing whenever possible – since COVID-19 pandemic brought the possibility of working remotely and employees realized that many trips could be replaced by video conferences –, there was no pressure from the Group to reduce corporate travel due to inflation, so much so that it, and associated costs, have been growing, now reaching higher values than in 2019.

The Group is internationalizing as over the years it is acquiring businesses in other countries, spreading its resources and governance structures all over the world (Gammeltoft & Cuervo-Cazurra, 2021). This brings uncertainty and barriers such as the language, the way of working and negotiating, and the payments methods. And considering that internationalization has an underlying context of frequent changes by buyers and suppliers, sometimes the implementation of "complex, linear, and step-by-step guidelines" when segmenting may not be applicable (Palmer & Millier, 2004, p. 781). Different cultures make procedures more demanding, and it is also why the department prefers international suppliers, who are open and used to work in a global way, and applying global rules and methods, to standardize the maximum as possible, creating a more efficient and simplified partnership, to the detriment of local suppliers.

The widespread adoption of technology, and the increase in remote work and in the importance of digital tools were leveraged by the pandemic, as Runfola et al. (2021) says, and they had a direct impact, which remains, not just on the way the department communicates and collaborates with its suppliers, but also in some ways of working, becoming the resolution of some tasks more agile and faster.

Finally, legislation is another external factor that impacts segmentation and can be seen as a barrier, as it varies from country to country, making the team's work in selecting and managing suppliers difficult. At the same time, it is a topic that, even in Portugal, especially after the pandemic, is increasingly complex, particularly due to data protection and GDPR.

Thus far, although there are difficulties related to segmentation, the department practices and takes advantages from this, contrary to what Boejgaard and Ellegaard (2010) argue. There are many dimensions to take into account when segmenting, including external factors, and although Day et al. (2010) argue that portfolio models are governed by "two principal taxonomic constructs of power and dependence and relational factors", following this case study it can be seen that more than power and dependence, suppliers are segmented in order to bring the greatest possible profit, competitive advantage and, according to Day et al. (2010), value creation and management of risk.

It was understood that relationships with suppliers, even if they are not the company's core suppliers, can be relational, bringing advantages. The sharing and delivery of both parties prevails, to the detriment of the power of one and dependence of the other. And the management of the supplier portfolio, being very identical between segments, tends to vary precisely in the type of relationship that is practiced.

6. CONCLUSIONS AND LIMITATIONS

6.1. Main Conclusions

The aim of this dissertation was to study the segmentation, portfolio management and supplier relationships in the B2B market in the areas that are not core to the companies.

The dimensions used by the department studied, which make it possible to divide suppliers into different segments having different forms of management and relationships between buyer and supplier, corroborate those identified by Day et al. (2010) and one identified by Kraljic (1983). And those dimensions are the volume of purchases made from suppliers and consequent annual costs, or discounts offered by them – corroborating the variable product usage identified by Palmer and Millier (2004) –, and their uniqueness (Day et al., 2010), as well as the supplier availability in the market (Kraljic, 1983).

In addition to these dimensions, it is also important to differentiate, also in internationalized companies, the suppliers in terms of their offer in the market, in line with the supply risk mentioned by Kraljic (1983), i.e., suppliers that have a wide global reach and that can provide services to companies in as many geographies as possible stand out from the rest. Also of interest are the dimensions of proximity to the business area, safety, and quality in the provision of the service, the ability to meet the companies' requirements and code of ethics, the financial stability, notoriety in the market, and the provision of a good customer experience, corroborating Palmer and Millier (2004) theory that segmentation is done according to customer needs and firm's strategy.

Then, the ability to use technology and innovate, and the digitalization practised by suppliers are also dimensions to consider when segmenting and choosing some over others. Suppliers' stability, namely in the delivery of the service, is another dimension to consider, corroborating what is defended by Hosseininasab and Ahmadi (2015), because it is connected to customer experience. Finally, supplier uncertainty is another important dimension, being closely related to external factors that affect segmentation. With all these dimensions to consider in segmentation, is corroborated the idea of Hosseininasab and Ahmadi (2015) which defends that the initial assessment and subsequent selection of suppliers is so rigorous that the suppliers in the portfolio remain practically unchanged, continuing to be the best option year after year.

In general terms, the management of the supplier portfolio is transversal to all segments, since suppliers are kept in the portfolio considering the maintenance or improvement of the dimensions presented above, but above all if the previous year's volumes justify the continuation of the agreement. The differences in management arise at the level of relationships, as more crucial suppliers, those with a higher volume or that are unique, have a closer type of management, with more regular and direct contact between both parties, predisposition to fight for the continuity of partnerships, and share of strategic information, and where there is continuous collaboration, innovation, and improvement of established conditions for both parties. What happens is that the KSM theory defined by Pardo et al. (2011) is corroborated, since the department has key suppliers with whom it has more regular communication and with whom there is more specific and adapted treatment on both sides, creating a closer and win-win relationship, with strengthened cooperation.

Then, changes in segmentation are later reflected in changes in the way companies relate to its suppliers, even if they are not very recurring or sudden. Basically, this study showed that with strategic suppliers the relationships are much closer and collaborative and with more moments of interaction, so changes in segmentation will affect the relationship between companies and suppliers, with involvement and sharing of information on both sides decreasing. Now, as segmentation is a relatively static topic, where suppliers do not change from strategic to non-critical from one moment to the next, also relationships with suppliers do not tend to change from one moment to the another.

This study allowed to realize that external factors such the COVID-19 pandemic, internationalization, digitalization, and legislation affect, or have affected, segmentation. More specifically, COVID-19 pandemic decreased the corporate travels and the costs associated with them, as well as the relationships with these suppliers, as Runfola et al. (2021) mentioned. Then, the pandemic brought uncertainty, as argued by Runfola et al. (2021), and this affected segmentation in the sense that the activity stopped, and suppliers were no longer used. At the same time, despite the attempts to maintain contact with suppliers, many of them put their employees on layoff, or fired them, which made it difficult, but not impossible, not only to maintain relationships during the pandemic, but also to leverage the activity when Energy needed to resume traveling, as suppliers were not yet ready. The freezing effect in the focal dyad interaction proposed by Runfola et al. (2021) is corroborated, as suppliers were all maintained and the relationships were reduced to the minimum levels of operation, so that no stakeholder was harmed. Basically, the way the department managed its portfolio changed a bit, but the portfolio itself did not change. Due to these, COVID-19 pandemic brought barriers to segmentation, but all these changes and consequences were temporary, and it all returned to normality.

About internationalization, what happens is that intercontinental travel has increased, and with it so have the costs. At the same time, the portfolio of suppliers changed, with the necessity of adding more global, suppliers. It has also brought uncertainty and barriers, since entry into new geographies may requires not just new suppliers, but also new rules, cultures, languages, payment methods, legislation, and ways of working and negotiating.

Moving to digitalization, it influences the management of supplier portfolio since the tools used to evaluate suppliers are becoming digital. The portfolio of suppliers is also influenced since by starting to use an OBT, suppliers must be able to integrate into it to be in the portfolio, and only if they are unique or extremely important, is this requirement ignored. At the same time, digitalization facilitates communication and relationships.

Legislation influences segmentation in a negative way and can be seen as a barrier, as by varying from country to country, makes the team's work of selecting and managing suppliers more complex. In Portugal, especially in the post-pandemic period, it has become an increasingly complex issue, particularly due to data protection and GDPR.

The idea of Boejgaard and Ellegaard (2010) that segmentation is quite demanding in industrial markets is corroborated, as there are many dimensions to consider, not corroborating the idea of Kraljic (1983) regarding classifying purchased services according to only two dimensions. Even more, there are also external factors to consider when segmenting. Nonetheless, the implementation of this activity is crucial, even in areas that are not the core business of companies, since it allows these areas and consequently companies to achieve competitive advantage, as defended by Palmer and Millier (2004) and creation of value and management of risk, as defended by Day et al. (2010). So, contrary to what Boejgaard and Ellegaard (2010) argue, segmentation is practiced within companies, and more precisely, not only with activities linked to the core business, but also with the others.

6.2. Limitations and Future Research

The main limitation of this study is that it is a single case, and the conclusions could be wrongly generalized.

In future research, and since this area may be biased, given that this Group invests heavily in segmentation, supplier portfolio management and supplier relationships, other areas of other companies should be studied. Furthermore, this study has shown the relevance of KSM of Pardo et al. (2011), so it would be interesting to study it and its barriers in depth, taking advantage of existing literature.

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APPENDICES

Appendix A – Kraljic Approach Matrix

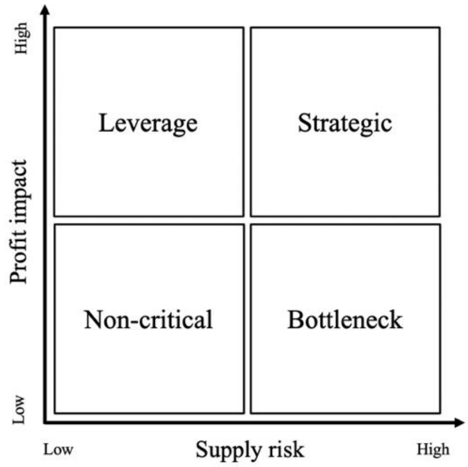

FIGURE 1 – Kraljic approach matrix (1983)

Appendix B – Segments and their Characteristics

TABLE I

SEGMENTS AND THEIR CHARACTERISTICS

Segment name	Distinctive characteristics
Hippos	High grow potential, low capture of spend, require technical expertise, low price sensitivity, long-term perspective.
Lions	High spend and relatively high capture, independent, price conscious, aggressive style, poor planning leads to high service requirements.
Future milkers	Low growth potential, low service requirements, price conscious but not aware, technically oriented, often family-owned, lifestyle and relationships important.
Sitting ducks	Low growth potential, high service requirements, sole traders or family firms, relationships important, reliable.
Sharks	Low growth potential, very price-conscious, highly transactional, poor facilities and low quality, service hungry, small businesses.

Source: Palmer and Millier (2004), p. 782.

Appendix C - Interview Script

The following questions aim to understand the segmentation of suppliers practiced in the area that manages the Group's corporate travel over the last few years. More specifically, (1) the dimensions that affect segmentation, (2) the management strategies applied to the different segments, (3) the influence that changes in segmentation can have on relationships with suppliers, and (4) the external factors that affect segmentation.

Segmentation

a) Imagine that you have a *closet* and inside there are these 4 *boxes*. Which airlines, hotels, car rental, and taxis and "similar" do you place in each of these *boxes*?
b) Do you divide suppliers into groups and then choose depending on which group they belong to? Why? How?
c) What do you feel are barriers to implementing segmentation? Give examples.
d) What is crucial for you to take into consideration when dividing suppliers into *boxes*?
e) Ignoring the Kraljic matrix, when thinking about dividing airlines, hotels, car rental, and taxis and "similar" in *boxes*, think about what dimensions? Please note that each type of supplier may have its own dimensions.
f) Returning to the initial game of *closet* and *boxes*, in which *box* do you place each supplier mentioned above, now with these dimensions defined by you?
g) If you segment your suppliers, what advantages does this bring you? Give examples.
h) Do you believe that by segmenting airlines, hotels, car rentals, and taxis and "similar", this adds value to the group? If yes, in what way?

Supplier portfolio management

a) At what level is your management of relationships with suppliers? Are relationships aimed at specific activities and functions, more between your suppliers, or does the Group already have closer relationships with suppliers?
b) Do you know the benefits, both for suppliers and for you, buyers, of practicing more collaborative and relational relationships? If yes, what benefits do you identify with? Give examples.
c) How do you choose your suppliers? And how do you maintain them?

d) How do you define the management strategies for each of the *boxes* we talked about previously? Give examples.
e) How do you deal with so many suppliers? Give examples.

External factors that influence the supplier portfolio

a) What were the influences of the COVID-19 pandemic, inflation, and internationalization on corporate travel in terms of volume and costs for the Group? Did they increase, decreased, or maintained? Why?
b) Did the events that emerged from the pandemic, such as lockdowns or social distancing, have an influence on the interaction or relationship with suppliers, or face-to-face communication? If so why and in what way?
c) What about inflation and internationalization? Were there changes in interaction or relationship with suppliers, or face-to-face communication?
d) What is uncertainty in the context of relationships with suppliers? Give examples.
e) If COVID-19, inflation, or internationalization negatively influenced relationships, how did these also influence the uncertainty mentioned above?
    i) What consequences does uncertainty bring?
    ii) How do you combat it?
f) Regarding COVID-19, does this trend still exist? Or have relationships, volumes and costs returned to what they were before the pandemic? Or have they improved? Why?
g) Has pandemic, inflation, or internationalization brought new barriers to supplier segmentation? If so, which ones?
h) Did these changes have consequences for supplier segmentation or on the supplier portfolio? How? Give examples.
i) Regarding COVID-19, are these changes still occurring, or have they already returned to pre-pandemic segmentation? Why? Give examples.
j) Did prices related to hotels change due to COVID-19? And now post-pandemic, do these values remain the same? If they changed, did the supplier portfolio change as well? How?
k) Did these changes also occur in other types of suppliers (aviation, car rental and taxis and “similar”)?

l) Did you start to apply different strategies with the appearance of these external factors? How? Give examples.

m) Are there other external factors that, in the last few years, have influenced the segmentation and respective management of this department's supplier portfolio? If so, which ones and how?

   i) Were there changes in its use during or after the pandemic or in the face of inflation or internationalization? What changes are we talking about?

Appendix D – Interviewees' Roles

Employee A was responsible for the implementation of the OBT of the Group between 2019 and 2020 and is the manager of the department responsible for corporate travel of the Group since 2020.

Employees B and H work in the department responsible for corporate travel of the Group since 2021. Employee B is responsible for hotel and aviation agreements and Employee H for car rental contracts and taxis and "similar" agreements, being therefore in charge of relations with these suppliers.

Employee C works, since the beginning of 2023, in managing contracts/agreements, supporting areas in the preparation and harmonization necessary to launch market consultations, executing and fulfilling the various contracts/agreements, and evaluating suppliers. This employee works in articulation with the Unit where employees E and F work. Employee D worked in this area until the beginning of 2023.

Employees E and F work in the Unit responsible for all the contracts, purchases, and management of supplier relationships of the Group. Employee E has been working there since 2017 in management of suppliers and sustainability. Employee F has been working in supplier relationships since 2011 being responsible for the Group category related to corporate services since 2018. Through their broad vision and knowledge of the Group, these two employees provided cross-cutting data, not so much going into the detail of corporate travel.

Employee G worked between 2016 and 2019 in the corporate travel department. First as an intern and then managing agreements with suppliers and working on the OBT. Then she moved to the continuous improvement area, contracts, and analytics, where she became manager of employees C and D in 2022.

Appendix E – Supplier Classification in Energy

The classification of suppliers is based (1) on the volume of purchases, (2) on the irreplaceability of the supplier for the Group, (3) if this supplier is used in more than one geography, and (4) if it is used in more than one business unit. After analyzing these criteria, there are four types of suppliers. These are strategic, critical, transactional, or potential.

Strategic suppliers are identified considering the weighting of supplier turnover in the last year and supplier award volume in the past three years, being strategic due to size or growth potential. Critical suppliers are identified because of the criticality matrix risk analysis and have a medium/high impact on the business, as well as high risk contracts. Transactional suppliers are last year's awarded suppliers who are neither critical nor strategic but with whom there is a transactional relationship. Finally, potential suppliers are those consulted in the previous year, with participation in purchasing processes, but which were not awarded in any process.

Out of curiosity, Energy has been distinguished with the Peter Kraljic award for at least three consecutive years for the Group's supplier management and sustainability practices.

Appendix F – Digital Tools

The OBT allows the data required to analyze the volumes to be extract and monitored quickly, easily, and truthfully, since most suppliers are localized there, as well as the bookings of all customers with each of the suppliers. The Group adopted the OBT even before the pandemic and it is the prove that digitalization is necessary and crucial for day-to-day tasks, with large companies increasingly turning to it.

The RPA helps manage supplier portfolio since it verifies that the rates agreed for hotels and car rental are correctly loaded in OBT and, consequently, that employees buy at the agreed price.

The platform where employees ask questions and solve problems is used to analyze the feedback of suppliers – solving problems and preventing them to occur again –, and to analyze if suppliers are to maintain or not, according to the feedback of employees.