

# **Improving Pricing Strategies**

The *Compracá* Case

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## **Declaração**

Declaro que o presente documento é um trabalho original da minha autoria e que cumpre todos os requisitos do Código de Conduta e Boas Práticas da Universidade de Lisboa.

## **Declaration**

I declare that this document is an original work of my own authorship and that it fulfills all the requirements of the Code of Conduct and Good Practices of the Universidade de Lisboa.

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## Abstract

*Compracá* is a company operating in the F&G market, with seven proximity supermarkets, scattered across the most central regions of Portugal. With competition growing stronger than ever before and with customer's price perception being increasingly based on comparisons between stores, *Compracá* is facing challenges regarding its pricing policies. A competition-based methodology, that consisted in shadowing two stores' main competitor's prices and consequently proposing price adjustments to *Compracá*'s teams, was applied. After analyzing this strategy's negative impact on revenue and profitability, it was clear that it did not contribute to achieve the objectives initially set.

To tackle these limitations, a new and improved methodology was proposed and tested; however, due to the shortage of data, its efficiency was not fully proven. Additionally, a managerial insights survey was distributed to all *Compracá*'s teams, that highlighted that two stores' managerial policies should be urgently reviewed: the Buraca and the Camarinha stores. A price perception survey was also scheduled to take place; however, due to the team's unavailability and to the COVID-19 pandemic, finally it could not be performed. Despite these setbacks, some conclusions regarding what is causing problems within the company were identified, namely communication problems between the company's administration and the stores' teams, the low availability displayed by the teams (for example, when collecting data that would better allow to understand consumers' attitude), unfit product assortments and lack of flexibility in what concerns adopting new pricing strategies. Lastly, and after interviewing some experts in this industry, it became clear that in order to improve the proximity format's strategies, it is urgent to recognize that its purpose is not to fully compete with big-chain stores, but to provide a superior shopping experience for which customers are willing to pay a premium price.

**Keywords:** Competition-Based Pricing, *Meu Super*, *Compracá*, Profit Margin, Consumer's Perception, Proximity Supermarket

# Resumo

A *Compracá* é uma empresa que opera no mercado do retalho alimentar e detém sete supermercados de proximidade. Estes supermercados estão localizados principalmente na zona centro de Portugal. Com o aumento acentuado do ambiente competitivo neste mercado e com o facto de a percepção de preços por parte dos consumidores ser cada vez mais baseada em comparações entre lojas, a *Compracá* está a enfrentar desafios no que concerne as suas estratégias de precificação. Para colmatar este problema, foi aplicada uma estratégia de precificação baseada na concorrência, na qual foram acompanhadas as variações de preços dos principais concorrentes de duas lojas (Buraca e Massamá). Consoante as flutuações da concorrência, foram propostas às lojas alterações de ajustes de preços. Depois de avaliar o impacto negativo que esta estratégia teve nas receitas e nos lucros da empresa, a mesma foi considerada inviável.

Para contornar esta situação foi proposta uma sugestão de melhoria da estratégia, que não pôde, no entanto, ser testada devido à escassez de dados apresentados. Adicionalmente, foram distribuídos inquéritos às equipas, tendo em vista a avaliação das suas políticas de gestão de precificação. Este questionário revelou que há duas lojas cujas políticas necessitam de ser revistas: Buraca e Camarinha. Esta dissertação contemplou também um questionário para avaliar a percepção que os clientes têm das lojas; no entanto, devido à falta de disponibilidade das equipas e às limitações impostas pelo COVID-19, este elemento não foi concretizado. Foi, no entanto, possível identificar alguns problemas que poderão estar a contribuir para o insucesso das estratégias na empresa, nomeadamente: falhas de comunicação entre a administração da empresa e as equipas das lojas, a falta de disponibilidade das equipas (por exemplo, para recolher dados que possibilitem compreender melhor as atitudes dos consumidores), sortidos de produtos inadequados e falta de flexibilidade para adotar novas estratégias. Por último, após algumas entrevistas com especialistas neste mercado, tornou-se claro que para melhorar as estratégias de precificação dos formatos de proximidade é urgente reconhecer que o propósito deste formato não é competir totalmente com as grandes cadeias de lojas, mas sim proporcionar uma experiência de compra superior, pela qual os consumidores estão dispostos a pagar um preço mais elevado.

**Palavras-Chave:** Estratégias de Precificação Baseadas em Competição, Meu Super, *Compracá*, Margem de Lucro, Percepção de Preço, Supermercados de Proximidade,

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## List of Abbreviations

|                |                                    |
|----------------|------------------------------------|
| <b>CBPS</b>    | Competition Based Pricing Strategy |
| <b>CCC</b>     | Cross-Category Complementary       |
| <b>CCS</b>     | Cross-Category Substitution        |
| <b>EDLP</b>    | Every Day Low Pricing              |
| <b>F&amp;G</b> | Food and Groceries                 |
| <b>FMCG</b>    | Fast Moving Consumer Goods         |
| <b>IPP</b>     | Insensitive Price Products         |
| <b>ITR</b>     | Inventory Turnover Ratio           |
| <b>KPI</b>     | Key Performance Indicator          |
| <b>KVC</b>     | Key Valuable Category              |
| <b>KVI</b>     | Key Valuable Item                  |
| <b>RRP</b>     | Recommended Retail Price           |
| <b>SKU</b>     | Stock Keeping Unit                 |
| <b>SPP</b>     | Sensitive Price Products           |
| <b>SSP</b>     | Super Sensitive Price Products     |
| <b>VDI</b>     | Value Destroyer Items              |

# Chapter 1 | Introduction

## 1.1 Problem background and motivation

Pricing is the act of setting up a price for a product or service. Until the 17th century, pricing strategies were reasonably simple due to the belief that goods had an intrinsic value and, therefore, a constant and fair price. After this period, with modern market economies emerging and the alienation of the traditional concept of value, pricing became a complex and multi-layered set of decisions (Phillips, 2002).

Defining an item's price is one of the most impacting decisions companies need to make (Kotler, Philip; Armstrong, 2010). A product or service's price point is a powerful agent for ensuring corporate profitability and establishing a competitive position (De Toni et al., 2017).

The Portuguese Food & Grocery (F&G) retailing market is highly competitive and this type of environment has set significant barriers for the development and implementation of effective pricing strategies (SONAE, 2018). The competitive environment is due to the high concentration of players, the diversity of existent store formats (ranging from hypermarket to convenience supermarkets), and shifts on the average consumer's profile, which is becoming more demanding and price-aware (Deloitte, 2014).

This dissertation will be focused on a specific player named *Compracá* and its motivation relies on the fact that in recent years the path that the F&G retailing market is following has set difficulties that smaller players need help to overcome<sup>1</sup>. *Compracá* is a Portuguese company, based in Oporto, that currently owns seven proximity supermarkets under the *Meu Super* brand insignia. *Meu Super* is a franchising store concept, owned by SONAE.

SONAE is one of the most important players in the Portuguese F&G retailing market, specifically SONAE MC, a market leader enterprise that represents approximately 22% of market share, with total sales surpassing 4 billion euros in 2018. SONAE MC's food retail portfolio includes *Continente Modelo* hyper and supermarkets, and *Continente Bom Dia* and *Meu Super* proximity supermarkets (SONAE, 2018).

*Meu Super* and *Continente Bom Dia* follow different administration strategies. While *Continente Bom Dia* is fully administrated by SONAE MC, *Meu Super* follows a franchise strategy (SONAE, 2018). *Compracá* became a SONAE partner by acquiring a franchisee license in 2014.

All *Compracá* stores have similar product assortments. The non-perishable items in the assortments are selected by the CEO and by the company's operational manager. The fresh and perishable items are selected by each store manager. Moreover, each manager, while working synergistically with their respective team, has some autonomy to choose which products the store will offer and each store's team is authorized to add or cease the sale of certain products, if local demand justifies these decisions. This customer-driven management approach is fundamental for store formats such as *Meu Super's*, since the demand for certain products can fluctuate considerably across locations. By accurately estimating demand, the upstream bullwhip effect in the supply chain can be minimized, thus minimizing operational costs and improving

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<sup>1</sup> This Dissertation's subject was actually proposed by *Compracá*.

company's profits (Zhang, 2004). Additionally, this approach helps to build a strong base of loyal customers, on which smaller stores are deeply dependent.

Regarding pricing, SONAE is responsible for proposing its franchisees an interval of percentages over the product's cost (also known as the markup percentage) that the stores are allowed to practice (for each product category or sub-category). Then, while relying on their knowledge about the local market, each store manager, along with its team, is responsible for proposing the final markup percentage to *Compracá's* administration, which has the final decision on the recommended retail price (RRP). This task's difficulty lies on the fact that apart from having to consider the constraints imposed by its suppliers and the competitor's strategies, managers simultaneously try to extract as much consumer surplus as they can. Consumer surplus is an economic measure that quantifies the monetary difference between the price the consumer would be willing to pay for a good (or service) and the price he actually pays. Therefore, companies are continuously developing methods to extract consumer surplus and maximize their profit margins.

*Compracá* is facing important challenges regarding its store's pricing management, especially for super sensitive price products. Super sensitive price (or elastic price) products are products for which demand strongly varies when their price varies vis-à-vis the competitor's price (Mata, 2013). These items do not have many differentiating characteristics and for this reason, when making a purchasing decision, the customer will first consider price and only then quality. For super sensitive price products, it is in *Compracá's* best interest to practice lower prices than its competitors so that *Meu Super* is perceived among consumers as a store where prices are attractive, which helps maximize the utility derived from the purchase. This perception will stimulate customer inflow and increase *Compracá's* revenue.

However, this perception must be achieved while simultaneously maximizing *Compracá's* profit margins (the difference between the price consumer's pay and the price *Compracá* pays suppliers for the product). Understanding this interplay between consumer perception and maximization of profit margins will be the key to improve this company's pricing strategies. After knowing this information, it is now possible to formulate a research question: How can *Compracá's* pricing strategies be improved, in a way that profit margins are maximized and simultaneously gives customer's the perception of buying at a low prices store?

## 1.2 Dissertation Objectives

This dissertation's objectives are threefold:

1. To increase the company's profit margins;
2. To improve the customer's price perception about *Compracá*;
3. To develop a simple and practicable methodology to research competitors' prices and to adjust *Compracá's* prices.

### 1.3 Dissertation Outlines

The present dissertation will follow the structure represented in Figure 1 and an overview of each chapter follows:

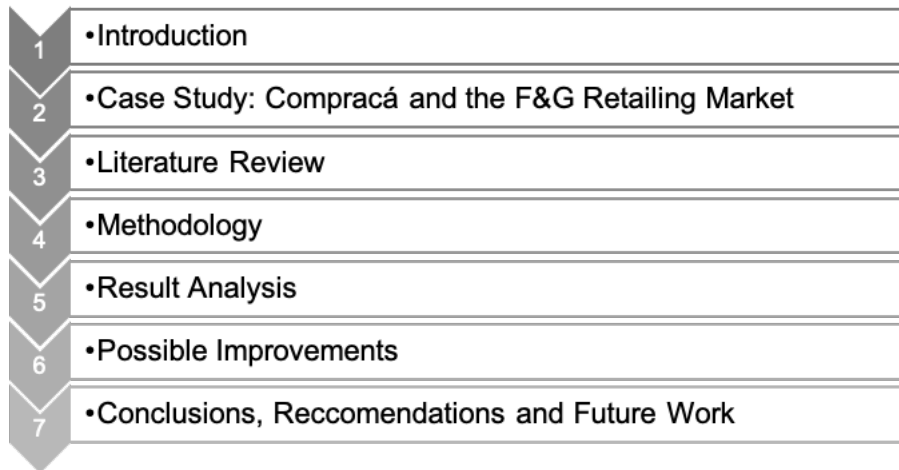


Figure 1 Dissertation's chapters with respective names.

#### 1.3.1 Chapter 1: Introduction

In this chapter, the problem background and the primary motivations for this study are explained. Some contextualization regarding *Compracá* and the market it operates in is presented. The objectives to pursue and the research question are defined. Furthermore, the remaining chapters of this work are overviewed.

#### 1.3.2 Chapter 2: Case Study: Compracá and the F&G Retailing Market

In this chapter, *Compracá* will be thoroughly analyzed. The company's internal structure and the *Meu Super* concept will be presented. Each store will be examined while resorting to relevant key performance indicators (KPIs). Moreover, various details that influence *Compracá*'s operations will be identified, such as market trends and the shifts in the average consumer's profile.

#### 1.3.3 Chapter 3: Literature Review

The main concepts and definitions related to pricing used throughout this dissertation will be clarified while resorting to relevant scientific literature and previously conducted research. Furthermore, complexities related to managerial beliefs, the F&G market and its consumers decision-making process are identified and examined.

#### 1.3.4 Chapter 4: Methodology

In order to tackle the issues that have been identified so far and to attain this dissertation's goals, a first methodology is applied. This methodology was requested by *Compracá*. All methodology elements are defined, justified and planned.

#### 1.3.5 Chapter 5: Result Analysis

In this chapter, the results obtain with the methodology that was laid out in chapter 4 are examined via its financial impact on revenue and profit. Ro understand the extent to which the methodology was unsuccessful, some alternative scenarios are drafted and evaluated.

After concluding that the methodology did not achieve the results that were predicted, some possible limitations are pinpointed. To further understand where the methodology failed and what needs to be more urgently improved, some interviews with relevant experts were conducted.

#### 1.3.6 Chapter 6: Possible Improvements

After analyzing the previous methodology's limitations, a new possible methodology is constructed. Despite having scarce data to perform it, some conclusions were reached, and some limitations were identified.

#### 1.3.7 Chapter 7: Conclusions, Recommendations and Future Work

The last chapter of this dissertation aims to provide a summary of all the conclusions that were reached throughout this work. It includes some hypothesis that explain why this company is struggling with its pricing techniques as well as some recommendations to overcome them. Furthermore, a section about future work is included.

## Chapter 2 | Case Study: *Compracá* and the F&G Retailing Market

This chapter aims to achieve two distinct objectives: to present the company and assess its current state, and to identify and examine the elements that affect *Compracá*'s pricing decisions.

The first objective will be achieved by performing an internal store analysis, which will comprise the evaluation of a select number of relevant KPIs.

To achieve the second objective, some key elements that affect pricing are firstly identified, namely the current market trends (COVID-19 effects and the growing demand for vegetarian and takeaway options) and shifting consumer behaviour (e.g. dietary regime shifts and shopping preferences). Afterward, with some market research and while resorting to macroeconomic tools (such as Porter's Five Force Analysis), it was possible to get a comprehensive contextualization of the most challenging issues companies face in what concerns pricing.

All the information gathered will be used to identify *Compracá*'s most flagrant issues and as a starting point for further chapters. To complement this chapter, Appendix A comprises a comprehensive competitor analysis.

### 2.1 History and Internal Structure

*Compracá* is a Portuguese company which started its operation in 2014, after becoming a SONAE franchisee. About 51% of the company is detained by a state fund ("Fundo Revitalizar Norte") and is managed by a company named Explorer Investments. The remaining 49% is detained by a different company named Magum Destino, which already accounts for some experience managing *Meu Super* proximity supermarkets. *Compracá* is based in Oporto and currently owns seven *Meu Super* proximity (or convenience) supermarkets. The company's structure is relatively simple: it is internally divided in only two departments, the Financial and the Operational departments. *Compracá* outsources the remaining non-core services (Human Resources, Accounting, Assurance and IT).

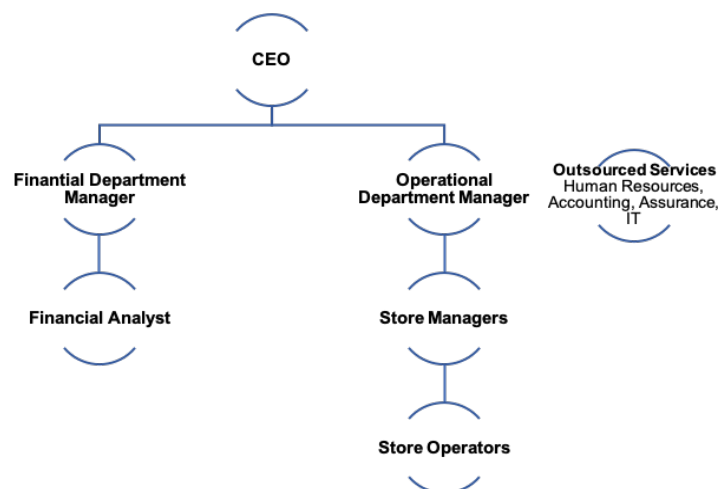


Figure 2 *Compracá*'s Internal and External Structure.



According to the company's records, it accounts for over 1400 m<sup>2</sup> of sales area and employs over 50 people. These supermarkets are geographically scattered across the districts of Lisbon, Setúbal, Santarém, Leiria, and Coimbra and have recorded close to six million euros in net sales in 2019. In the same year, *Compracá* made the executive decision to close three underperforming stores, all located in Setúbal, while opening a new store in Lisbon's metropolitan area, in Massamá<sup>2</sup>.

### 2.1.1 The *Meu Super* Franchise Structure

*Meu Super* is a store concept explicitly designed for the franchise model. In a franchise, the franchisor (in this case, SONAE) grants franchisees (individuals or companies) a license to open one (or more) *Meu Super* convenience supermarkets. Franchisees are entitled to use the brand's proprietary knowledge, trademarks and have access to SONAE MC's network of distributors and know-how (European Franchise Federation, 1999). SONAE does not require its franchisees to pay royalties (a percentage of the RRP) over any products sold. SONAE's benefit on having a vast franchisee network comes from supplying a substantial quantity of products to the franchise stores. According to *Compracá*'s CEO, SONAE stimulates franchisee's demand for its supply channels through buying incentives, like *rappel discounts*. *Rappel discounts* are a type of discount that encourages buyers to increase their purchased volumes in order to attain the highest discount possible. Purchases are recorded throughout the year, and according to the total purchased volume, a discount will be applied. The higher the volume, the higher the discount (Mata, 2013).

With the *Meu Super* stores, SONAE aims to deliver high-quality products in modern-looking and visually appealing establishments while becoming the largest franchising chain operating in Portugal (Inf franchising, 2020).



Figure 3 *Compracá*'s stores (Source: *Compracá*'s internal files).

*Meu Super* stores are located primarily in housing or high pedestrian traffic zones and intend to revitalize traditional Portuguese commerce (Inf franchising, 2020). This revitalization is achieved not only through their

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<sup>2</sup> All company related information was provided by *Compracá*'s CEO and by the financial department.

modern-looking appearance but also by providing personalized customer services and implementing an overall customer-driven strategy (Inf franchising, 2020). These personalized services include handpicking products for specific markets while considering the local customer base's opinion. Besides the range of products chosen, each team is partially responsible for final prices proposals, as mentioned in chapter 1. The fact that each store's team is involved in the price setting decisions is aligned with *Meu Super's* customer-driven strategy: since the workforce is encouraged to actively listen to customer requests and opinions, they will have the most accurate insight on how to set final prices.

### 2.1.2 *Compracá* and *Meu Super*

About 65% of *Compracá's* products are supplied by SONAE. For the remaining products, each store needs to find their own suppliers, usually in categories such as butchery or fresh fruits and vegetables. This autonomous supplier searching strategy enables stores to incorporate local products into their store's offer, which boosts a sense of community between locals and the stores and falls into the revitalizing traditional commerce framework.

All these factors contribute to a welcoming and helpful store atmosphere, which will create strong customer loyalty in the long term.

Another strategy SONAE has implemented in the *Meu Super* network to reinforce its customer loyalty is the *Continente* card (*Cartão Continente*, 2020). This card allows customers to access exclusive deals and can be used across all SONAE's supermarkets (franchise and non-franchise) and in an extensive range of SONAE owned brands, restaurants, and gas stations.

## 2.2 *Compracá's* Stores

*Compracá* stores are not centrally managed, which means that a store's performance is deeply dependent on the knowledge its team has about local customers (and how to positively influence their price perception). In order to understand how each team is handling this task, a store performance analysis follows. Conducting an evaluation will allow the identification of each store's vulnerabilities.

This evaluation comprises examining the following KPIs: monthly sales volume per square meter (KPI I), monthly sales volume per employee (KPI II), and inventory turnover ratios (ITR). Furthermore, net sales fluctuations will be analyzed, namely fluctuations between 2018 and 2019 (to have a long-term view), between March 2019 and March 2020 and between February 2020 and March 2020 (to have a shorter-term view and to try to evaluate the effects of COVID-19). To complement this analysis, the consumer's average transaction volume will be examined.

To properly evaluate the stores, it is necessary to resort to percentage data. Since some stores vary considerably in sales area and in number of employees, evaluating absolute numbers for these indicators would not be accurate.

## 2.2.1 KPI I: Monthly Sales Volumes, per m2

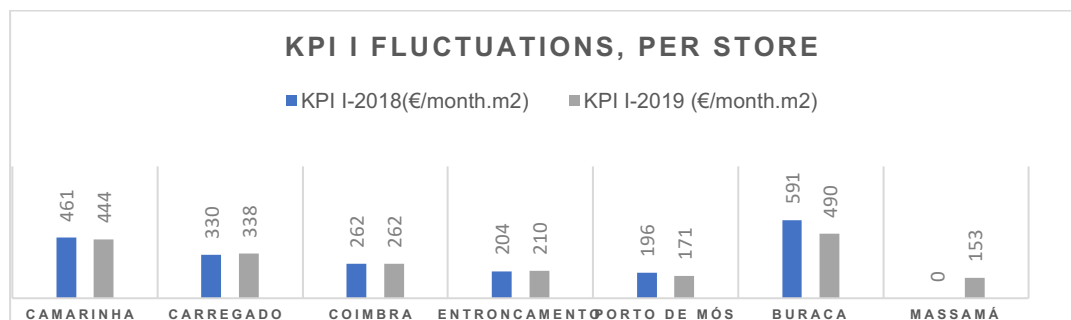


Figure 4 Monthly Sales Volume Fluctuations, per square meter, per Store (€).

KPI I provides insight into how the stores' space is monetized. A high monthly sales volume per area is usually associated with good space management policies or with adequate product assortment selection.

For KPI I, the Buraca and the Porto de Mós stores present the worst evolution between 2018 and 2019 (Table 1). For these locations that are two possible problem sources: either space is not being used efficiently (meaning that the product's organization or display is flawed) or that the assortment of products the store carries is not appropriate.

Camarinha's performance regarding this KPI is slightly decreasing (-3,69%) (see Table 1). Product assortment and organization policies should be examined, however, the problems at this store are significantly less concerning than for the worst-performing stores and will require a smaller effort to be fixed. Entrocamento, Carregado and Coimbra are the best performing stores, when considering KPI I's evolution (Table 1). The policies used at these locations should be examined to evaluate the possibility of replicating them at underperforming stores.

Table 1 Percentage and Absolute Variations in Monthly sales volume per m2, per store.

| Store Location | Store Area(m <sup>2</sup> ) | KPI I-2018 (€/month.m2) | KPI I-2019 (€/month.m2) | KPI I Variation |
|----------------|-----------------------------|-------------------------|-------------------------|-----------------|
| Camarinha      | 207                         | 461                     | 444                     | -3,69%          |
| Carregado      | 254                         | 330                     | 338                     | 2,42%           |
| Coimbra        | 255                         | 262                     | 262                     | 0,00%           |
| Entrocamento   | 275                         | 204                     | 210                     | 2,94%           |
| Porto de Mós   | 240                         | 196                     | 171                     | -12,76%         |
| Buraca         | 105                         | 591                     | 490                     | -17,09%         |
| Massamá        | 132                         | -                       | 153                     | -               |

## 2.2.2 KPI II: Monthly Sales Volumes, per Employee

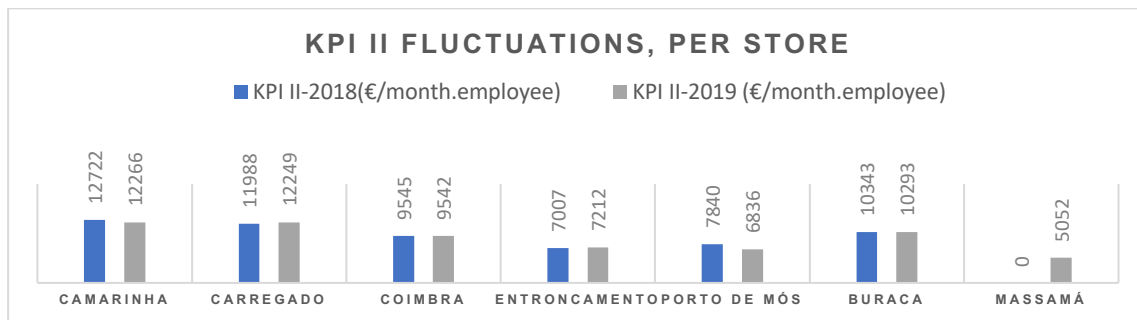


Figure 5 Monthly Sales Volume per Employee Fluctuations, per Store (€).

KPI II provides information about the efficiency of each store's workforce. For most companies, workforce-related expenses represent a large percentage of their overall costs (Kimmel et al., 2006). Since a company's profitability is defined as the difference between revenue and costs, an element that contributes relevantly for one of these parcels should also be analyzed.

Regarding KPI II's evolution, the Porto de Mós store is the worst performing location (see Table 2), despite not being the store that suffered the most significant net sales decrease, between 2018 and 2019 (see Table 3). Buraca has recorded a 17,07% decrease in net sales, while Porto de Mós accounted for a 12,80% decrease. Regardless, Buraca recorded a decrease of 0,48% for KPI II, while Porto de Mós recorded a significantly higher decrease.

Buraca achieved these results by reducing its workforce by one employee (Table 2), hence lowering overhead costs. This store still recorded a negative growth value for KPI II yet, given that Buraca is the location with most significant percentual decrease in net sales, it can be considered a promising indicator for this particular case.

Similarly to its situation on KPI I, Camarinha's value for KPI II also decreased slightly (-3,59%), registering the second-worst evolution among all stores. However, this decrease is still almost four times lower than the worst-performing store for this indicator. Despite the need for assessing the Camarinha store's situation, efforts should be firstly focused on assessing the driving elements for the mal functioning of the Porto de Mós store.

Coimbra recorded a slight decrease of only 0,03%, which for now does not present major reasons for concern. However, this store's situation should be closely monitored so that fast action can be taken if the situation worsens.

Carregado and Entroncamento are the best performing stores when considering this indicator's evaluation thus reinforcing the hypothesis that the management policies used on these locations should be further examined.

Table 2 Monthly Sales Volume Fluctuations, per employee, per Store, in percentage.

| Store Location | KPI II-2018<br>(€/month.employee) | KPI II-2019<br>(€/month.employee) | KPI II<br>Variation | NE (2018) <sup>3</sup> | NE (2019) |
|----------------|-----------------------------------|-----------------------------------|---------------------|------------------------|-----------|
| Camarinha      | 12722                             | 12266                             | -3,59%              | 7,5                    | 7,5       |
| Carregado      | 11988                             | 12249                             | 2,18%               | 7                      | 7         |
| Coimbra        | 9545                              | 9542                              | -0,03%              | 7                      | 7         |
| Entroncamento  | 7007                              | 7212                              | 2,93%               | 8                      | 8         |
| Porto de Mós   | 7840                              | 6836                              | -12,80%             | 6                      | 6         |
| Buraca         | 10343                             | 10293                             | -0,48%              | 6                      | 5         |
| Massamá        | -                                 | 5052                              | -                   | -                      | 4         |

Table 3 Net Sales Percentage Fluctuations, per store (2018-2019).

| Store Location                       | Net Sales Percentage Fluctuations (2018-2019) |
|--------------------------------------|---|
| Camarinha                            | -3,59%  |
| Carregado                            | 2,18%   |
| Coimbra                              | -0,03%  |
| Entroncamento                        | 2,93%   |
| Porto de Mós                         | -12,80%                                       |
| Buraca                               | -17,07%                                       |
| Massamá                              | -   |
| Company Average (Without<br>Massamá) | -4,73%  |

### 2.2.3 Inventory Turnover Ratio (ITR) and Net Sales Fluctuations

Examining ITR value fluctuations will allow to assess how efficient each store's inventory management is. The inventory turnover ratio is calculated with the following equation:

$$ITR = \frac{\text{Cost of goods sold (€)}}{\text{Average Inventory(€)}} \quad (1)$$

The ITR provides an overall evaluation of business efficiency. High ITRs are associated with satisfactory performance. Low ITRs are associated with inefficient business practices such as over or understocking due to inaccurate demand forecasts or low sales volumes due to product assortment choices that do not meet the local market's needs. ITR values above 1 are considered to be satisfactory.

<sup>3</sup> NE stands for Number of Employees

- Buraca

Buraca's average ITR in 2019 was 1,36 (see figure 6), which means that the cost of this store's inventory was recovered 1,36 times and that products were available at the stores in sufficient quantities.

For this store, net sales decreased by 3,53% in March 2020 when compared to March 2019, while, on average, *Compracá's* stores' net sales for this period have increased by 21,4% (Table 4). It was the only store where this growth indicator was negative for this interval. Also, sales in March 2020 only increased by 8,35%, compared with February 2020, while the remaining stores' net sales grew on average 39,26% (Table 4). This last net sales growth indicator is particularly worrying due to the current conjecture. The COVID-19 outbreak caused a substantial increase in customer inflow at most supermarkets (Visão, 2020.); however, Buraca's indicators do not fully reflect that. In March 2020, when the first cases were confirmed, the average monetary transaction increased on average 51,15% across all stores compared to the previous month. At the Buraca store, this increase was only 38,74% (Table 4). All these indicators lead to the belief that product assortment at this store does not fulfill its client's needs and that prices are not being appropriately set.

- Porto de Mós

Porto de Mós' framework is quite different. Both net sales growth indicators (Net Sales Fluctuations: March 19- March 20 and Feb 20- March 20) are above average, as can be observed in Table 4. However, this store's average ITR during 2019 was only 0,72, meaning that only 72% of products on the inventory were sold (figure 6). These evaluations indicate that pricing and product assortment are not the most likely cause for this store's underperformance, but inventory management policies can be. The constant significant increases in the amount of money spent per transaction corroborates this hypothesis too (Table 4).

- Camarinha

The Camarinha store location had the highest average ITR in the company in 2019 (1,67) (see Figure 6) and is among the stores that have recorded the most considerable sales growth between February 2020 and March 2020 (Table 4). However, this is among the locations with the lowest growth regarding average customer monetary transactions (for the same period) (Table 4) and the third location where sales have decreased the most, between 2018 and 2019 (Table 3). Since stock management is efficiently managed, and since sales volume have increased between February 2020 and March 2020 but the average transaction volume did not grow in the same proportion, it is possible that customer inflow has increased but customers are buying less products. Therefore, this store's pricing techniques need to be reviewed.

- Coimbra

Coimbra is the location for which the volume per transaction escalated the most when compared to the homologous period. and to the previous month, after Massamá (Table 4). However, its overall sales growth did not increase accordingly. This gives rise to the belief that customer inflow might have been decreasing before the COVID-19 pandemic, and, for this reason, product assortments and recent price changes should be reviewed. Coimbra's average ITR (2019) was 1,05. Despite being above this indicator's acceptability threshold (1), it is only slightly above that limit, meaning that fluctuations on demand caused by exogenous variables could easily tilt this value. According to this year's indicators, inventory management policies appear

to be improving, since ITR values are increasing. Nevertheless, there is not enough data to draw accurate conclusions.

- Carregado

Carregado's net sales (March 19- March 20 and February 20- March 20) (Table 4), are growing considerably below average while the average customer transactions, for the same intervals, are growing above the company's average. Alike Coimbra, in this location, the inflow of customers might have been decreasing. Carregado's average ITR ranks second when considering all of *Compracá's* stores (1,65 in 2019). All these indicators show that despite the store's overall satisfactory performance, to attract more customers and potentiate further growth, pricing policies must be evaluated.

- Entroncamento

Regarding Entroncamento, all its sales growth and average customer transaction indicators are growing at a slower rate than the company's average when compared to the homologous period. Moreover, despite acceptable, its ITR is only 1,0 which, alike Coimbra, may create an unstable situation regarding inventory management policies if impacting fluctuations in demand were to happen. This year's indicators show progress; however, it is still soon to draw accurate conclusions. Since Entroncamento has the highest growth value for KPI I, it is reasonable to assume that space management and organization within the store are well performed, but price-setting decisions should be reviewed.

- Massamá

The Massamá store was only inaugurated in July 2019. Therefore, data to examine this store's performance is scarce, and a premature evaluation may lead to erroneous conclusions. This is the location with the lowest value for KPI I, and therefore space management and store organization should be examined. However, this location has shown the most evolution in sales, both when comparing the months of March 2020 and February 2020 and when considering the average value per transaction for this period (Table 4). The store ranks last in *Compracá*, for KPI II. Massamá's ITR was consistently low throughout 2019, averaging at only 0,67. This trend persisted until March 2020, when the indicator skyrocketed to 1,52, showing this location's capability to deal with situations of unforeseen demand. This sudden shift of performance may be related to the fact that this store welcomed a new manager in the beginning of 2020 (see Figure 6).

Inventory management policies should be improved, and managerial decisions made in March 2020 should serve as a starting point to do precisely that, proven this store's success to deal with unusual situations, such as the rapid increase in demand COVID-19 triggered in the Portuguese F&G retailing market.

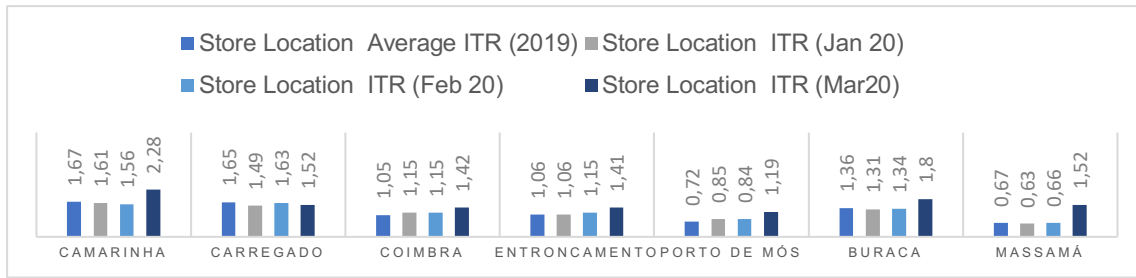


Figure 6 Average Inventory Turnover Ratio for 2019 and Monthly Inventory Turnover Ratios from January 20 to March 20, per store.

Table 4 Net Sales and Average Transaction Volume Variations.

| Store Location                    | Net Sales Variation (Mar19-Mar20) | Net Sales Variation (Feb 20-Mar20) | Average Transaction Variation (March19-March20) | Average Transaction Variation (Feb 20-March20) |
|-----------------------------------|-----------------------------------|------------------------------------|---|--|
| Camarinha                         | 36,32%                            | 48,26%                             | 43,55%  | 38,48%   |
| Carregado                         | 11,63%                            | 15,89%                             | 63,95%  | 57,53%   |
| Coimbra                           | 23,57%                            | 35,98%                             | 78,22%  | 78,51%   |
| Entroncamento                     | 16,77%                            | 27,64%                             | 39,42%  | 37,42%   |
| Porto de Mós                      | 43,64%                            | 39,42%                             | 66,52%  | 56,20%   |
| Buraca                            | -3,53%                            | 8,35%                              | 39,76%  | 38,74%   |
| Massamá                           | -                                 | 88,14%                             | -   | 124,85%  |
| Company Average (Without Massamá) | 21,40%                            | 39,26%                             | 55,24%  | 51,15%   |

### 2.3 Consumer Profile Evolution

Before making a purchasing decision, consumers will usually gather information and decide based on convenience, quality, price competitiveness, or curiosity to try a new product or brand (Oliveira-Castro, 2003). They choose according to the principle of utility maximization, that is, according to the outcome that will bring them the utmost level of satisfaction (Mata, 2013). Understanding how customers value each of the aspects mentioned above will allow companies to align their strategies with customer expectations, which will enhance customer loyalty and ultimately improve the company's profitability. However, the F&G retailing market is highly dynamic, and uncontrollable factors influence the customer's perceptions.

For example, consumers' perceived value for money is relative and therefore it depends on other players' pricing decisions (Kitchen & Proctor, 2001). Moreover, store loyalty (measured by intent to continue shopping, intent to increase purchases, and intent to recommend the store to other consumers) depends on service quality and merchandise quality perception, factors which consumers also evaluate by comparing players and brands. Perceived value plays a vital role in the determination of store loyalty intention if there is a high degree of competitor attractiveness (Sirohi et al., 1998).

To fully understand the average consumer's mindset, it is essential to acknowledge that consumers may use different metrics to evaluate different types of products or services. For less differentiated items, customers are usually less receptive to price increases, since substitute stores or brands which will provide the same degree of satisfaction at a lower price, can be easily found (Radha, 2007).



Economic context also plays a vital role in consumer's choices and preferences. During the 2010-2014 economic crisis, this hypothesis was proven when habits shifted in order to restrain consumption to the essential minimum. For example, according to "*I Grande Inquérito Acerca da Sustentabilidade*" (Schmidt et al., 2016), during the crisis years, families, in general, chose to spend their free time in locations where income spending was not a possibility, such as free parks, instead of shopping malls.

In 2019, Portugal's economy was improving, as indicators such as the unemployment rate decreased from 11,1% in 2016 to 6,5% (PORDATA, 2020). Therefore, consumer preferences ought to change too. In a study published by Centromarcas (2019), Portuguese consumers were shopping more frequently for the first time in 4 years. The average price of purchased items has also been subject to a 3,2% increase when compared to the homologous period. Simultaneously, Portuguese consumers have, on average, achieved higher savings, with an increase from 126€/year in 2018 to 141€/year in 2019 (Centromarcas, 2019). Higher savings can be justified by consumers are purchasing more private labels products (supermarkets' own labels) than manufacturers' brand (or distributor brands) products. By the end of 2019, the monetary volume consumers spend on distributor's private label products had increased by 2,9% when compared to the homologous period, while the same indicator for manufacturer label products increased solely by 0,1%, for the same period (Silva in *Jornal Económico*, 2019). According to Deco (2019), Portuguese consumers' average basket is already composed of 39% of private label products.

Lastly, consumer segmentation is also a factor that contributes significantly for some pricing strategies' success. Consumer segmentation consists of dividing consumers into groups according to their characteristics (mostly age, gender, interests or social-economical context) (Firms, 2013). Research has shown that, despite the existence of cross-generational concerns, different generations value different product aspects interests with different intensities. For example, younger customer segments, like the Millennials (generation born between 1981 and 1995), are taking aspects such as the environmental impact of their purchases into heavy consideration, when making a purchasing decision (Das, 2019). Therefore, by building an eco-friendly image and by offering environmentally conscious products, companies can gain a competitive advantage. This can be achieved by reinforcing the number of eco-friendly products on supermarket shelves, by promoting sustainable practices (for example, replacing plastic bags with reusable tissue bags) or by having more local products in the store's assortment.

## 2.4 Market Trends

### 2.4.1 COVID-19 Effects on Consumer Preferences

As the world faces the COVID-19 pandemic, nations worldwide are feeling the negative economic impacts of prevention and mitigation measures (Goulart, 2020). In Portugal, border control measures, spikes on essential products' demand and restrictions imposed on producers and suppliers have generally raised retailing prices. For example, since the beginning of the pandemic, pork and chicken meat prices have risen between 10% and 30% (Nunes in *Jornal de Notícias*, 2020). This tendency is extended to the fresh fruit and vegetable categories, particularly in the cereal sub-category, since Portugal's supply is deeply dependent on foreign suppliers and producers (Andrade in *Expresso*, 2020). Fresh fish prices have followed an opposed

path: since small retailers need to drain their fish stock daily, prices have been aggressively dropping (Lusa *in Visão*, 2020)

The International Monetary Fund predicts that the unemployment rate, which was 6,5% last February, will increase up to 13,9% and that the Portuguese real GDP will decrease by 8%, when compared to the homologous period. It's expected that these trends will start reversing by 2021(IMF, 2020).

While the unemployment rate is rising and real GDP is decreasing, disposable income (available money for consumers to spend) is tendentially decreasing, which leads to restrictions on consuming (Mata, 2013). However, fluctuations in consumerism will not affect all products equally since not all products are equally needed. Income elasticity of demand is a metric used to quantify variations on products' (or services') demand when consumer's real income fluctuates, *ceteris paribus* (Mata, 2013).

With less disposable income (or lower real income) and with the need for essential products unchanged, it is expected that consumers will abstain themselves from buying high-end brands to start purchasing less expensive brands. According to income elasticity definition, in these situations, demand for inferior goods will rise while common goods demand will contract (Mata, 2013). Since the supermarket's own brands are generally less expensive, these brands' products are considered to be inferior goods. Therefore, the demand for these brand's products is expected to rise at the expense of a decrease in manufacturer's demand (more expensive normal goods).

Besides affecting demand, the pandemic has also influenced the Portuguese consumers' preferred shopping channels. E-commerce and home delivery, especially for 50+ customer, are booming (Deloitte, 2020). Some supermarkets have reported up to a 6-hour waiting period for customers to select items in the marketplace website and over one-month waiting time for delivery services (Lusa *in Visão*, 2020b).

Capacity to adapt to the omnichannel format and respond to this new reality will be decisive factors for the success of each player's operation.

#### 2.4.2 Dietary Regimes

Similar to other countries in Europe, Portugal is no exception to trending dietary shifts. In recent years, the number of inhabitants who adopted a "veggie lifestyle" has skyrocketed. Vegetarian, vegan, and flexitarian diets usually fall into the framework of a veggie lifestyle (Lantern, 2019). A vegan diet includes no animal origin products, while a vegetarian diet may include eggs and dairy but no fish or meat. A flexitarian diet is a regime where its practitioners consume vegan or vegetarian meals, while meat and fish are occasionally allowed (Haas, 2016).

According to Lantern (2019), in "The Green Revolution 2019" study, about 9% of the Portuguese population (764.000 people) is currently practicing either flexitarianism, vegetarianism or veganism. To contrast this number, in 2007 there were records of only 30.000 vegetarians in Portugal and 120.000 in 2017. From these, at least 60.000 were vegans (Associação Vegetariana Portuguesa, 2019). The study also concludes that the primary justification for switching diets is health awareness.

*Continente* acknowledges that in the last two years, sales in the biological and healthy product line have increased over 25% due to the vegetarian and vegan products the brand carries (Silva *in Jornal de Notícias*, 2020).

The steep increase of inhabitants following these regimes is naturally accompanied by an increase in demand for vegetarian, vegan, and overall healthier products. In order to adapt, supermarkets evaluate the feasibility of carrying the products these diets require (animal protein substitutes, eggs, and dairy replacements, organic fruits and vegetables, and biological dairy products).

### 2.4.3 Take-Away Food

Take-Away food is another growing trend amongst supermarkets. According to consumers, the increasing demand for this segment is justified by the convenience it offers. In a time where lifestyles have shifted and become busier, the available time for cooking and cleaning is scarce, hence the growing interest for “ready to go” options (Brás in Jornal i, 2019). More recently, with the implementation of preventive measures in restaurants (to tackle the COVID-19 pandemic) combined with the growing tendency to shop online, the demand for takeaway and delivery options has grown even further (*Expresso*, 2020).

To fulfil this market gap, some supermarkets offer cooked meals, by weight or portion, ready to be consumed. In 2018, this sales volume, in hypermarkets, for this type of products was evaluated at 180,9 million euros, which translates into an 11% growth since 2017. Jerónimo Martins alone, in 2018, has reported to have sold between 4 million and 5 million meals, the equivalent to about 10.000 tons of food, across the all country (Brás in Jornal i, 2019).

Some Pingo Doce locations also possess a canteen section, in which food is prepared on the spot and customers are able to consume their meals in the stores. According to the group, this segment has also been experiencing an increase in demand due to its low prices (sometimes under 4 euros), to its varied offer (meat, fish, pizza, sushi and vegetarian dishes) and also due to their high-quality standards.

The main stigma to overcome in this segment is the preconceived notion that take away food will be unhealthy and artificial. To tackle this issue, Continente and Pingo Doce have partnered up with renown *chefs* that develop special recipes that will meet customers’ demand for quality and convenient food at low prices.

Overall, and relating this trend with the dietary regime shift trend, supermarkets should analyze the possibility of selling prepared meals (or even “fast meals” such as sandwiched or salads), taking into consideration their clients’ demand for these products, dietary preferences and price point (Brás in Jornal i, 2019).

### 2.5 Compracá’s Competitors

Since *Compracá* is a minor player in the F&G retailing market, it is profoundly affected by its competitors’ strategies and decisions. Data regarding *Compracá* and its direct competitors’ market share fluctuations can be consulted in Table 5.

Table 5 Competitor's Market Share Variations, between 2007 and 2017.

| Competitor | Market Share<br>( $s_{it-1}\%$ ,2007) <sup>4</sup> | Market Share<br>( $s_{it}\%$ ,2017) | Market Share<br>Growth (%,<br>2007-2017) | Market<br>Volatility<br>(2007-2017) | Market Share<br>Growth (%,<br>2014-2017) | Market<br>Volatility<br>(2014-2017) |
|------------|--|-------------------------------------|--|-------------------------------------|--|-------------------------------------|
| Continente | 14,0   | 21,9                                | +7,90                                    | 0,171                               | +1,40                                    | 0,0240                              |
| Pingo Doce | 12,3   | 20,8                                | +8,50                                    |                                     | +1,30                                    |                                     |
| Minipreço  | 4,40   | 4,10                                | -0,30                                    |                                     | -0,50                                    |                                     |
| Aldi       | 0,10   | 1,10                                | +1,00                                    |                                     | +0,20                                    |                                     |

Data post-2017 regarding each supermarket chain's market share is not available. However, studies conducted between 2007 and 2017 show a clear trend in the Portuguese retailing market. During this time, *Continente* and *Pingo Doce* maintained their strong competitive positions and expanded their respective market shares, reaching in 2017 21,9% and 20,8%, respectively (SONAE, 2018). Their share growth was steady until 2014, and slower thereafter. In the same period, *Aldi's* market share rose until 1% in 2017, but in the last three years observed its share only increased 0,2 percentage points (SONAE, 2018). *Minipreço* was the only supermarket among *Meu Super's* direct competitors, whose market share decreased between 2014 and 2017 (SONAE, 2018).

These figures highlight the growing or contracting trends between 2007 and 2017. The drastic decrease in market volatility in 2014-2017 (calculated by the instability index  $I$ )<sup>5</sup> as compared with the whole 2007-2017 period, shows that market shares have been stabilizing in recent years (Table 5). Hence, 2017 data is a trustworthy indicator of today's market share distribution.

Compracá's competitors differ significantly in size, type of strategy and strengths. Appendix A comprises a comprehensive competitors' analysis.

In brief, *Continente* and *Pingo Doce* represent important threats, not only for *Compracá* but for small companies in general. These players are backed by some of the largest enterprises in Portugal, which means they possess and enlarged capacity to invest and quickly adapt to sudden market shifts. Furthermore, *Continente* and *Pingo Doce* both operate in all store formats, with large assortments of their own brand insignias and able to constantly offer low prices and discounts. This represents a threat for smaller businesses, who are then forced to lower their profit margins to match their competitors' prices.

*Minipreço* and local stores can be considered less threatening players. According to BPI (2014), *Meu Super* is the chain that seized more of *Minipreço's* market share in recent years. One of the possible justifications for this phenomenon is *Minipreço's* over usage of discount policies, as it will be further approached. Another possible justification could be that, according to Alda (2009), customers generally perceive *Minipreço* as being a cheap brand but not a high-quality or trustworthy insignia.

<sup>4</sup> For objectivity purposes, only *Compracá's* direct competitors will be analyzed, therefore the presented percentages will not add to 100%.

All the percentages are relative to the Portuguese national market. All values were consulted on SONAE's document "Apresentação da SONAE MC", listed in this dissertation under the label (SONAE,2018).

<sup>5</sup>  $0 < I = \sum_{i=1}^n \frac{|s_{it} - s_{it-1}|}{2} < 1$  Source:(Cabral, 1999)

Lastly, local minimarkets can sometimes be threatening, especially in small market environments and in areas where the average age of the inhabitants is higher, due to their inertia for change. In smaller areas, inhabitants are also more compelled to support local businesses than large supermarket chains.

Nonetheless, other players are not the only source for increased competitive environment in the market. For this reason, a Porter's Five Force Analysis follows.

## 2.6 Driving Forces for Competitiveness

As Porter (1997) stated, "the essence of strategy formulation is coping with competition". Therefore, to achieve resilient pricing strategies, it is critical to understand what enhances competitiveness in the F&G retailing market.

The Five Forces framework (figure 7) is a holistic way of looking at any industry and understanding the underlying structural drivers of profitability and competition (Porter M., 2008).

When analyzing the competitive environment in any industry some important aspects are often overlooked, namely threat of substitution, the threat of new entrants and the bargaining power of buyers and suppliers (Porter M., 2008).

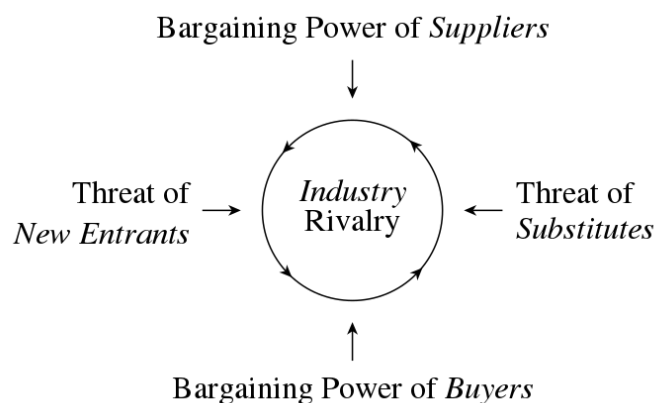


Figure 7 Michael Porter's Five Driving Forces for Rivalry among Competitors (Source (Wikiwand, 2020)).

- Bargaining Power of Buyers

In the F&G market, customers are responsible for capping the upper limit of the range of prices a company can practice companies will not achieve its sales goals if its prices are above what its customers are willing to pay (Figure 8). Considering the numerous stores available to customers, costs associated with switching stores are, in general, low. Also, information about each player's prices can easily be found on various platforms (for example, on television or on the internet). Both these factors increase the difficulty in creating store loyalty.

Consumer preferences influence the way companies make price-related decisions and these decisions will subsequently influence other companies' decisions. This interplay will increase rivalry among competitors.

However, it is also necessary to consider that customers in this market are usually individuals, whose purchases are small when compared to the firm's overall revenue and that for companies to drastically change their strategies it would be necessary to verify changing needs in a large percentage of customers. For this reason, the bargaining power of customers is only considered to be a moderate driver for rivalry in the F&G retailing market (Lombardo, 2017).

- Bargaining Power of Suppliers

Suppliers are the responsible for setting the products' costs for *Compracá*. Therefore, suppliers are responsible for capping the lower limit of prices a company is able to offer (Figure 8).



Figure 8 Price Parametrization.

*Compracá*'s supply is 65% ensured by SONAE, being each store responsible for finding suppliers for the remaining 35%. Since the majority of products are supplied by a company that is both a supplier and a competitor (*Continente*), this represents a potentially damaging problem for *Compracá*. SONAE buys products at a lower price than sells to *Compracá*, hence SONAE will practice lower prices at *Continente*. For the locations where *Continente* is a direct competitor, *Compracá* will not be able to match *Continente*'s prices. This will lead to two major consequences: loss of market share and failing the task of giving customers the perception of low prices. For all locations, including the ones where *Continente* is not a direct competitor, having a single supplier for the majority of products also intensifies the supplier's bargaining power since it will significantly influence *Compracá*'s costs. Subsequently, the prices *Compracá* can practice will be affected as well as its profit margins. Therefore, the bargaining power of suppliers is an intense driver for rivalry

- Threat of New Entries

The possibility of having a new competitor practising lower prices can significantly affect *Compracá*'s revenue. New players represent disruptive change and emerging new store concepts may lead customers to switch stores for the pursue of lower prices or just by the curiosity of trying out a new brand (Carbaugh, 2009). As an example of threat of new entries, some analysts are already calling the entry of *Mercadona* as the "Mercadona effect" (Sarmiento et al., in *Jornal Económico*, 2018) . This supermarket adopts no discount policy. It is still uncertain how damaging this no discount policy can be. Some studies have pointed out that

consumers' loyalty to specific brands or stores has been declining due to hidden catches on promotional actions (for example, an unadvertised minimum quantity to buy in order to access the promotion) and therefore a no discount policy might be more attractive to some customers. Overly complex Hi-Lo strategies and misleading advertisement may make stores unappealing for some customer segments (Wood, 2018).

New disruptive players can also coerce their competitors to improve their products' quality and prices. According to *Jerónimo Martins's* CEO, *Pingo Doce* stores located near new *Mercadona* supermarkets grew and recorded higher sales (Lusa *in Visão*, 2020a).

*Mercadona*, and other emerging players such as *Auchan* (who intends to triple the number of stores in the Lisbon metropolitan area alone (TSF, 2019)) and newer brands that are able to replicate the "*Mercadona* effect", have the potential to become important players in the Portuguese market, thus increasing the importance of analyzing how other players can become potential substitutes. However, new players can also cause the pre-existing players to improve their strategies and become more appealing to consumers (as was the previously with the *Pingo Doce*). For these reasons, the threat of new entries is a moderate driver for rivalry in the F&G market.

- Threat of Substitution

In this case study, the threat of substitution is directly related with the other drivers. Since switching costs are low, information about all players can be easily accessed and, with numerous players that are expanding rapidly, the threat of substitution is an intense driver for competition in the F&G retailing market.

## 2.7 Identified Problems

Inventory policies, evaluated by the store's average ITR during 2019, need to be improved. Out of the poll of seven stores, two stores show clear signs of underperformance with ITRs below 1 (Massamá and Porto de Mós).

Camarinha and Buraca have shown capacity to deal with such situation. Therefore, their practices should be considered when trying to improve inventory-related policies. Massamá is a particular case whose practices were unsatisfactory until the end 2019; however, in March 2020 its performance significantly improved (see Figure 6). According to the Massamá manager, this increase was integrally caused by the step increase in sales volume due to the COVID-19 pandemic.

Buraca's sales growth indicators are particularly concerning: this location has the most substantial percentage of net sales decrease between 2018 and 2019 and shows signs of declining performance according to KPIs I and II (Tables 1,2 and 3). Inventory is being managed satisfactorily; however, pricing strategies should be urgently examined. It was also the only location where sales have decreased the most when comparing the net sales volume of March 2019 and March 2020. Buraca is the second location where the average transaction value (per purchase) grew less (Table 4).

Camarinha, Buraca and Porto de Mós are the most underperforming stores when considering KPI I, KPI II and annual net sales volume fluctuation between 2018 and 2019 (Tables 1,2 and 3). All indicators in all these locations have shown declining growth tendencies.

In Camarinha, Buraca and Entroncamento the average transaction volume was below the company's average; Buraca and Carregado are the locations where sales, when compared to the homologous period and with February 2020, grew below the company's average. Overall, the Buraca store is the location that shows signs of underperformance across a larger range of indicators.

To simplify this extensive analysis, a synthesis board follows. The stores were ranked according to their performance in each KPI and got a score from 1 to 6, according to their position on the ranking (being 1 the best score and 6 the worst).

*Table 6 Store's overall scores.*

| Store         | KPI I | KPI II | Net S.V. I | Net.S.V II | ATI | ATII | ITR | Total |
|---------------|-------|--------|------------|------------|-----|------|-----|-------|
| Coimbra       | 3     | 3      | 3          | 3          | 1   | 1    | 5   | 19    |
| Carregado     | 2     | 2      | 5          | 5          | 3   | 2    | 2   | 21    |
| Camarinha     | 4     | 5      | 2          | 1          | 4   | 5    | 1   | 22    |
| Porto de Mós  | 5     | 6      | 1          | 2          | 2   | 3    | 6   | 25    |
| Entroncamento | 1     | 1      | 4          | 4          | 6   | 6    | 4   | 26    |
| Buraca        | 6     | 4      | 6          | 6          | 5   | 4    | 3   | 34    |
| Massamá       | -     | -      | -          | -          | -   | -    | -   | -     |

KPI I: Monthly Sales Volume fluctuation per m<sup>2</sup>.

KPI II: Monthly Sales Volume fluctuation per employee.

Net S.V I : Net Sales Fluctuation between March 2019 and March 2020.

Net S.V II: Net Sales Fluctuation between February 2020 and March 2020.

AT I : Average Transaction between March 2019 and March 2020.

ATII : Average Transaction between February 2020 and March 2020.

Lastly, on a macro perspective, the Portuguese F&G retailing market is among the most competitive markets in Europe (Reuters, 2018). This competitive environment is due not only to the direct rivalry among players, but also to other factors such as the bargaining power of suppliers and the threat of substitution. Success depends on how fast each store is able to accurately identify the most preeminent driver for rivalry and develop strategies accordingly.



## Chapter 3 | Literature Review

In this chapter, relevant literature and previously conducted researches will be presented and discussed. This will enable the construction of a strong theoretical background to support the methodology that will be presented in further chapters. The structure and advantages of the main pricing strategies used in the F&G retailing market will be overviewed and customer's responses to these strategies will be analyzed as well. The impact of managerial beliefs and misconceptions in a brand's success is also approached.

### 3.1 Pricing and Adjacent Concepts

Thus far, pricing has been interpreted as a mandatory task performed by companies in all situations. However, it is important to first understand that setting prices comes as a direct consequence of the market structure a company is inserted in. This structure profoundly influences rivalry among competitors and the company's profitability (Phillips, 2002; Mata, 2013).

In an extreme market scenario, where there is a substantial number of companies, each owning a small market quota and where products (or services) have a low degree of differentiation, pricing would be executed by the "iron law of the market". When considering perfect information among players and similar cost structures, under a neoclassicist interpretation, customers would naturally choose the seller which offers lower prices. Therefore, all companies in this hypothetical scenario would be incentivized to offer the same prices (Phillips, 2002).

This perfect competition structure is merely utopic and not verified in the Portuguese F&G retailing market. A perfect competition structure implies players are not able to influence demand or each other's decisions when, in fact, most organizations' strategies are focused on finding the most profitable way to do so (McEachem, 2017). Therefore, it is reasonable to assume that companies in the F&G market in Portugal are under the influence of an imperfect competition structure. It can also be deduced this market resembles an oligopoly: there are a relatively small number of players who withhold a large part of the total market share (in 2017, the eight leading players owned 77% of total market share (SONAE, 2018)) and their decisions mutually influence each other. For these reasons, practicing different prices is not only possible for Portuguese supermarket companies, but it is ultimately used as a tool to adapt and thrive in the market.

Pricing is fundamental for the performance and success of each company. It depends on a variety of different factors such as the company's market vision, segmentation capabilities and how demand-price elasticity is studied and perceived by companies. A brief contextualization regarding some key concepts follows.

- Demand-Price Elasticity

Demand-price elasticity (colloquially mentioned as elasticity) is a microeconomic tool, which measures how the demand for a particular product (or service) fluctuates when prices vary, in a given market (Mata, 2013). This tool enables the classification of products into three categories: insensitive price products (IPP), sensitive price products (SPP) and super sensitive price products (SSP). Generally speaking, products with lower differentiating characteristics are more sensitive to demand

fluctuations when prices increase due to their high substitutability (Hartzenberg et al., 2005). In the particular case of SSP, due to their delicate demand-price elasticity relation, their price and consumers tend to behave as in a perfect competition market situation. In this case customers will make their purchasing decisions mainly based on price and players will be compelled to match each other's prices.

Analyzing pricing strategies should be a holistic task. The fluctuation on one product's price influences not only the demand for that product but can also influence the demand for other products. Therefore, cross-demand price elasticity is also a relevant concept when designing pricing strategies.

Cross-demand price elasticity measures how fluctuations in one item's price determine fluctuations on demand for another item (Mata, 2013). By correctly analyzing this tool, companies will be able to assess what is their customer's threshold between cross-category complementary benefits (CCC) and cross-category substitution benefits (CCS). In practical terms, it is necessary to assess what is the price point for which customers prefer to go to multiple locations to shop for different products instead of buying all items in one store only, meaning the price point at which CCS benefits surpass CCC benefits (Leeflang & Parreño-Selva, 2012).

Understanding these concepts will allow companies to structure pricing strategies that best fit their goals and their customer's needs.

- Price Discrimination and Segmentation

Price discrimination can be used in a variety of ways, namely: first degree price discrimination (or personalized pricing), second degree price discrimination (or product versioning) and third-degree price discrimination (or group pricing) (Barrows & Smithin, 2008). For the retail industry, and for *Compraca* in particular, third-degree price discrimination is the most relevant and, therefore, this section will focus solely on that. Third degree price discrimination is the act of charging different clients, different prices, for the same product, according to the client's observable characteristics (or client segment) concerning willingness to pay and price elasticity. Segmentation can be performed based on age, gender, geographical location or even by the client's shopping habits (average shopping expenses)(Barrows & Smithin, 2008). Segmentation of customers is justified when performing such a task can provide information regarding the consumer's willingness to bargain, willingness to search, willingness to pay or willingness to switch stores (Fabra & Reguant, 2020).

Research conducted in several different industries has shown that, for the vast majority of cases, price discrimination is at least as profitable as non-discriminatory practices, and that it can be used as a vehicle to increase profits. This can be justified by the fact that price discrimination explores customer's willingness to pay and it is ultimately used as a tool to seize consumer surplus (Norman & Philips, 1985)

However, price discrimination can also be used as a tool to increase competitiveness.

For example, differences in size among buyers introduce heterogeneity in customer's willingness to search, which allows for price discrimination to be advantageous.

For example, larger households will have more to gain from engaging in price research since the benefit from the “gain from search effect” will be higher.

Overall, literature suggests that when consumers engage in price research intensively, then players in the industry tend to compete among themselves in order to seize the largest amount of large-sized customers from other players. Interestingly, by doing so, companies are also attracting smaller buyers.

It is reasonable to assume that in geographical areas where purchasing power is lower, customers will display an enlarged willingness to search for saving opportunities and, therefore, price discrimination is encouraged (Fabra & Reguant, 2020). *Compracá* managers have reported that, in some locations (for example Buraca), customers display low purchasing power.

### 3.2 Types of Pricing strategies

A pricing strategy is a course of action designed to achieve pricing objectives (IGI Global, 2018). Companies usually adjust their prices to account for consumer differences and market changes, thus allowing for the existence of various pricing strategies such as psychological pricing (for example, charging 4,99€ instead of 5€ for a product, so consumer's will perceive it as cheaper), promotional pricing, everyday low pricing (EDLP), segmented pricing, dynamic pricing and geographical or international pricing (IGI Global, 2018). Notwithstanding this fact, for objectivity purposes, focus shall be on the most used strategies in the F&G retailing market. There are three main families of pricing strategies in this market: customer value-based pricing (or simply value-based pricing), cost-plus pricing (setting a mark-up percentage over an item's cost) and competition-based pricing (adapting prices according to competitor's prices).

When comparing these three types strategies, literature suggests that value-based pricing is more unpractical than cost-plus pricing or competition-based pricing, since it involves conducting market research regarding thousands of stock keeping units (or SKUs) before setting their prices (Hinterhuber, 2008).

One of the most widely used strategies is the EDLP strategy, a type of value-based pricing strategy where retailing facilities will market themselves as stores with low prices, or even the lowest prices, across a broad range of different products (Pechtl, 2004). The supermarkets who choose this strategy are able to offer low prices at the expense of lowering their profit margins. To cope with their low profit margins, companies try to compensate by selling larger volumes of products: owning more sales area or having more sophisticated distribution channels are the most common solutions.

Another commonly used pricing strategy is the use of promotions and discounts. This strategy is designated by High-Low or more commonly Hi-Lo (Pechtl, 2004). These strategies are not mutually exclusive and some literature describes the EDLP strategy combined with Hi-Lo as a hybrid strategy (Peitz & Spiegel, 2014). Consumers who seek each of these strategies are usually different and value different aspects. For example, Pechtl, (2004) has proven that EDLP prone consumers exhibit higher brand preference than Hi-Lo prone shoppers, thus leading to believe that EDLP shoppers are more averse to risk than Hi-Lo strategy seekers. For retailers, this means that EDLP programs should offer more higher-end brands instead of private or virtually unknown labels. Supermarkets who choose to adopt Hi-Lo strategies should do precisely the contrary (Pechtl, 2004). Also, shoppers who purchase larger quantities per store visit tend to prefer EDLP stores (Bell & Lattin, 1998).

Each strategy presents its particular advantages and it is still not sure which one is more suited for the consumers and for companies in the F&G retailing market (Paixão, 2015). Some literature suggests that a Hi-Lo strategy commonly generates higher revenues. In contrast, EDLP strategies are often associated with lower fixed costs due to stock and supply chain management policies. Since fluctuations in demand upstream the supply chain are less frequent in EDLP than in Hi-Lo strategies, the bullwhip effect is minimized, thus minimizing operational costs (Ellickson et al., 2012). Research also shows that a transition from a Hi-Lo to an EDLP strategy would carry costs up to six times higher than doing the inverse reposition. This strategy alteration would also shift the customer's price perception and might lead to a loss in customer loyalty. Therefore, a strategy shift would also carry the extra cost of having to "reeducate" consumers (Ellickson et al., 2012), thus emphasizing the importance of a thorough market research when assessing switching pricing strategies.

Furthermore, it is also important to acknowledge that EDLP and HI-Lo may not be the most fitted strategies for all products, mainly for products with inelastic demand. Since price fluctuations will not affect the quantity of the product in demand, companies will not be able to seize the largest amount of consumer surplus possible when resorting to these strategies. Therefore, the company's profit margins will not be maximized (Mata, 2013).

For inelastic demand products, differentiation strategies are proven to be more effective, as is the successful case of *Smirnoff* Russian vodka. *Smirnoff* is the world's best-selling vodka brand. After entering the American market in the 1960s, Smirnoff was struggling to position itself and gain market share. This hardship increased due to the emerging new player, *Wolfschmidt*, who sold a similar product at a lower price. Instead of trying to match its competitor's price, Smirnoff decided to maintain its price point. This decision's goal was to convey to consumers that *Smirnoff's* superior quality was worth the price difference (Dahlén et al., 2010). By succeeding, *Smirnoff* proved that strategies that aim to transmit a lower prices perception are not adequate for all product types. An Hi-Lo or EDLP may be fitted for inferior goods, but the same may not apply to superior goods, such as vodka.

### 3.2.1 Hi-Lo Strategies in the Portuguese F&G market

It is possible to identify a clear trend among players in the Portuguese market. Since 2012 the number of promotional flyers, where brands advertise their temporary discounts, have been tendentially growing (Markttest, 2014). In 2013, the absolute number of discounts was 61.652, whereas, in 2012, it was roughly half of that (30.214) (Markttest, 2014). In 2013, Portugal was amidst the 2010-2014 crisis. This abrupt increase gives rise to the hypothesis that when purchasing power is decreasing and consumers are restricting themselves from unnecessary purchases (as is the example of the crisis period) stores who practice Hi-Lo strategies tend to increase their number of promotions, as an attempt to stimulate customer inflow and to generate higher revenues. It is reasonable to assume that an increase in promotions will translate into increased customer inflow since recent research shows that promotional flyers issued by the supermarkets sharply influence consumers' purchasing decisions. Consumers believe flyers are trustworthy information sources that will help them increase their savings (Fonseca, 2019).

Moreover, with increase on the market of promotional techniques, store formats, the evolution of technology, and the iterative innovation process, which has fragmented most product categories, has transformed the

shopping experience into a set of overwhelming and complicated choices (Wood, 2018). To cope with this complexity, consumers have found ways to eliminate all the unwanted stimuli by making a high percentage of decisions regarding brands pre-store and thus reinforcing the adequacy of increasing the number of promotional flyers when attempting to attract more customers (Planet Retail RNG, 2017).

This tendency persisted through the years. In 2020, until the end of March, the number of total discounts fluctuated roughly between 50.000 and 80.000 (see figure 10). However, by March 29th, 2020 the number of published flyers by players in the F&G market decreased 7% when compared to the same period in 2019 (figure 9) (Markttest, 2020). The week before the confirmation of the first COVID-19 cases in Portugal (week 9, 2020) was the week with the most published flyers registered and also the higher number of insertions per flyers in 2020 (figures 9 and 10). After week 9, with the aggravation of the pandemic situation in Portugal, both the number of flyers and the number of insertions per flyer have been decreasing (Markttest, 2020). There so, in situations of unforeseen demand, such as emergency situations, it is reasonable to assume that the Hi-Lo strategy is used less intensely probably as an attempt to control the damages caused by the upstream bullwhip effects.

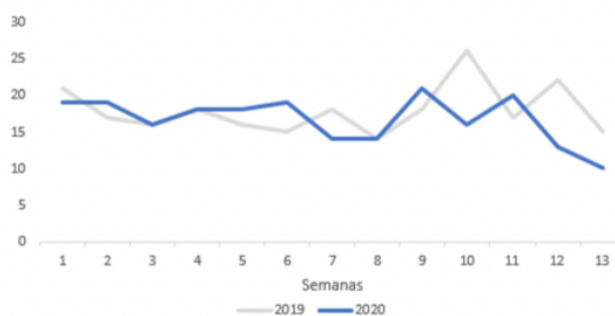


Figure 9 Total Weekly Number of Promotional Flyers published by Portuguese Supermarket Companies (Source: Markttest, 2020).



Figure 10 Number Insertions per Promotional Flyer (Source: Markttest, 2020).

### 3.3 Competition-Based Pricing

In Europe, 90% of all retail advertising is price-related and 70% is exclusively based on price (Hansen & Solgaard, 2005). As customers are becoming more demanding (Ferreira et al., 2011) and as their price perception is increasingly based on comparisons among players (Kitchen & Proctor, 2001), advertising data

supports the hypothesis that store choice is primarily based by utility. Companies must adapt to this reality and adopt strategies that convey to customers that theirs is the store where consumers will get the most value for their money. Furthermore, customers only actively search for products or services at lower prices if there is a price increase in their original chosen product (Cabral & Gilbukh, 2020). For these reasons, most companies will actively research market prices to define price points that are competitive enough to draw in more customers but are not damaging the company's profitability.

In a competition-based strategy, a player, usually (but not necessarily) the market leader, will set a price, and competitors will adjust their prices, accordingly, aiming to stop the initial player from seizing their market shares. If the initial player then notices that its pricing decision was not effective due to their competitors' reactions, he will then be encouraged to change its price again. This sequence will continue until one of the players decides to stop making its prices more attractive because it is no longer in the company's best economic interests. This natural stopping point is reached when the price practiced by a company equals the marginal cost that the same company incurs (Mata, 2013). The lower profit margins obtained due to this technique are compensated by the increased volume of sales.

The extent to which players lower their prices highly depends on the interactions between players and the level of cooperation amongst them. Interest in cooperating is naturally motivated by the financial return each player can prospectively gain. Regardless, collaboration between players in the market also correlates to the differentiation level of a product or service: it is increasingly hard to maintain cooperation agreements in situations when the products or services are homogeneous (low level of differentiation) (Shapiro, 1989).

To analyze equilibrium points and how cooperation will influence them, the concept of game theory is crucial. Game theory is a mathematical tool applied in microeconomics to understand decision-making, when two or more players are involved, and when one's decision affects one another's welfare. This tool will also forecast the outcomes from the decisions (Myerson, 1997). An extreme consequence that derives from lack of cooperation among players are price wars, when players sequentially and aggressively decrease their price to obtain the largest market share possible (Bungert, 2003). This technique can be used as a one-off event or as a long-term strategy. On first analysis, consumers might even benefit from pricing wars among players: by continually fighting for market share, players will be offering sequentially lower prices from which customers will benefit. However, when price wars reach extreme scenarios, players who are more capable of practicing lower prices will drive less capable players out of the market. When this event takes place, the most proficient players will be able to control market prices fully. In these situations, companies can choose to increase their prices significantly, which will naturally be damaging for consumers, particularly for those who strongly depend on the product or service in question (Wall, 2002).

An example of a recent price war is the Russia-Saudi Arabia oil price war, initiated by Saudi Arabia in March 2020. Since then, oil prices have been continuously dropping across the world (Egan in *CNN Business*, 2020). On April 21st, for the first time in history, oil barrel prices in the USA have dropped to negative values (-37,63\$/barrel), thus showing the intensity of this price war (BBC, 2020). Analysts believe that fluctuations in oil prices are a crucial driver for the ongoing global stock market crash (Egan in *CNN Business*, 2020).

So far, it is clear that competition-based pricing strategies can quickly become too intense on their implementation and have nefarious consequences for the market. For this reason, companies must be cautious when implementing them.

### 3.4 Key Valuable Items, Cross-Category Effects and Managerial Beliefs

According to Oliver Heinrich and Alberto Mussa (2016), to achieve adequate strategies, stores must succeed in identifying key value categories (KVCs) and key value items (KVIs), meaning the categories, items whose prices customers tend to remember the most when making purchasing decisions. By doing so, stores will be able to price those products more competitively, stimulate customer inflow and improve customer's price perception. To offset their losses on these items, companies may charge higher prices on non-key value items. This way, companies are exploiting the benefits of cross-category complementary (or CCC) effects. Put differently, by properly pricing KVIs, customers will be interested in shopping at a certain store because it offers the lowest prices for the items customers tend to remember the most. Customers will then tendentially complement their purchases with non-KVI products. Customers are relatively aware that other stores may offer lower prices for non-KVI products however going to another store would be too inconvenient (Leeflang & Parreño-Selva, 2012).

Setting KVIs' prices differently from non-KVI products should be extended until the benefits of cross-category substitution (CCS) effects surpass the benefits of CCC effects (price points at which customers choose to shop at a location of multiple locations) (Leeflang & Parreño-Selva, 2012). Companies can manipulate the price point at which CCS benefits surpass CCC benefits by offering certain discounts (cross-promotional effects) or even by strategically reorganizing isles within the supermarkets. The probability that a price promotion in one category affects the sales of at least one other category is 61%.

Within these 61%, 39% of the times, prices promotions positively affect another product's sales (Leeflang & Parreño-Selva, 2012).

To identify which products are KVIs and at what price point CCS effects are more valuable CCC effects, different companies resort to different strategies. Large corporate retailers often rely on analytics to improve their revenues and margins. In contrast, smaller store managers still rely on simple sales data, their managerial intuition and on simple heuristics developed over time, rather than subjective knowledge and facts (Rusetski, 2014).

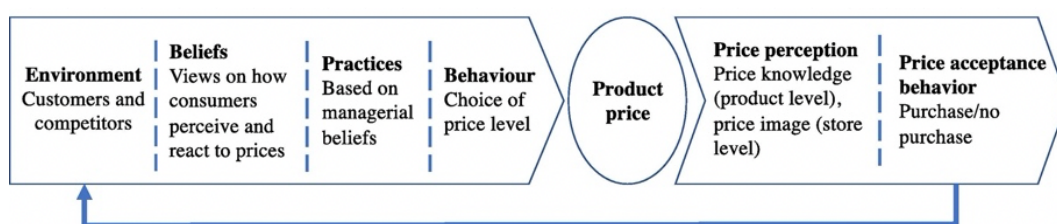


Figure 11 Interactions between Managerial Decisions, Customer Decisions and Product Price. (Source: Benoit et al., 2020).

Although store managers have valuable insight about the local markets, studies have proven that managerial misconceptions are recurrent among proximity format managers. Amidst these erroneous beliefs, the premise that impulse buying drives stores' sales and that proximity stores' customers are indifferent to the store price level are the most common. (Benoit et al., 2020).

Instead, researchers have concluded that urgent purchases drive proximity format stores' sales. Independent store managers should consider pricing from a consumer's perspective and realize that impulse buying is nuanced and may include planned impulses. By redirecting their efforts, impulse purchases may be incentivized via cross and upselling techniques (a common technique used by fast-food chains, where a discount or item is offered when purchasing a particular product. For example, offering cheaper drinks when purchasing a meal) (Benoit et al., 2020). Nonetheless, managers must be strategic about how this technique is implemented since, as previously discussed, when faced with an overwhelming amount of promotions and choices, customers feel discouraged to buy or to continue frequenting the store (Wood, 2018).

Regarding consumer's price perception, researchers have found that this variable depends on each store's competitive context. When a larger format store is near a proximity store (less than 500 meters), customers tend to believe that proximity stores' prices are higher (Benoit et al., 2020).

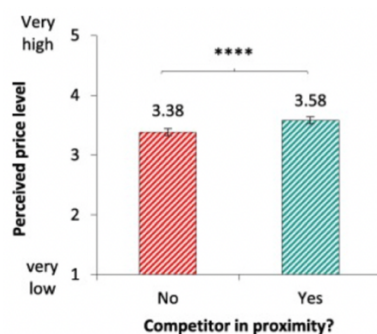


Figure 12 Competitor's Distance Influence on Customer Price Perception. (Source: Benoit et al., 2020).

Still on the subject of consumer's price perception, Benoit et al. (2020) found evidence that customers who usually frequent convenience supermarkets are not often sure about item's price points. When asked to guess the prices of two items that are frequently found at convenience stores, the majority of consumers was not able to provide an estimate within a 5% accuracy interval (Figure 12). Evidence was found of both underestimation and overestimation (Figure 13).

Overestimation presents an opportunity to surprise customers and trigger top-up impulse purchases. Underestimation may be the result of prior pricing research, which has been proven to be category dependent. For KVIs, demand is more elastic, and consumer price knowledge is higher (Oliver Heinrich, Alberto Mussa, 2016). Lastly, given that consumers are mostly resorting to convenience stores for urgent purchases and that there is evidence that when in these situations, customers' willingness to pay is larger, there is an opportunity for managers to exploit their customer's needs by increasing prices (Benoit et al., 2020). However, in order to create long-term relationships with customers, managers are unadvised to do so, since it might generate a feeling of unfairness among customers, ultimately leading them not to return (Herrmann et al., 2007). Building a loyal customer base should be a top priority for managers and this task cannot be successfully performed if customers feel they are being taken advantage of. However, strategies to generate store loyalty must not be performed by disregarding strategies to allure new customers. Overall, managers should channel their efforts into better communicating their stores' price levels in order to improve price perception among customers.



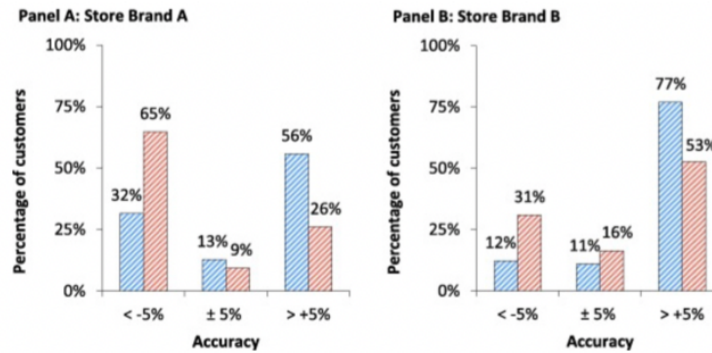


Figure 13 Accuracy with which Customers Estimate a Snack's Price (red) and a Bottled Water Price (Blue), at two similar stores (Source: Benoit et al.2020).

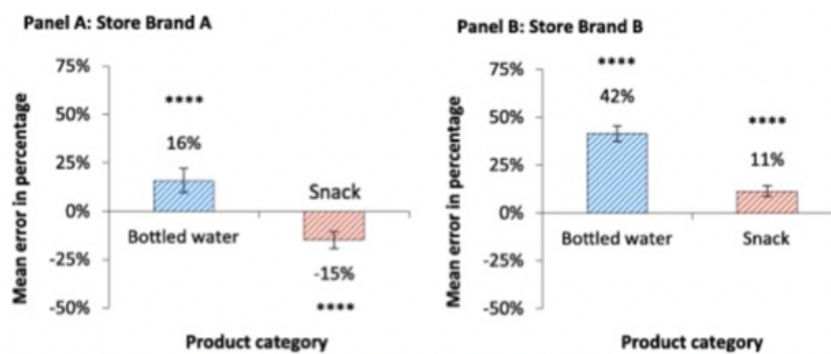


Figure 14 Mean Error of Price Estimation for a Snack (red) and for a Bottled Water (Blue), at two similar stores (Source: Benoit et al.2020).

### 3.5 Planning Promotions

With the evolution of the F&G retailing market (namely the increase of products and brands), the number of variables and business constraints to consider when making promotional decisions has also enlarged. Contrary to intuitive belief, promotions should be used as a vehicle to increase profits. For example, retail data indicates that 12–25% of supermarket sales in five European countries were made during promotions (Gedenk et al. 2006). In the UK, the percentage of fast-moving consumer goods (FMCG) sold during promotions rises to 54,6 % (Guardian, 2015). This study has further proven that an adequate promotions model can yield a 2-9% profit improvement. FMCG include all low-priced products that are quickly sold at stores. Some examples of FMCG are packaged foods, toiletries or household goods (Claeys, 2020).

The expected outcome of developing a well-fitted promotional strategy is the increase of total profit, by promoting the right items at the right instances using the proper price points.

The promotion planning process encountered by retailers is challenging for numerous reasons. First, one needs to carefully account for the cross-item effects in demand (cannibalization or substitution and complementarity). The effects can be reasonably forecasted from historical data (Cohen & Perakis, 2018).

Secondly, retail promotions are often constrained by a specific set of business rules. Some example of business rules include limited number of promotions (both per time period and for each item), prices chosen

from a set of discrete values and cross-item business rules that restrict the relationship between the prices of the different items, imposed by the supplier and/or the product manufacturers.

Third, demand usually exhibits a post-promotion- dip effect. This effect comes as a consequence of the fact that repeating the same promotion may have a low marginal impact (promotional fatigue), and by the consumer's stockpiling behavior (more frequently on non-perishable items). This leads to a reduced demand following the promotion period (Cohen & Perakis, 2018).

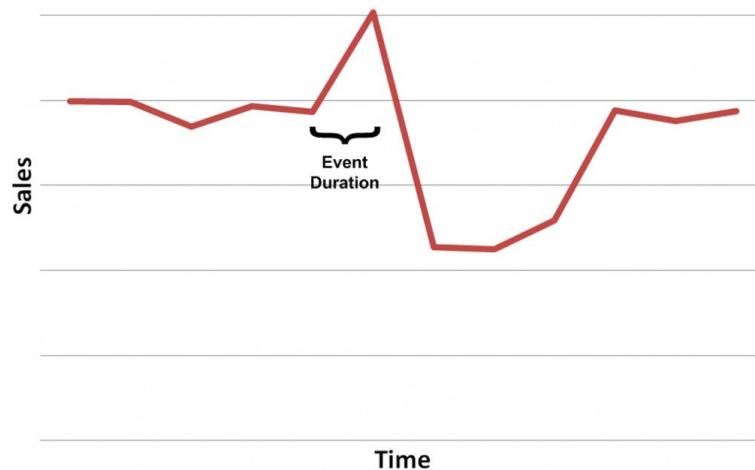


Figure 15 The effect of the Post-Promotional Dip-Effect on sales (Source: Repsly,2020)

Fourth, the problem is difficult due to its large scale. An average supermarket offers several thousands of SKUs and the number of items on promotion at any time can be very large. Consequently, this leads to a large number of decisions that need to be made by the retailer.

The following mathematical model takes into account all these issues. It aims to draft an optimized promotion plan, considering all the above-mentioned constraints.

- Mathematical model to optimize promotions (Integer Program, source: (Cohen & Perakis, 2018))
- Variables and Constraints

Table 7 Model's variables and respective meanings.

| Variables   | Meaning   |
|---|---|
| $T$   | Length of the selling season  |
| $N$   | Number of different items in the category   |
| $c_t^i$   | Cost of item $i$ at time $t$ (assumed to be known)  |
| $p_t^i$   | Price of item $i$ at time $t$ (decision variable)   |
| $P_t^{-i}$  | Vector of prices of all items but $i$ at time $t$   |
| $d_t^i(p_t^i, p_{t-1}^i, \dots, p_{t-M}^i, P_t^{-i})$ | Demand of item $i$ at time $t$ assumed to be a function of the self-current and past prices as well as cross-current prices (estimated from data) |
| $M^i$   | Memory parameters on item $i$   |
| $L^i$   | Limitation of the number of promotions  |
| $K^i$   | Number of promotion prices in the ladder of item $i$  |
| $q^0$   | Regular price   |
| $ Q^i  = K^i + 1$                                     | Total number of possible prices for item $i$  |
| $q^{ik}$  | Price point $k$ for item $i$ ( $k = 1, \dots, K^i$ )  |
| $\gamma_t^{ki}$                                       | Binary decision variable to indicate if the price of item $i$ at time $t$ is equal to $q^{ik}$  |

- Objective Function:

$$\max_{\gamma_t^{ik}} \sum_{i=N} \sum_{t=T} (p_t^i - c_t^i) * d_t^i(p_t^i, p_{t-1}^i, \dots, p_{t-M}^i, P_t^{-i}) \quad (2)$$

$$\text{s.t. } p_t^i = \sum_{k=K^i} q^{ik} \gamma_t^{ik} \quad \forall i \quad (3)$$

MPOP (Multiple-item Promotion Optimization Problem): Objective function of the (Multi-POP) problem, i.e., the total profit generated by all items at all times

The model aims to maximize profit while ensuring that the final RRP's are within the adequate price points.

The objective function takes into consideration the profit obtained with each item ( $p_t^i - c_t^i$ ) and the demand for that same item. The demand parcel  $d_t^i(p_t^i, p_{t-1}^i, \dots, p_{t-M}^i, P_t^{-i})$  estimates the demand for an item  $i$  at time  $t$ , based on historic data and on how the other items' prices influence demand for  $i$ . This vector also captures the post promotion dip effect (a decrease in demand that come as a consequence of the stockpiling behavior of consumers or as a consequence of the product's price returning to the original RPP).

It is also important to notice that the term  $P_t^{-i}$  accounts for CCC and CCS effects.

- Constraints

1. Ensure that the number of promotions for item  $i$ , at time  $t$ , does not surpass a previously defined limit ( $L^i$ ) (for all items)

$$\sum_{t=T} \sum_{k=K^i} \gamma_t^{ik} \leq L^i \quad \forall i \quad (4)$$

2. Ensures that item  $i$  is not promoted until after the no-touch period ( $S^i$ ) (for all items, at all times)

$$\sum_{\tau=t+S^i} \sum_{k=K^i} \gamma_\tau^{ik} \leq 1 \quad \forall i, t \quad (5)$$

3. Ensures that the promotional price for item  $i$  is acceptable (within the price ladder  $K^i$ )

$$\sum_{k=K^i} \gamma_t^{ik} = 1 \quad \forall i, t \quad (6)$$

4. Ensures that the total number of promotions does not surpass the maximum number previously defined by the company, during one selling season ( $L_T$ ).

$$\sum_{i=N} \sum_{t=T} \sum_{k=K^i} \gamma_t^{ki} \leq L_T. \quad (7)$$

5. The following constraint comes as a specification of constraint 4 and it aims to impose a limitation on the number of promotions in each time period ( $C^t$ ) (for example,  $C^t$  cannot be higher than 5% of  $N$ ).

$$\sum_{i=N} \sum_{k=K^i} \gamma_t^{ki} \leq C^t \quad \forall t. \quad (8)$$

6. Ensures that decision variables  $\gamma_t^{ki}$  can only assume values 1 or 0.

$$\gamma_t^{ik} \in \{0,1\} \quad \forall i, t, k. \quad (9)$$

The final output of this model (an optimized promotions plan) can provide a simple tool, that companies can easily implement. As previously mentioned, literature suggests that well-drafted promotional plans can have a very positive impact on revenue and profit.

## Chapter 4 | Methodology

In this chapter the methodology to obtain this dissertation's goals will be presented and justified. This includes discussing the chosen model to approach the *Compracá* case study, the data gathering procedure and all the assumptions that were adopted.

A brief chapter overview follows:



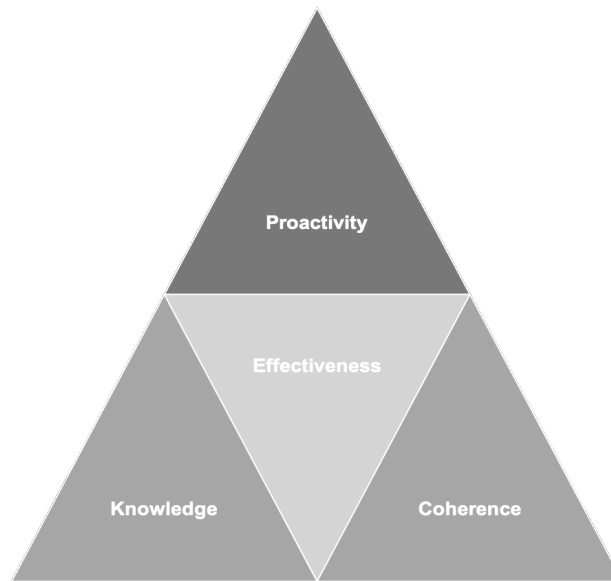
Figure 16 Methodology Overview

### 4.1 Managerial Insights Survey

Since pricing at *Compracá* is not a completely centralized decision, it is of utmost importance to evaluate how this task is being managed. To do so, a series of questions were developed, approved by the company, and then presented to all of *Compracá*'s teams. The questions are:

1. What drives customer purchases?
2. How does your store price its products?
3. How often does your store research its competitor's prices?
4. How often does your store ensure that some specific products' prices are not damaging the entire category margin?
5. How do you ensure a specific product's margin does not damage the entire category margin? Please specify for which category.

These questions were specifically designed to evaluate three elements inherent to management that directly impact effectiveness:



*Figure 17 Elements that the Managerial Insights Survey aims to evaluate*

#### 4.2 Choosing a Strategy

*Compracá* requested a particular methodology to achieve this dissertation's goals. This strategy is based on shadowing its closest competitor's prices, for a selected number of items and adjusting *Compracá's* prices accordingly.

This strategy comprises building a decision aiding tool (a table), that will help store managers make pricing decisions based on objective information. By implementing this tool, it is expected that the store's financial results will improve as well as the customer's price perception.

#### 4.3 Choosing Stores

Initially, and due to its geographic proximity to Lisbon, the Massamá and the Buraca stores were chosen as pilot stores. This proximity would allow frequent visits and close contact with *Compracá* collaborators. However, due to the COVID 19 pandemic, this approach had to be reviewed since it was no longer viable. After discussing this thematic with *Compracá*, it was collectively decided that these stores were still a good sample for the study. The Buraca store was chosen due to its overall underperformance across a diverse range of KPIs and the Massamá store was chosen due its demonstrated ability to adapt quickly and deal with situations of unforeseen demand (such as the COVID-19 pandemic).



Figure 18 Compracá's store in Buraca.

#### 4.4 Detailed Model Description

This type of strategy requires the monitorization of the competitor's prices over some time and the consequent adjustment of *Compracá's* prices. These adjustments usually imply decreasing RRP's. By decreasing the RRP's, the profit margin (per product) will decrease; however, it is expected that it will simultaneously stimulate demand and consequently increase the sales volume. This sales increase will offset the markup decrease and improve the company's overall profit.

The proposed steps are:

1. Identifying each store's main competitor or competitors;
2. Choosing each store's SSPs, SPPs and IPPs, with the help of the store's staff;
3. Weekly, a member from each store's team will check the prices competitors offer for the products mentioned on bullet point 2. Additionally, each *Compracá* team will daily record the prices their store is practicing as well as the quantities sold;
4. After collecting these variables, a table will be set up, with various prices, which will allow *Compracá's* employees to have an objective aiding tool for their pricing related decisions.

##### 4.4.1 Identifying competitors

This approach begins with the identification of the store's main competitors. The information was provided by *Compracá* and both stores have *Minipreço* as a primary competitor, as it has been referred in previous chapters.

Both *Minipreço* stores are within 500 meters of these *Compracá* stores and, according to chapter 3, this proximity can deeply influence customers' price perception.

#### 4.4.2 Choosing each store's SSP, SPP and IPP

After a brief clarification of the differences between SSPs, SPPs and IPPs to the store managers, the teams were asked to compile a list containing several items from each category. These were the products the stores consider to be the most important (tables 8 and 9).

- Buraca

*Table 8 SSPs, SPPs and IPPs chosen by the Buraca store*

| <b>SSPs</b>            | <b>SPPs</b>                       | <b>IPPs</b>                 |
|------------------------|-----------------------------------|-----------------------------|
| Bread "Carçaça"        | Iced Tea 2L "Continente"          | Nutella                     |
| Bread "Bola"           | Shredded Cod "Continente"         | Grease Remover "Continente" |
| Milk "Mimosa" (M/G) 1L | ½ dozen eggs M                    | Gelatine                    |
| Milk "Grosso"(M/G) 1L  | White Wine 1L                     | Canned fruit                |
| Coca-Cola 1L           | Red Wine 1L                       | Deodorant "Axe"             |
| Banana                 | Red Wine "Galitos"                | Body wash "Nivea"           |
| Lettuce                | Red Wine "C. Alentejano"          | Jams                        |
| "Atabafado" cheese     | Chocolate Milk "Ucal"             | Wine "Lambrusco"            |
| Cookies "Maria"        | Oranges                           | Coconut flakes              |
| -                      | Onions                            | Peanuts (roasted with salt) |
| -                      | Potatoes                          | Anti-bleach wipes           |
| -                      | Carrots                           | -                           |
| -                      | Butter "Vaqueiro"                 | -                           |
| -                      | Wheat Toasts                      | -                           |
| -                      | Cheese "Continente" (sliced 250g) | -                           |
| -                      | Ham "Continente" (sliced 200g)    | -                           |
| -                      | Coffee Capsules "Continente"      | -                           |
| -                      | Canned Beans                      | -                           |



- Massamá

Table 9 SSPs, SPPs and IPPs chosen by the Massamá store

| SSPs  | SPPs                                | IPPs                            |
|---|-------------------------------------|---------------------------------|
| Bananas                                     | Still Water "Monchique" 1,5L        | Red Potatoes                    |
| Oranges                                     | Loaf Bread "Bimbo"( without crust)" | White Potatoes                  |
| Milk "Mimosa" (MG)                          | Still Water "Continente" 0,5L       | Milk chocolate "Milk"           |
| Bleach "Continente" 4L                      | Still Water "Continente" 6L         | Oreo chocolate "Milka"          |
| "Pão de Forma Continente" (475g)            | Still Water "Continente" 1,5L       | Coffee Capsules "Continente"    |
| Peach Iced Tea "Continente" 2L              | White Wine "Continente" 1L          | Coffee "Dolce Gusto Sical"      |
| Bread "Massa Fresca"                        | Wine "Galitos" 75cl                 | Toilet Paper "Continente"       |
| Frozen <i>Marguerita</i> Pizza "Continente" | Lettuce                             | Scented cat litter "Continente" |
| Mango Iced Tea 1,5L "Continente"            | "Mafra" Bread (sliced)              | Coca-Cola 1L                    |
| Peach Iced Tea "Continente" 1,5L            | Vegetable Soup                      | Coca-Cola 1,75L                 |

#### 4.4.3 Data gathering and treatment

The Massamá team agreed to cooperate and collect the necessary data. However, and after two attempts, the team never proceeded to do so. The team transmitted that their unavailability to collaborate was due to their shortage of staff. On a third attempt, the CEO went to the store and spoke to the team, however the company's unavailability to collect data persisted. Due to time constraints, the suggested approach could not be used in this store.

The Buraca store proceeded to collect prices for one week; however, when the store manager went on vacation (after the first week of data collection), the staff members did not continue the work.

In sum, the data that was made available for improving Compracá's pricing strategies is:

- Monthly sales records, divided by product and by store;
- Prices and quantities sold, from table 29, 30 and 31 (Appendix B), during one work week (from October 19<sup>th</sup> 2020 to October 25<sup>th</sup> 2020).

#### 4.5 Adjusting Prices

*Compracá* seeks to practice lower prices than its competitors for SSPs, the same price as its competitors for SPPs and to maximize its profit for IPPs and suggested a methodology that incorporates these requisites.

The following approach fits into this dissertation's framework and involves building a decision tool (a table), in which the products' costs, markups and competitors prices are presented. This way, it is possible to have comprehensive understanding of the stores' pricing problems and about what are the best pricing decisions.

The tool that will be presented to the stores will resemble the following image:

Table 10 Example, for one item, of a tool to help with pricing decisions at stores

| Product         | Current RPP | Cost   | Current Markup | Competitor's Price | Adjusted Price |
|-----------------|-------------|--------|----------------|--------------------|----------------|
| Bread "Carcaça" | 0,18 €      | 0,14 € | 28,57%         | 0,15 €             | 0,15 €         |

The adjusted price is estimated taking into consideration the following criteria:

- For SSPs, it is the company wish to practice a price that corresponds to 98% of its main competitor price;
- For SPPs, the company wishes to practice an equal price to its main competitor;
- For IPPs, *Compracá* wishes not to consider its competitor's prices.

For this example, the item Bread "Carcaça", at the Buraca store was chosen. Since this product is a SSP (see table 8), then *Compracá* wishes to practice 98% of *Minipreço's* price ( $0,15€ * 0,98 = 0,147 \approx 0,15€$ ). To determine the overall effectiveness of this strategy, the financial impact on revenue and profit will be calculated and analyzed.

#### 4.5.1 Customer's price perception

Improving a customer's price perception about the stores, in this context, translates into instilling the idea that *Compracá* is a low-prices store.

To accomplish this goal, it is necessary to access what are the consumer's ideal price points. To determine these, the Van Westendorp Price Sensitivity Model (henceforth vW) will be applied.

In essence, the vW is a heuristic method of collecting data on acceptable price points, followed by a simple graphical procedure for finding an item's optimal price. It comprises a series of four questions:

1. At what price would you find the item so pricey that you would not consider purchasing it? (Too expensive)
2. At what price would you consider the item so inexpensive that you doubt its quality? (Too cheap)
3. At what price would you find the product expensive but would give some thought into buying it? (Expensive).
4. At what price would you consider the item to be a bargain? (Cheap/good value).

To validate the accuracy of this data, a fifth question will be added:

5. What price do you believe is fair?

All collected answers would have to be analyzed, to determine their validity. For example, if a customer for any product provides an answer in which he considers the price to question 2 to be higher than to question 1, then that answer is not coherent, and should be excluded.

After compiling a significant number of valid answers, the final result should resemble the following graphic:

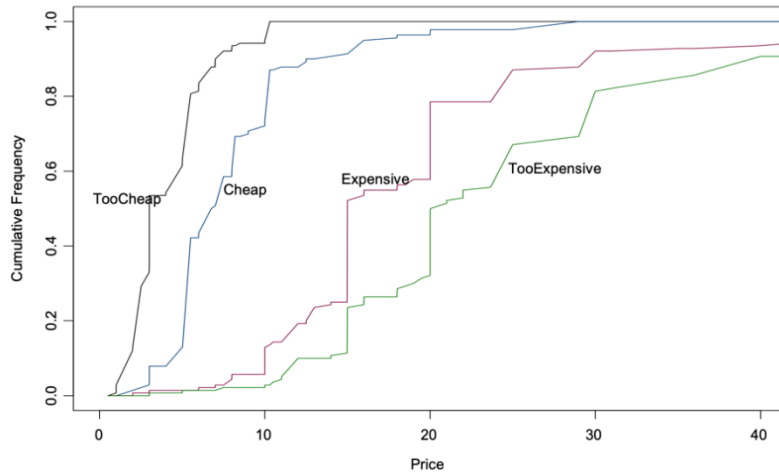


Figure 19 Graphic obtain by plotting the answers obtain via the vW method (Source: (Lipovetsky, 2006))

Ideally, the “Too cheap” and “Expensive” curves would have an interception as well as the “Cheap” and “Too Expensive” curves. The prices comprehended between those two interceptions are the prices most consumers believe are fair. However, when the price ranges that are obtained in surveys are too wide, it is not certain that these interceptions will occur, as it can be seen in figure 19.

For these cases, there are some statistical treatments that can be applied, namely plotting the inverse (or reverse) function curves for “Too cheap” and “Expensive” in order to obtain the 4 intersections that this methodology requires. An example follows:

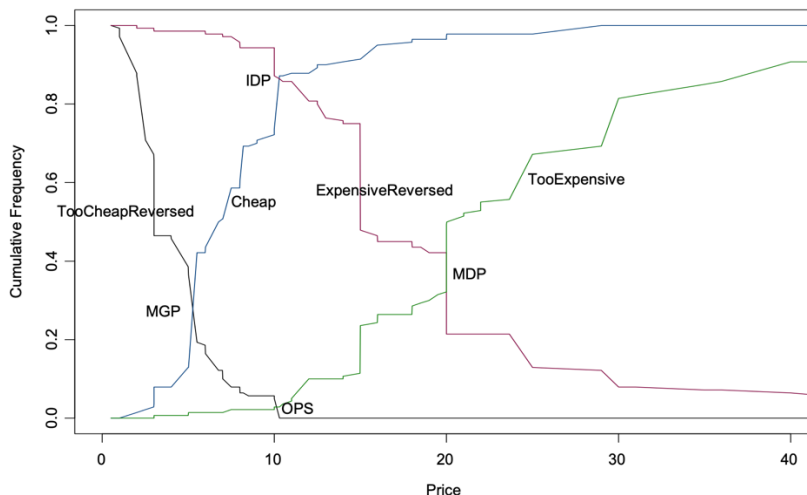


Figure 20 Graphic obtained when plotting the answers of the vW method, with the "Too Cheap" and "Cheap" curves reversed (Source: (Lipovetsky, 2006))

The interception of the “Too Cheap Reversed” and “Cheap Reversed” curves is called the Marginal Cheapness Point (MGP) and the interception between the “Extensive Reversed” and “Too expensive Reversed” curves is called the Marginal Expensiveness Point (MDP). For this data treatment, the range of prices between the MGP and the MDP indicates the prices most customers believe are fair.

The MGP is the lower bound of an acceptable price range (the lowest price the consumer is willing to pay without mistrusting the product’s quality), while the MDP is the upper bound of the range (the maximum price the customer is willing to pay for that product). Furthermore, this analysis also provides the OPS, which is the optimal price point for the item in question, and the IDP (or indifference point) that is the price point in which there is the same number of answers for the two questions.

According to the literature presented in chapter 3, the elements to assess if the vW approach was successful are: intent to continue shopping, intent to increase the shopping basket and, lastly, the intent to recommend the store to other shoppers. Therefore, some extra questions will be added to the questionnaire:

On a scale from 1 to 10, how likely would you:

6. Continue shopping at this store;
7. Increase the amount of goods purchased at this store;
8. Recommend this store to other shoppers.

Ideally, this assessment should be performed before and after adjusting prices, to fully quantify their impact on customer’s perception.

This methodology’s most restrictive limitation is that it requires extensive data collection and treatment and performing it for all products at the stores is unfeasible. This methodology should be mainly used for new products for which the stores do not know how to price or for value destroying items (products for which the store loses money meaning products with consistently negative margins recorded).

The assessment of consumers ideal price points would be materialized into physical questionnaires, which would be physically available at the Buraca and Massamá stores, for customers to fill out.

To draw statistically relevant conclusions, there is a minimal number of answers that need to be collected. This number is dependent on some variables, namely the daily ticket (or transaction) volume, the number of days per week the stores are open (working days) and the weekly average number of occasions each customer visits the store. This data was supplied by the company.

*Table 11 Data regarding daily tickets and visits for the Buraca and the Massamá stores.*

| Store   | Average Daily Ticket Volume (1) | Working Days (2) | Weekly Average Visits ((1)*(2)) |
|---------|---------------------------------|------------------|---------------------------------|
| Buraca  | 277                             | 6                | 1662                            |
| Massamá | 239                             | 7                | 1673                            |

Since these stores both operate under the convenience format, customers will visit them more often and purchase a lower number of products, when compared to a super or hypermarket. An average amount of three visits per week per customer was arbitrated.

To obtain the most comprehensive study possible, it is vital to have the largest possible number of different customers answering the survey. Since loyal customers arbitrarily visit the stores three times a week, then 3/7 of the weekly average visits on table 11 will be from the same customers. Therefore, only 4 in every 7 visits represent different customers. In the Buraca store this translates into 945 customers/week and 956 customers/week for the Massamá store.

- Coping with deviation

There is a minimum number of answers needed ( $n$ ) in order to ensure that the results will accurately represent the population (in this case, *Compracá's* customers).

Aiming to minimize the sample error, the following equation was used to determine the minimum number of answers needed (for a simple and random sample, with a trust level  $\lambda$  and a population standard deviation  $\delta$  (Miot, 2011))

$$n = \frac{N \times \delta^2 \times (Z_{\alpha/2})^2}{(N - 1) \times E^2 + \delta^2 \times (Z_{\alpha/2})^2} \quad (9)$$

To calculate  $n$ , the total number of clients per week ( $N$ ) were considered to be values in table 11.

In a normal distribution, for a trust level of 95% corresponds a value of  $Z_{\alpha/2}=1,96$ . For the standard deviation ( $\delta$ ), the highest acceptable value is 0,5 and  $E$  (standard error) is 0,05.

With this information and the data on 10 and by resorting to equation (9), the following values for  $n$  were obtained:

*Table 12 Minimum number of answers needed to draw accurate conclusions.*

| Store   | $n$ (# customers) |
|---------|-------------------|
| Buraca  | 274               |
| Massamá | 275               |

#### 4.5.2 Structured and Semi-Structured Interviews with experts

Thus far, all analyses and conclusions have been reached by analyzing literature and by discussing matters with *Compracá's* team. To obtain the best and the most comprehensive results possible, a series of interviews, with successful players in the F&G retailing market, were conducted.

The interviews will help validate and/or correct some assumptions and will provide support for the final recommendations that *Compracá* will receive.

The interviews were conducted according to two slightly different frameworks: structured and semi-structured interviews. On a semi-structured interview, the interviewer prepares a list of pre-determined questions, but

the interview unfolds in a way that allows for open dialog. This way, participants feel motivated to discuss subjects and issues that are related to the subject of the interview but are not inherent to the questions. In contrast, in a fully structured interview, the participants only discuss a set of pre-defined questions. The following chapter includes four interviews, with three different professionals. A list of the interviewees follows:

1. João Puga, a category manager for Jerónimo Martins Polska, based in Warsaw;
2. Miguel Mateus; the National Category Leader for Home Cleaning at SONAE MC, in Portugal;
3. Jorge Farinha, an administration member at Soprei, (a relevant wholesaler in the center of Portugal, which specializes in supplying proximity supermarkets).

Due to the COVID-19 pandemic, one of the three interviews included in this dissertation were performed via e-mail (with João Puga), and for this reason, are fully structured interviews. The remaining interviews were performed via video call or in-person and, for these cases, it was possible to conduct semi-structured interviews.

# Chapter 5 | Result Analysis

## 5.1 Managerial Insights Surveys

As Benoit et al (2020) predicted, there are misconceptions among store managers regarding what drives their stores' sales.

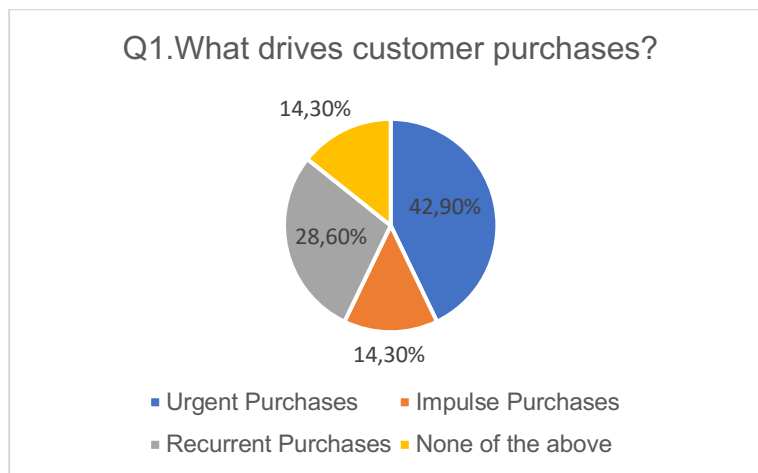


Figure 21 Distribution of the answers for question 1.

Table 13 Answers to question 1.

| Answer              | Stores                           |
|---------------------|----------------------------------|
| Urgent Purchases    | Luís Gonzaga, Massamá, Carregado |
| Recurrent Purchases | Buraca, Camarinha                |
| Impulse Purchases   | Entroncamento                    |
| None of the above   | Porto de Mós                     |

Convenience stores' sales are mostly driven by circumstances of urgent need. The two overall best performing stores (Luís Gonzaga and Carregado) and Massamá are the only stores to answer this question correctly, which may suggest a correlation between this misconception and store performance. Awareness of what enhances sales is intrinsically associated with knowledge of the local market. In other words, failing to determine the right reasons that lead customers to the store can lead to inadequate pricing and unfit assortment choices.

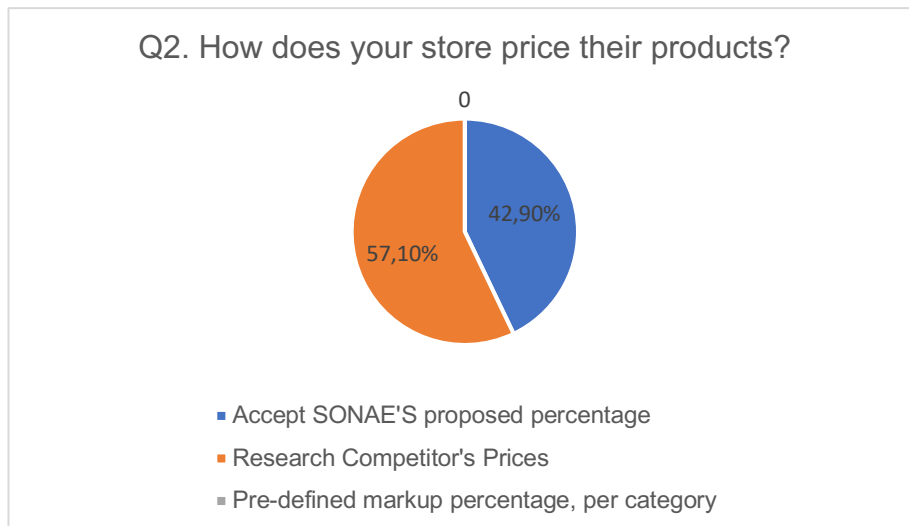


Figure 22 Distribution of the answers for question 2.

Table 14 Answers for question 2.

| Answer                                      | Stores                                       |
|---|--|
| Accept SONAE's proposed percentage          | Buraca, Luís Gonzaga, Porto de Mós           |
| Research Competitor's Prices                | Camarinha, Massamá, Carregado, Entroncamento |
| Pre-defined markup percentage, per category | -  |

Consumers tendentially base their decisions and opinions on comparisons between players and, for this reason, proximity stores must be aware of other player's prices to remain competitive, especially in cases where there is a large store chain nearby (less than 500 meters, as approached in chapter 3). With the exceptions of the Luís Gonzaga and the Entroncamento stores, every *Compracá* shop falls into that framework.

By evaluating the answers to these two questions, it is not obvious that there is a link between good store performance and acceptance of SONAE'S proposal, since the worst and the best performing stores have chosen that answer.



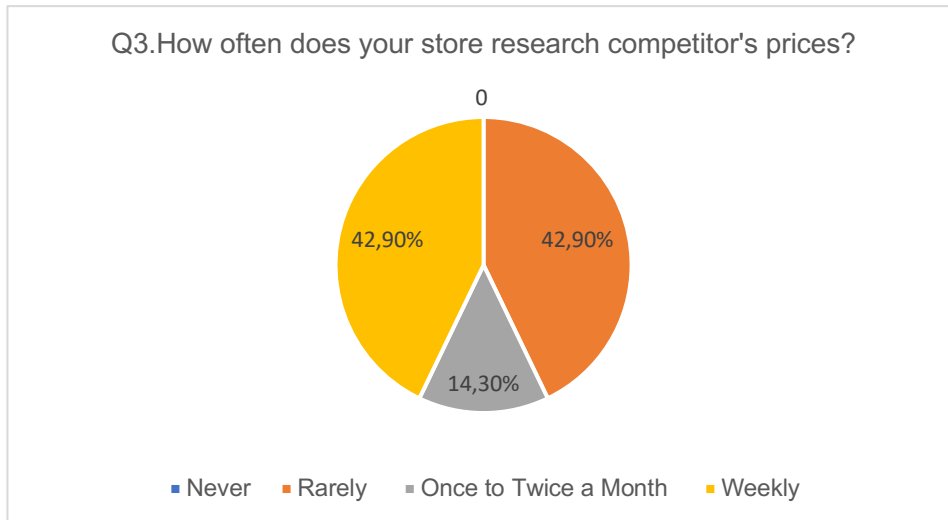


Figure 23 Distribution of the answers for question 3.

Table 15 Answers to question 3.

| Answer                | Stores                                 |
|-----------------------|--|
| Never                 | -                                      |
| Rarely                | Buraca, Camarinha, Porto de Mós        |
| Once to Twice a Month | Massamá                                |
| Weekly                | Luís Gonzaga, Carregado, Entroncamento |

Success, however, appears to be associated with how much do shops investigate the prices of their rivals. The Buraca and the Porto de Mós stores are among the worst performing stores and both answered, “Accept SONAE’S proposed percentage” and “Rarely” performing research.

According to *Compracá*, SONAE proposes an interval of markup percentages that the *Compracá* stores can choose from. Within these intervals, the company states that stores then have the autonomy to communicate their suggestion to the company’s financial department. Therefore, accepting SONAE’s proposal does not dismiss the need for market research. The Luís Gonzaga store is a fitting example of this hypothesis: despite accepting SONAE’s proposal, their teams still conduct weekly price researches.

Each store has different competitors and different teams, meaning that frequent market research does not automatically translate into success.

Q4. How often does your store ensure that some specific product's prices are not damaging their entire category's margin?

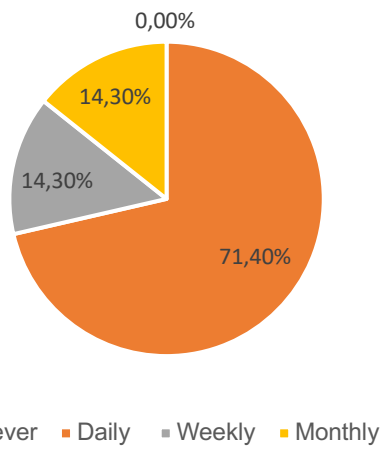


Figure 24 Distribution of the answers for question 4.

Table 16 Answers to question 4.

| Answer  | Store  |
|---------|--|
| Never   | -  |
| Daily   | Camarinha, Luís Gonzaga, Massamá, Carregado, Entroncamento |
| Weekly  | Porto de Mós   |
| Monthly | Buraca   |

Nevertheless, conducting frequent research allows for the identification of patterns which can help improve the store's pricing and forecasting policies.

Table 17 Answers obtained to question 5.

| <b>Q5. How do you ensure a specific product's margin does not damage the entire category margin? Please specify for which categories.</b> |   |
|---|---|
| Buraca  | Check the product's margins on a excel file and not by any category in particular   |
| Camarinha   | By category but by analyzing daily sales values. On the following day, if the margin is not satisfactory, I will change it. |
| Luís Gonzaga  | On the categories that contain the items with the highest rotation.   |
| Massamá   | -   |
| Carregado   | Fruits and Vegetables   |
| Entroncamento   | Fruits and Vegetables   |
| Porto de Mós  | Charcuterie and Fruits and Vegetables   |

Since SONAE has vast know-how on the F&G retailing sector and has already mastered managing data from the *Continente* card, it is important to take their proposals into consideration. However, the Luís Gonzaga store pays special attention to the “items with highest rotation” or KVIs, thus reinforcing the need to focus on these products.

The majority of the stores have said that they daily ensure that there are no specific items pulling category margins down. When asked to identify the categories on which this analysis is performed, the Porto de Mós and the Entroncamento stores have affirmed to focus on only one category. Focusing on solely one category might lead to delayed identification of problems in other categories. For this reason, managers and teams, to ensure stable profit margins, should perform a more comprehensive analysis.

Buraca’s strategy comes across as being the least practical and effective one. This store had over 1600 different products in 2019. Checking all these products’ margins individually and only monthly may difficult the task of ensuring that one item’s margin is not damaging the entire category.

### 5.1.2 Managerial Insights Summary

A summary of the stores’ overall performance regarding their managerial insights follows. Each of the previously mentioned questions was designed to evaluate the parameters referred in figure 17. To simplify the analysis of the answers each store provided, a qualitative scoring system was implemented. If the answer provided by a store is satisfactory and demonstrates a good performance in the parameter that same question is evaluating, then the store is assigned a (+) for that question. If the answer is not satisfactory, a (-) is assigned. In the cases no answer was provided, the stores were assigned a (0), and when the answers or the overall evaluation was not conclusive, the store was assigned a (?).

Table 18 Store's scores according to their answers on the managerial insights survey.

| Store         | Knowledge (Q1 and 5) | Coherence (Q2, 3 and 5) | Proactivity (Q3,4 and 5) | Effectiveness |
|---------------|----------------------|-------------------------|--------------------------|---------------|
| Buraca        | -                    | +                       | --                       | -             |
| Camarinha     | -                    | -                       | -                        | --            |
| Luís Gonzaga  | +                    | -                       | +                        | +             |
| Massamá       | +                    | +                       | ?                        | +             |
| Carregado     | +                    | +                       | 0                        | ?             |
| Entroncamento | -                    | +                       | 0                        | ?             |
| Porto de Mós  | -                    | +                       | +                        | +             |

Overall, the Buraca and Camarinha stores are the locations with the most significant problems regarding their managerial insights.

It is interesting to notice that the stores that provided the least satisfying answers to this survey are also the locations with the largest decrease in revenue between 2018 and 2019, thus confirming a possible correlation between revenue fluctuations and managerial knowledge.

## 5.2 Price data

Notwithstanding the fact that data was collected for a short period, its review still gives some perception of the store's problems.

The Buraca team was requested to pick their store's most valuable items or, in other words, the products customers demand the most and that simultaneously generate weighty profits for the store.

The data collected at the Buraca store showed that at *Minipreço* SSP are, on average, 7,82% cheaper, SPPs are 1,68% cheaper and IPPs are 0,85% cheaper.

Table 19 Data collected by the Buraca store

| Category | Product                       | Current RPP (€) | Competitor's Price (€) | Demand (Units or Kgs) |
|----------|-------------------------------|-----------------|------------------------|-----------------------|
| SSP      | Bread "Carcaça"               | 0,18            | 0,15                   | 318                   |
|          | Bread "Bola"                  | 0,23            | 0,20                   | 330                   |
|          | Coca-Cola 1l                  | 1,00            | 1,39                   | 20,0                  |
|          | Milk "Mimosa" (M/G 1l)        | 0,59            | 0,59                   | 65,0                  |
|          | Milk "Grosso"(M/G 1l)         | 0,56            | 0,56                   | 27,0                  |
|          | Bananas                       | 1,19            | 0,89                   | 55,9                  |
|          | Letuce                        | 0,79            | 0,67                   | 25,0                  |
|          | Cheese "Atabafado"            | 2,40            | 1,39                   | 12,0                  |
|          | Cookies "Maria"               | 0,31            | 0,32                   | 7,0                   |
|          | Still Water "Continente" (1l) | 0,20            | 0,19                   | 16,0                  |
| SPP      | Loaf Bread "Dúlia"            | 1,00            | 0,89                   | 21,0                  |
|          | Iced Tea "Continente" (2l)    | 0,96            | 0,80                   | 6,00                  |
|          | Shredded Cod "Continente"     | 4,85            | 4,49                   | 6,00                  |

|            |                                      |      |      |      |
|------------|--------------------------------------|------|------|------|
|            | Eggs (Size: M)                       | 0,89 | 0,87 | 38,0 |
|            | White Wine 1l                        | 0,84 | 0,77 | 23,0 |
|            | Red Wine 1l                          | 0,84 | 0,77 | 18,0 |
|            | Red Wine "Galitos"                   | 1,99 | 2,19 | 10,0 |
|            | Red Wine "Contemporal Alentejano"    | 1,97 | 1,86 | 10,0 |
|            | Chocolate Milk "Ucal"                | 0,49 | 0,68 | 80,0 |
|            | Oranges                              | 1,99 | 1,49 | 66,2 |
|            | Onions                               | 0,89 | 0,89 | 7,32 |
|            | Potatoes                             | 0,79 | 0,99 | 83,2 |
|            | Carrots                              | 0,99 | 0,74 | 36,8 |
|            | Butter "Vaqueiro"                    | 0,94 | 0,99 | 16,0 |
|            | Wheat Toasts                         | 1,60 | 1,63 | 3,00 |
|            | Sliced Cheese "Continente" (250g)    | 1,60 | 1,39 | 18,0 |
|            | Sliced Ham("Perna Extra Continente") | 1,50 | 1,56 | 4,00 |
|            | Coffee Capsules "Continente"         | 2,23 | 2,19 | 0,00 |
| <b>IPP</b> | Butter Beans (bottle)                | 0,63 | 0,6  | 9,00 |
|            | Nutella                              | 3,79 | 3,64 | 0,00 |
|            | Grease Remover "Continente"          | 1,18 | 1,31 | 1,00 |
|            | Gelatine                             | 0,81 | 0,68 | 2,00 |
|            | Canned Fruit                         | 1,46 | N/A  | 1,00 |
|            | Deodorant "Axe"                      | 4,88 | 2,49 | 0,00 |
|            | Body Wash "Nivea"                    | 3,45 | 5,99 | 0,00 |
|            | Jams                                 | 1,35 | 1,20 | 1,00 |
|            | Wine "Lambrusco"                     | 2,37 | 1,99 | 0,00 |
|            | Coconut Flakes                       | 1,24 | 1,25 | 1,00 |
|            | Roasted Peanuts (with salt)          | 0,75 | 0,89 | 0,00 |
|            | Anti-bleach Wipes                    | 3,41 | 2,98 | 0,00 |

To further understand the reasons that lead to some product's unsuccessful sales, two immediate measures should be taken: firstly, the product's demand-price elasticity should be calculated and secondly the vW method should be applied.

By applying the vW method, the team will be able to determine its customers' ideal price point, which will predictably increase demand and improve price perception. By analyzing results from this methodology with elasticity calculations, cost records and competitor's prices will allow the stores to determine if the product should be removed from the assortment and how would promotions (price shifts) affect demand and profitability.

## 5.2.1 Adjusting Prices

The results of the price adjustment guidelines provided by *Compracá* are presented in section 4.6. These guidelines were only disregarded when the adjusted price was lower than the item's cost. In these situations (Cheese "Atabafado" and Oranges), it was assumed that the item would be sold at their cost price. On the category IPP, a 10% price increase was implemented, as an attempt to offset the RRP decreases on SSP and SPP (with the exception of Deodorant "Axe", since its price is already significantly higher than at MInipreço).

Table 20 Price adjustments according to the guidelines provided by *Compracá*, described in section 4.6.

| Category | Product                              | Current RPP (€) | Cost (€) | Markup (%) | Competitor's Price (€) | Adjusted Price (€) |
|----------|--------------------------------------|-----------------|----------|------------|------------------------|--------------------|
| SSP      | Bread "Carçaça"                      | 0,18            | 0,14     | 28,57%     | 0,15                   | 0,15               |
|          | Bread "Bola"                         | 0,23            | 0,18     | 27,78%     | 0,20                   | 0,2                |
|          | Coca-Cola 1l                         | 1,00            | 0,8      | 25,00%     | 1,39                   | 1,36               |
|          | Milk "Mimosa" (M/G 1l)               | 0,59            | 0,54     | 9,26%      | 0,59                   | 0,58               |
|          | Milk "Gresso"(M/G 1l)                | 0,56            | 0,44     | 27,27%     | 0,56                   | 0,55               |
|          | Bananas                              | 1,19            | 0,83     | 43,37%     | 0,89                   | 0,87               |
|          | Letuce                               | 0,79            | 0,56     | 41,07%     | 0,67                   | 0,66               |
|          | Cheese "Atabafado"                   | 2,4             | 1,80     | 33,33%     | 1,39                   | 1,36               |
|          | Cookies "Maria"                      | 0,31            | 0,20     | 55,00%     | 0,32                   | 0,31               |
|          | Still Water "Continente" (1l)        | 0,2             | 0,14     | 42,86%     | 0,19                   | 0,19               |
|          | Loaf Bread "Dúlia"                   | 1,00            | 0,76     | 31,58%     | 0,89                   | 0,87               |
| SPP      | Iced Tea "Continente" (2l)           | 0,96            | 0,59     | 62,71%     | 0,80                   | 0,8                |
|          | Shredded Cod "Continente"            | 4,85            | 3,68     | 31,79%     | 4,49                   | 4,49               |
|          | Eggs (Size: M)                       | 0,89            | 0,64     | 39,06%     | 0,87                   | 0,87               |
|          | White Wine 1l                        | 0,84            | 0,65     | 29,23%     | 0,77                   | 0,77               |
|          | Red Wine 1l                          | 0,84            | 0,65     | 29,23%     | 0,77                   | 0,77               |
|          | Red Wine "Galitos"                   | 1,99            | 1,26     | 57,94%     | 2,19                   | 2,19               |
|          | Red Wine "Contemporal Alentejano"    | 1,97            | 1,31     | 50,38%     | 1,86                   | 1,86               |
|          | Chocolate Milk "Ucal"                | 0,49            | 0,39     | 25,64%     | 0,68                   | 0,68               |
|          | Oranges                              | 1,99            | 1,57     | 26,75%     | 1,49                   | 1,49               |
|          | Onions                               | 0,89            | 0,48     | 85,42%     | 0,89                   | 0,89               |
|          | Potatoes                             | 0,79            | 0,35     | 125,71%    | 0,99                   | 0,99               |
|          | Carrots                              | 0,99            | 0,60     | 65,00%     | 0,74                   | 0,74               |
|          | Butter "Vaqueiro"                    | 0,94            | 0,72     | 30,56%     | 0,99                   | 0,99               |
|          | Wheat Toasts                         | 1,60            | 1,10     | 45,45%     | 1,63                   | 1,63               |
|          | Sliced Cheese "Continente" (250g)    | 1,60            | 0,99     | 61,62%     | 1,39                   | 1,39               |
|          | Sliced Ham("Perna Extra Continente") | 1,50            | 0,98     | 53,06%     | 1,56                   | 1,56               |
|          | Coffee Capsules "Continente"         | 2,23            | 1,48     | 50,68%     | 2,19                   | 2,19               |

|     |                             |      |      |         |      |      |
|-----|-----------------------------|------|------|---------|------|------|
| IPP | Butter Beans (bottle)       | 0,63 | 0,40 | 57,50%  | 0,60 | 0,69 |
|     | Nutella                     | 3,79 | 2,63 | 44,11%  | 3,64 | 4,17 |
|     | Grease Remover "Continente" | 1,18 | 0,74 | 59,46%  | 1,31 | 1,44 |
|     | Gelatine                    | 0,81 | 0,51 | 58,82%  | 0,68 | 1,30 |
|     | Canned Fruit                | 1,46 | 1,04 | 40,38%  | N/A  | 1,61 |
|     | Deodorant "Axe"             | 4,88 | 1,49 | 227,52% | 2,49 | 4,88 |
|     | Body Wash "Nivea"           | 3,45 | 2,29 | 50,66%  | 5,99 | 3,79 |
|     | Jams                        | 1,35 | 0,84 | 60,71%  | 1,2  | 1,49 |
|     | Wine "Lambrusco"            | 2,37 | 1,39 | 70,50%  | 1,99 | 2,6  |
|     | Coconut Flakes              | 1,24 | 0,73 | 69,86%  | 1,25 | 1,36 |
|     | Roasted Peanuts (with salt) | 0,75 | 0,46 | 63,04%  | 0,89 | 0,83 |
|     | Anti-bleach Wipes           | 3,41 | 1,59 | 111,47% | 2,98 | 3,75 |

## 5.2.2 Financial Impact

To understand the financial impact that these prices adjustments would have on the store, some simple scenarios were developed.

### Scenario 1: Prices are adjusted and demand remains unchanged

Table 21 Financial Results obtained with Scenario 1.

| Product                           | Real Revenue (€) | Real Profit (€) | Adjusted Revenue (€) | Adjusted Profit(€) |
|-----------------------------------|------------------|-----------------|----------------------|--------------------|
| Bread "Carçaça"                   | 57,24            | 12,72           | 46,75                | 2,23               |
| Bread "Bola"                      | 75,90            | 16,50           | 64,68                | 5,28               |
| Coca-Cola 1l                      | 20,00            | 4,00            | 27,24                | 11,24              |
| Milk "Mimosa" (M/G 1l)            | 38,35            | 3,25            | 37,58                | 2,48               |
| Milk "Grosso"(M/G 1l)             | 15,12            | 3,24            | 14,82                | 2,94               |
| Bananas                           | 66,49            | 20,11           | 48,73                | 2,36               |
| Letuce                            | 19,75            | 5,75            | 16,42                | 2,42               |
| Cheese "Atabafado"                | 28,80            | 7,20            | 21,6                 | 0,00               |
| Cookies "Maria"                   | 2,17             | 0,77            | 2,20                 | 0,80               |
| Still Water "Continente" (1l)     | 3,20             | 0,96            | 2,98                 | 0,74               |
| Pão de forma dulia                | 21,00            | 5,04            | 18,32                | 2,36               |
| Iced Tea "Continente" (2l)        | 5,76             | 2,22            | 4,80                 | 1,26               |
| Shredded Cod "Continente"         | 29,10            | 7,02            | 26,94                | 4,86               |
| Eggs (Size: M)                    | 33,82            | 9,50            | 33,06                | 8,74               |
| White Wine 1l                     | 19,32            | 4,37            | 17,71                | 2,76               |
| Red Wine 1l                       | 15,12            | 3,42            | 13,86                | 2,16               |
| Red Wine "Galitos"                | 19,90            | 7,30            | 19,90                | 7,30               |
| Red Wine "Contemporal Alentejano" | 19,70            | 6,60            | 18,60                | 5,50               |

|                                      |        |        |        |        |
|--------------------------------------|--------|--------|--------|--------|
| Chocolate Milk "Ucal"                | 39,20  | 8,00   | 39,20  | 8,00   |
| Oranges                              | 131,80 | 27,82  | 103,98 | 0,00   |
| Onions                               | 6,51   | 3,00   | 6,51   | 3,00   |
| Potatoes                             | 65,73  | 36,61  | 65,73  | 36,61  |
| Carrots                              | 36,39  | 14,34  | 27,20  | 5,15   |
| Butter "Vaqueiro"                    | 15,04  | 3,52   | 15,04  | 3,52   |
| Wheat Toasts                         | 4,80   | 1,50   | 4,80   | 1,50   |
| Sliced Cheese "Continente" (250g)    | 28,80  | 10,98  | 25,02  | 7,20   |
| Sliced Ham("Perna Extra Continente") | 6,00   | 2,08   | 6,00   | 2,08   |
| Coffee Capsules "Continente"         | 0,00   | 0,00   | 0,00   | 0,00   |
| Butter Beans (bottle)                | 5,67   | 2,07   | 5,67   | 2,07   |
| Nutella                              | 0,00   | 0,00   | 0,00   | 0,00   |
| Grease Remover "Continente"          | 1,18   | 0,44   | 1,18   | 0,44   |
| Gelatine                             | 1,62   | 0,60   | 1,62   | 0,60   |
| Canned Fruit                         | 1,46   | 0,42   | 1,46   | 0,42   |
| Deodorant "Axe"                      | 0,00   | 0,00   | 0,00   | 0,00   |
| Body Wash "Nivea"                    | 0,00   | 0,00   | 0,00   | 0,00   |
| Jams                                 | 1,35   | 0,51   | 1,35   | 0,51   |
| Wine "Lambrusco"                     | 0,00   | 0,00   | 0,00   | 0,00   |
| Coconut Flakes                       | 1,24   | 0,51   | 1,24   | 0,51   |
| Roasted Peanuts (with salt)          | 0,00   | 0,00   | 0,00   | 0,00   |
| Anti-bleach Wipes                    | 0,00   | 0,00   | 0,00   | 0,00   |
| Total                                | 837,53 | 232,37 | 742,18 | 137,02 |

If these price adjustments were to be implemented, the company would lose 95,35€ in revenue. Since the decreases in RRP are obtained by decreasing the profit margins, all the money lost with the adjustments would be profit.

## Scenario 2: Prices are adjusted and demand increases 10% for SSP and 5% for SPP

Table 22 Financial results obtained with scenario 2.

| Product                | Real Revenue (€) | Real Profit (€) | Adjusted Revenue (€) | Adjusted Profit (€) |
|------------------------|------------------|-----------------|----------------------|---------------------|
| Bread "Carcaça"        | 57,24            | 12,72           | 51,42                | 6,90                |
| Bread "Bola"           | 75,90            | 16,50           | 71,15                | 11,75               |
| Coca-Cola 1l           | 20,00            | 4,00            | 29,97                | 13,97               |
| Milk "Mimosa" (M/G 1l) | 38,35            | 3,25            | 41,34                | 6,24                |
| Milk "Grosso"(M/G 1l)  | 15,12            | 3,24            | 16,30                | 4,42                |
| Bananas                | 66,49            | 20,11           | 53,60                | 7,23                |



|                                      |        |        |        |        |
|--------------------------------------|--------|--------|--------|--------|
| Letuce                               | 19,75  | 5,75   | 18,06  | 4,06   |
| Cheese "Atabafado"                   | 28,80  | 7,20   | 23,28  | 1,68   |
| Cookies "Maria"                      | 2,17   | 0,77   | 2,41   | 1,01   |
| Still Water "Continente" (1l)        | 3,20   | 0,96   | 3,28   | 1,04   |
| Pão de forma dulia                   | 21,00  | 5,04   | 20,15  | 4,19   |
| Iced Tea "Continente" (2l)           | 5,76   | 2,22   | 5,04   | 1,50   |
| Shredded Cod "Continente"            | 29,10  | 7,02   | 28,29  | 6,21   |
| Eggs (Size: M)                       | 33,82  | 9,50   | 34,71  | 10,39  |
| White Wine 1l                        | 19,32  | 4,37   | 18,60  | 3,65   |
| Red Wine 1l                          | 15,12  | 3,42   | 14,55  | 2,85   |
| Red Wine "Galitos"                   | 19,90  | 7,30   | 20,90  | 8,30   |
| Red Wine "Contemporal Alentejano"    | 19,70  | 6,60   | 19,53  | 6,43   |
| Chocolate Milk "Ucal"                | 39,20  | 8,00   | 41,16  | 9,96   |
| Oranges                              | 131,80 | 27,82  | 103,98 | 0,00   |
| Onions                               | 6,51   | 3,00   | 6,84   | 3,33   |
| Potatoes                             | 65,73  | 36,61  | 69,01  | 39,89  |
| Carrots                              | 36,39  | 14,34  | 28,56  | 6,51   |
| Butter "Vaqueiro"                    | 15,04  | 3,52   | 15,79  | 4,27   |
| Wheat Toasts                         | 4,80   | 1,50   | 5,04   | 1,74   |
| Sliced Cheese "Continente" (250g)    | 28,80  | 10,98  | 26,27  | 8,45   |
| Sliced Ham("Perna Extra Continente") | 6,00   | 2,08   | 6,30   | 2,38   |
| Coffee Capsules "Continente"         | 0,00   | 0,00   | 0,00   | 0,00   |
| Butter Beans (bottle)                | 5,67   | 2,07   | 5,67   | 2,07   |
| Nutella                              | 0,00   | 0,00   | 0,00   | 0,00   |
| Grease Remover "Continente"          | 1,18   | 0,44   | 1,18   | 0,44   |
| Gelatine                             | 1,62   | 0,60   | 1,62   | 0,60   |
| Canned Fruit                         | 1,46   | 0,42   | 1,46   | 0,42   |
| Deodorant "Axe"                      | 0,00   | 0,00   | 0,00   | 0,00   |
| Body Wash "Nivea"                    | 0,00   | 0,00   | 0,00   | 0,00   |
| Jams                                 | 1,35   | 0,51   | 1,35   | 0,51   |
| Wine "Lambrusco"                     | 0,00   | 0,00   | 0,00   | 0,00   |
| Coconut Flakes                       | 1,24   | 0,51   | 1,24   | 0,51   |
| Roasted Peanuts (with salt)          | 0,00   | 0,00   | 0,00   | 0,00   |
| Anti-bleach Wipes                    | 0,00   | 0,00   | 0,00   | 0,00   |
| Total                                | 837,53 | 232,37 | 788,05 | 182,89 |

When calculating the adjusted revenue and profit in this scenario, one more factor was considered: for SPP, when for a specific item the price at *Minipreço* is higher than the price at *Compracá*, no price adjustment is applied, meaning that the price the store currently practices was considered. Otherwise, it would not be

coherent, for a SPP, to assume its demand would increase given that its price rose. Even when assuming that the price adjustments will generate a considerable increase in overall demand, the company would still be losing money (49,48€) if this methodology were to be applied.

### 5.2.3 Basket Comparison

To get a comprehensive understanding of the price points each store offers, a basket comparison analysis follows. The choice of products to include in this hypothetical basket was limited to the products chosen by the store (see tables 8 and 9), since the Buraca team was only available to check competitor data once and for those specific products.

While choosing the products some criteria was met:

1. Choosing products from various categories;
2. Choosing products with different elasticities;
3. Choosing a basket that resembles an average basket in Portugal (39% of private label products ((Deco, 2019)

*Table 23 Classification of the chosen products for the basket comparison.*

| Product                             | Category            | IPP | SPP | SSP | Private Label |
|-------------------------------------|---------------------|-----|-----|-----|---------------|
| Bread "Bola Pequena" (5 units)      | Bakery              |     |     | ✓   |               |
| Bananas (1kg)                       | Fruits & Vegetables |     |     | ✓   |               |
| Still Water "Continente" (1 bottle) | Soft Drinks         |     |     | ✓   | ✓             |
| Milk "Mimosa"(1l)                   | Dairy               |     |     | ✓   |               |
| Eggs (Size: M) (1 unit)             | Dairy               |     | ✓   |     |               |
| Iced Tea "Continente"(2l)           | Soft Drinks         |     | ✓   |     | ✓             |
| Sliced Ham "Continente"(1 package)  | Charcuterie         |     | ✓   |     | ✓             |
| Shredded Cod "Continente" (1Kg)     | Fishmonger          |     | ✓   |     | ✓             |
| Grease Remover "Continente" (1unit) | Home Apparel        | ✓   |     |     | ✓             |
| Nutella (1unit)                     | Breakfast           | ✓   |     |     |               |
| Deodorant "Axe" (1 unit)            | Hygiene             | ✓   |     |     |               |
| Wine "Lambrusco" (1 bottle)         | Wine&Liquor         | ✓   |     |     |               |

After adding the costs of the items in table 23, the ticket price at *Compracá* is 23,55€ and 19,82€ at *Minipreço* (approximately 16% less expensive). However, the Buraca team has reported that the item Deodorant "Axe"

was on sale at *Minipreço* and that its regular RRP is 2,50€ more expensive, shortening the price gap between baskets to 5,2%.

In spite of the small difference, in general items are less expensive at *Minipreço*. Furthermore, there are items for which the difference in prices is almost 50% when the item is in a promotional period. These differences can severely affect the overall perception customers have about the store, especially in situations where customers buy small quantities of the products.

It is important to keep in mind that this basket was chosen out of a very limited range of products and that it was performed aiming to demonstrate the effects of comparing a group of products *versus* comparing them individually.

In order for this analysis to highlight relevant information for the company, it would be advised that the CCC and CCS effects among products or categories are tangibly determined.

The company would have to create a database in which the ticket data from each store is inputted. Then, while resorting to a software such as GAMS, the program would search repetitive occurrences and find dependences among the variables. For example, it is expected that when the price of butter rises significantly this product is replaced with a close substitute such as margarine and hence the sales of the later product increase.

Once these effects are accurately determined, then the company will have better insight into how to vary its prices.

### 5.3 Customer's Price Perception Surveys

Due to security reasons, imposed by the COVID-19 pandemic, this part of the methodology was not performed. Since surveying customers would require prolonged contact with a large number of different it was considered unsafe to complete this dissertation element.

### 5.4 Interviews with experts

#### 5.4.1 Interview with João Puga, Category Manager at Jerónimo Martins Polska

The Jerónimo Martins Group does not operate only in Portugal. In Poland, the company is responsible for *Biedronka*, the market-leading brand for the supermarket segment, owning over 25% of the market share. *Biedronka* operates only the convenience and supermarket formats. According to João Puga, the brand's success in Poland is due to their flawlessly executed pricing and marketing strategies, which assures customers that *Biedronka* is the supermarket with the lowest prices in the country.

Similarly to Portugal, the Polish F&G retailing market has a high concentration of players who practice different strategies, which ultimately results in a competitive market environment.

*Biedronka*, like Pingo Doce before 2012, practiced an EDLP strategy. However, with an increasingly competitive market environment and with Polish consumers becoming more informed and aware, *Biedronka* adopted a hybrid approach that combines both EDLP's and Hi-Lo's strategies features. Jerónimo Martins believes that this shift was crucial to establish *Biedronka's* leadership position.

João Puga reinforced that conveying to customers that *Biedronka* is an everyday low prices store is a time-consuming task. It requires constantly researching competitor's prices (ideally weekly) and performing thorough analysis on *Biedronka*'s own cost structure, in order to enable prices adjustments and offering the lowest prices in the market. The category manager also pointed out the importance of having an efficient and reliable supplying structure. In his opinion, this is a key element for having and maintaining acceptable profit margins.

There is a parallelism to draw between *Pingo Doce* and *Biedronka*. Both brands tried to operate under an EDLP strategy and as the market became increasingly competitive, due to factors such as player concentration and the rising price awareness among consumers, implementing a Hi-Lo strategy (totally for *Pingo Doce* and partially for *Biedronka*) was a move that was positively received by consumers and resulted in an increase in market share. Furthermore, this case study leads to the conclusion that customers responding positively to promotional strategies is an internationally spread phenomenon and that brands should develop pricing strategies that take promotional practices into consideration.

#### 5.4.2 Interview with Miguel Mateus, the National Category Leader for Home Cleaning at SONAE MC, in Portugal

Miguel Mateus has been working in the F&G retailing market for over 7 years. Throughout this semi-structure interview, Mr. Miguel spoke about how, in his opinion, the growing demand for the proximity format has emerged as a direct consequence of the growing need consumers feel to urgently satisfy their necessities. The SONAE category leader also pointed out that for the proximity format, each pricing case is very particular and that trying to define rigid strategies for stores that operate in significantly different locations can lead to financial

unsuccess.

In his opinion, there are two crucial mistakes managers of proximity format stores make: firstly, managers try, at all expenses, to compete with their competitors' prices and often forget that their stores are a "one-stop shop". In Mr. Miguel's opinion, proximity stores should not try to compete with their larger competitor's. Instead, these stores should almost try a strategy that resembles the strategy adopted by *Smirnoff*, approached in chapter 3. Convenience stores should convey to its customers that their products are worth their premium price, either due to their quality or simply because of the superior shopping experience, when compared to other formats. One of the ways stores can do this is, for example, by expanding their schedules or by offering particular services.

Secondly, in his opinion, financial unsuccess can be a consequence of failing to identify what items in the store customers value the most (also referred to as the key valuable items). Properly identifying these items and creating good value propositions for costumers is key to improve any store's pricing strategies.

Lastly, Mr. Miguel pointed out that the importance of adopting flexible and dynamic pricing strategies: it is not guaranteed that because one strategy did not work for a store at a certain period that that strategy is not adequate for the store. Pricing is not only about making appropriate decisions but rather about making the appropriate decisions at the right time.

### 5.4.3 Interview with Jorge Farinha, a member of Soprei's administration

Soprei is a wholesaler based in Sertã, in Castelo Branco and was founded in 1973. According to Mr. Jorge Farinha, between convenience supermarkets, restaurants and hotels, the company supplies food and groceries to over 500 clients. In 2019, Soprei recorded close to 6 million € in sales.

The majority of establishments this wholesaler supplies are similar to *Compracá's* stores: small supermarkets located in residential areas.

Soprei offers a large range of brands (both private and manufacturer's brands). When asked about their pricing policies, Mr. Farinha replied that before agreeing to supply any location, clients have to agree to some terms. For example, for some brands, supermarkets have to obey fixed promotional flyers, which means that they will have no control over those product's markup percentages (since the supplier will be setting both the product's costs and its price point). When asked if stores react negatively to this type of impositions, the response was interesting. The Soprei administrator explained that Soprei's clients are highly receptive to these kinds of strategies, since they recognize that there is a high and growing demand for promotional strategies in the market. Additionally, Mr. Jorge added that clients who have embraced strategies that include temporary promotions and carrying large assortments of private label products have been able to grow their sales volume and overcome times of adversity.

Mr. Jorge Farinha has over 41 years of experience in the wholesaling business and, for that reason, it was considered pertinent to ask what are, in his opinion, the most crucial mistakes proximity supermarkets make. The lack of modernization was pointed as a clear factor, namely the lack of flexibility in shifting pricing strategies, the lack of investment in modern and clean infrastructures, the lack of attention to close competitor's moves and the lack of overall capacity to link all these factors and adopt prices to local markets. In an era when customers have access to all supermarket's prices in a matter of seconds (with TV commercials, Social Media, Online promotional flyers, among other means), paying close attention to competitor's moves, being perceptive and strategic are the most important factors for success.

### 5.5 Possible Problems and Limitations

Throughout this chapter it is noticeable that this methodology is notoriously flawed. Its major incongruities are:

- On the first steps, when the teams were asked to categorize the products, this task was performed without any objective knowledge or research. The company's administration firmly believes its managers and collaborators have valuable insight into its customer's price sensitivity and that there is no need for further sensitivity tests or studies. However, the data collected (demand and price) do not corroborate that premise (see Appendix B).
- Due to the COVID-19 contingent, the data collection part of this dissertation was delayed, which significantly affected the accuracy of the results since it finally overlapped with the period in which the

Portuguese government-imposed restrictions on circulation between counties (from October 30<sup>th</sup> to November 3<sup>rd</sup>).

- By talking to the Buraca's team, it is perceptible that pricing tasks rely mostly on the store manager and that collaborators are not generally interested in administrative matters. This team dynamic creates unbalanced situations: when the manager is not at store, price adjustments and competitor research is not performed. The price collection at Buraca was originally planned for two weeks, but when the store manager went on holidays (after the first week) the team claimed that task required too much work and they did not have time.
- When building scenarios 1 and 2, there was a need to consider simple demand approximations due to shortage of data. However, to get more conclusive results, proper demand forecasting models should be used. The models should take into consideration the CCC and CCS effects, the products' elasticities and the competitor's prices and promotions.
- It is still unsure that this methodology is appropriate for the *Compracá* case study. However, with the assumptions that were considered, it appears to be a strategy that will aggravate *Compracá's* pricing problems even further.

## 5.6 Chapter Conclusion

At this point, the limitations of the methodology far outweigh its advantages. Literature on pricing and retailing point out the importance that data and data driven decisions have gained in recent years. To significantly improve pricing strategies and profit margins, companies must implement decision-aiding tools that thoroughly analyze data and present optimized solutions.

For these reasons, some improvement suggestions will be presented in the following chapter.

# Chapter 6 | Possible Improvements

## 6.1 Methodology Overview

This new methodology comprises a series of steps which will have as a final deliverable an algorithm to be implemented by the company. The suggested steps follow:

1. Assessing the demand-price elasticity (sensitivity) of all SKUs;
2. Bucket SKUs by level of sensitivity (SSP, SPP or IPP);
3. Define markup policy per bucket (how to choose markup, how often should it be updated and how should promotions be managed);
4. Test implementation;
5. Result Analysis and Improvements.

## 6.2 Assessing the demand-elasticity (or sensitivity)

To determine a SKU's elasticity, two variables are needed: price (P) and quantity sold (Q). When using the elasticity equation (equation (10)) two time points are first determined, an initial point (for which the price is  $P_i$  and the quantity of product sold is  $Q_i$ ) and a final time point (for which the price is  $P_f$  and the quantity sold is  $Q_f$ ). After having these values, the following equation is applied:

$$\varepsilon = \frac{\Delta Q\%}{\Delta P\%} = \frac{\frac{Q_f - Q_i}{Q_i}}{\frac{P_f - P_i}{P_i}} \quad (10)$$

Then, after obtaining values for  $\varepsilon$  for all the products, these have to be divided into categories. An example follows:

- The items with elasticity above 1 will be considered SSP;
- The items with elasticities between 1 and 0,5 will be considered SPP;
- The items with elasticities below 0,5 will be considered IPP.

It is vital to keep in mind that the aforementioned thresholds for the classification into SSP, SPP and IPP are merely an example. In a real case, such as this one, all values would have to be analyzed and appropriate thresholds would have to be defined. If it is not possible to identify appropriate thresholds after a proper data analysis, then it is reasonable to divide all products equally into the three categories: the products with the highest elasticity would be SSP, the products with the lowest elasticity would be IPP and the remaining products would be SPP.

Moreover, to obtain the most accurate results as possible, the greatest number of data points should be used. *Compracá* keeps no records of daily prices and quantities sold and was unavailable to perform a proper collection. The only available data was demand (or quantity sold), revenue, profit, profit margin, per month and per product.

To avoid bias due to the impact of COVID-19 on demand and prices, only data from January 2019 to December 2019 was considered.

The data from all the months of the year (2019) enabled building 11 intervals: January-February (Jan-Feb), February-March (Feb-Mar), March-April (Mar-Apr), April-May (Apr-May), May-June (May-Jun), June-July (Jun-Jul), July-August (Jul-Aug), August-September (Aug-Set), September-October (Set-Oct), October-November (Oct-Nov) and November-December (Nov-Dec). Then, for each product, the monthly average fluctuations of quantities and price were calculated (both in percentage), to enable the determination of  $\epsilon$ . The example of “Fula” Vegetable Oil follows:

*Table 24 Fluctuations in quantity and price and respective elasticity, during 2019, for Vegetable Oil “Fula”.*

| Time Period | $\Delta Q\%$ | $\Delta P\%$ | $ \epsilon $ |
|-------------|--------------|--------------|--------------|
| Jan-Feb     | -40,00       | -12,00       | 3,33         |
| Feb-Mar     | 67,00        | 9,00         | 7,44         |
| Mar-Apr     | -80,00       | 47,00        | 1,70         |
| Apr-May     | 1400,00      | -33,00       | 42,42        |
| May-Jun     | 53,00        | 0,00         | ---          |
| Jun-Jul     | -61,00       | 15,00        | 4,07         |
| Jul-Aug     | -67,00       | -13,00       | 5,15         |
| Aug-Sep     | 100,00       | 17,00        | 5,88         |
| Sep-Oct     | -83,00       | 14,00        | 5,93         |
| Oct-Nov     | 100,00       | 0,00         | ---          |
| Nov-Dec     | 850,00       | -24,00       | 35,42        |
| Average     | -            | -            | 12,37        |

The first problem that arose from using monthly data is that when prices were not changed, the elasticity tends to infinity. Therefore, when the price variation parcel was 0, the elasticity value was not considered. Another difficulty is the fact that small fluctuations in quantity deeply impacted elasticity. For example, in April the store only recorded selling one unit of this item. Since in May the store sold 15 units, the increase in quantity is 1400%, for a 33% price decrease, and hence an elasticity of 42,42.

Furthermore, as it can be observed in table 24, P and Q are not always inversely proportional, as it is expected from an essential product such as vegetable oil. This leads to the belief that external factors affected the store’s sales, shifting demand (competitor’s prices for example). Since there is no available information to assess what caused these same direction fluctuations, the months in which P and Q vary in a directly proportional manner were not considered.

Overall, for this product, elasticities vary between 1,70 and 42,42, averaging at 12,37, without any correlation. This fact confirms that this data might not be appropriate to calculate this product’s elasticity. Using weekly or even daily information, that can be extracted from the store’s POS system could be a solution for this problem.

The aforementioned example was often found among data and for that reason some extra constraints to proceed with the analysis were defined:



1. If the store did not record a minimal monthly volume of 50 units sold, then the product is not relevant enough for the study;
2. If the price did not vary at least 0,05€ between two consecutive months then it is reasonable to assume that if any fluctuations in quantity were not caused by price fluctuations, and therefore it is not accurate to consider data from that interval;

During 2019 the store sold, in total, 1652 different products. By applying constraints (1) and (2), only 24 of those products are eligible for the study. Out of these 24, 12 belong to the services category which comprises newspapers, magazines and lottery scratchers, and therefore its pricing strategy cannot be modified.

With the abovementioned constraints there were still products with significant elasticity fluctuations throughout the year. On that account, a third constraint was imposed:

3. If throughout the year the elasticity of the product is not within the [-5;5] interval, then it will not be considered.

After imposing (3), only 3 products followed all constraints: Lettuce, Bread “Bola” (1 unit) and Bread “D’Avó” (5 units). In an attempt to increase the list of eligible products, constraint (1) was adjusted to a monthly minimum of 25 units. This led to 44 possible products; however, when applying constraints (2) and (3), this number decreased to only 5 items that could be categorized. The example of Lettuce follows:

*Table 25 Fluctuations in quantity and price and respective elasticity, during 2019, for Lettuce.*

| Time Period | $\Delta Q\%$ | $\Delta P\%$ | $ \epsilon $ |
|-------------|--------------|--------------|--------------|
| Jan-Feb     | 4,00         | -18,00       | 0,22         |
| Feb-Mar     | 29,00        | -8,000       | 3,63         |
| Mar-Apr     | 10,00        | -20,00       | 0,50         |
| Apr-May     | 12,00        | -3,00        | 4,00         |
| May-Jun     | 5,00         | 0            | -            |
| Jun-Jul     | 15,00        | 0            | -            |
| Jul-Aug     | 5,00         | 4,00         | -            |
| Aug-Sep     | -25,00       | 30,00        | 0,83         |
| Sep-Oct     | -10,00       | 0,00         | -            |
| Oct-Nov     | -22,00       | 0,00         | -            |
| Nov-Dec     | 118,00       | -55,00       | 2,15         |
| Average     | -            | -            | 1,89         |

For this SKU, only 6 data points were eligible for studying. Five data points had a 0% price variation and for that reason, they were not considered. The interval July-August was also disregarded, since Q and P were directly proportional. Despite representing a reduced amount of data, this table can help guide pricing decisions and making more accurate forecasts. For example, if the lettuce price were to be decreased in 25%:

$$\varepsilon = \frac{\Delta Q\%}{\Delta P\%} \Leftrightarrow \Delta Q\% = 1,89 \times 25 = 47,25 \quad (11)$$

Then it would be reasonable to consider that demand for this item would increase in about 47,25%. This item's elasticity averages at 1,89. According to section 6.2, it is reasonable to assume that this product is an SSP. According to the company, this classification is accurate, thus demonstrating that this data analysis and the constrictions that were considered are accurate as well.

### 6.2.1 Bucket SKUs by sensitivity

Despite the attempts to accurately categorize all products, data available is not enough. In case that problem persists, and as mentioned before, it seems logical to equally divide all products, according to their average elasticity, through the three categories (SSP, SPP and IPP).

- The products with the highest elasticities are the products that are theoretically more replaceable (SSP). It is expected that these products will bring in less profit, since margins should be defined in a way that makes the RPP more competitive and hence lower;
- In the middle elasticity range, products are less replaceable than in the previous categories; however, consumers are still sensitive to large price fluctuations. Margins should be controlled but, in this category, there is an opportunity to practice higher markups than in the SSP category;
- The products with the lowest elasticities are not replaceable (for example, salt). For this reason, customers are not often sure of these items' price points. Since these are irreplaceable, customers are willing to pay whatever amount is necessary. This presents an opportunity for *Compracá* to increase markups and gain higher margins without deteriorating their customers' price perception. However, as mentioned in chapter 3, the decision to increase margins should be carefully analyzed. Despite the low sensitivity for price fluctuations, consumers still display some degree of sensitivity. If the margins for this category of products are too high, consumers will not feel encouraged to buy at this store. Moreover, as mentioned in the literature review, consumer's willingness to search and switch stores increases when consumers notice that prices have increased, thus reinforcing the need to perform this task carefully.

### 6.3 Define a Markup Policy per Bucket

So far, it is clear that each category's pricing needs to be managed differently. One of the most significant difficulties that teams have reported when collecting data is the fact that this is a rather time-consuming task. Hence, it is not reasonable to expect that, in the future, teams will be willing to regularly collect data and adjust prices autonomously.

One possible solution to tackle this issue is to acquire a data base service that periodically collects and makes available the information about competitor's prices.

Acquiring such a service would imply some extra costs for the company; however, it is important to remember that performing this task manually would imply extra costs as well. Employees would have to spend time checking competitor's prices and adjusting their own prices manually. These tasks would have to be performed during their working schedules, which would likely mean that work at the stores would be delayed. According to the team at Buraca, markup percentages are currently managed in the following manner:

- For all categories excluding perishable categories, prices offered at the store are, in its majority, the ones suggested by *Compracá's* administration. Since these products are centrally purchased, the team has reported that their inputs might not be very valuable, since they are not aware of costs, negotiations or distributions costs. The manager further reported that the teams do not possess enough knowledge about pricing and that they do not feel comfortable performing this task for a large assortment of products. The store's manager specified that the suggestions for most of the products are provided approximately once a month, via an excel file, which contains information for all products the company carries in every store. The manager also reported that the team updates all products' prices in their sales software, even the products the store does not sell. When asked about the motives for this practice, the manager reported that this is done merely with the purpose of saving time. If the teams were to manually choose, out of the excel file, the products the store offers and then proceed to update their prices, one product at a time, it would be significantly more time-consuming than updating all products at once.  
For products that are being promoted in nearby stores, the team is required to update their prices more often. The manager has reported that the team tries to adjust the prices of these products weekly or, at least, every two weeks, but that this is not always possible
- For perishable categories (Fruits & Vegetables, for example), as it was previously mentioned, the Buraca store has the autonomy to choose its own suppliers. To set the final prices for the products in these categories, the store has an excel file with pre-defined markups. The team only needs to input the cost at which the products were purchased, and the file will return the appropriate RPP. When asked about how often this file is updated, the manager responded that the file has not been update in years. This markup policy has given rise to some problems. Since it is not updated to account for factors such as seasonality, this can make the company incur in some financial losses, as it will be further demonstrated.
- The teams are encouraged to offer promotions on products that are nearing their expiration date. However, since there are no records concerning wastage, it is still unsure if this practice is generating the expected results (avoid wastage and reduce financial losses).
- When confronted about products that generate low or even negative margins, and how these situations are managed, the team reported that they have access to a daily file, in which the they can consult daily sales and profit margins. For these products, the team is autonomous to change their markups or to advise *Compracá* to remove products from their store assortment. However, and given that some products consistently generate negative margins, the answers provided in the managerial insights survey and the

fact that the Buraca manager has admitted that the team is not completely confident in their pricing skills, it still unsure if these situations are being efficiently managed.

Having all of this information into consideration, it is clear that there are no explicit guidelines for pricing at the stores and this practice, as it was briefly exemplified in chapter 5, is damaging the company's profitability.

To define a proper markup policy, three crucial questions must be answered:

1. How should each product's markup be picked?
2. How often and in what situations should the markup be updated?
3. How should promotions and discounts be managed?

To simplify the construction of the markup policy, the aforementioned questions will be answered in bullet points.

- Picking a markup

Managing markups for large assortments of products can become an overwhelming task, if it is not performed efficiently. Firstly, the store should determine what are the products customers search for the most and that are simultaneously the most profitable. These will be the store's key valuable items and the products that will attract more customers to the store and help create store loyalty.

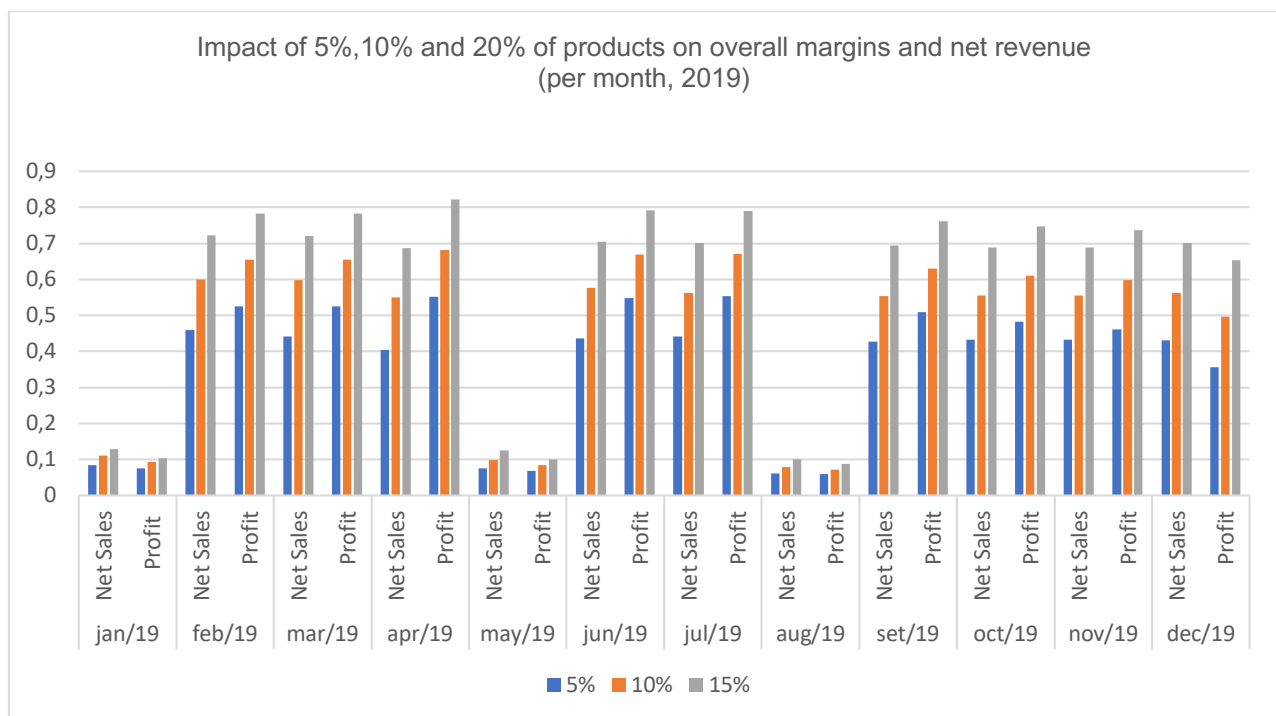


Figure 25 Impact of various percentages of top-profit products on total revenue and profit (2019).

Table 26 Relevant data about the Buraca's store top-profit products (2019).

| % of Top-Profit Products | Average Number of Items (2019) | Average Net Revenue (2019) | Average Margin (2019) |
|--------------------------|--------------------------------|----------------------------|-----------------------|
| 5%                       | 80                             | 34,37%                     | 39,28%                |
| 10%                      | 160                            | 44,99%                     | 49,28%                |
| 20%                      | 320                            | 55,51%                     | 59,62%                |

During 2019, 20% of the top-profit products were, on average, responsible for about 60% of the store's profit.

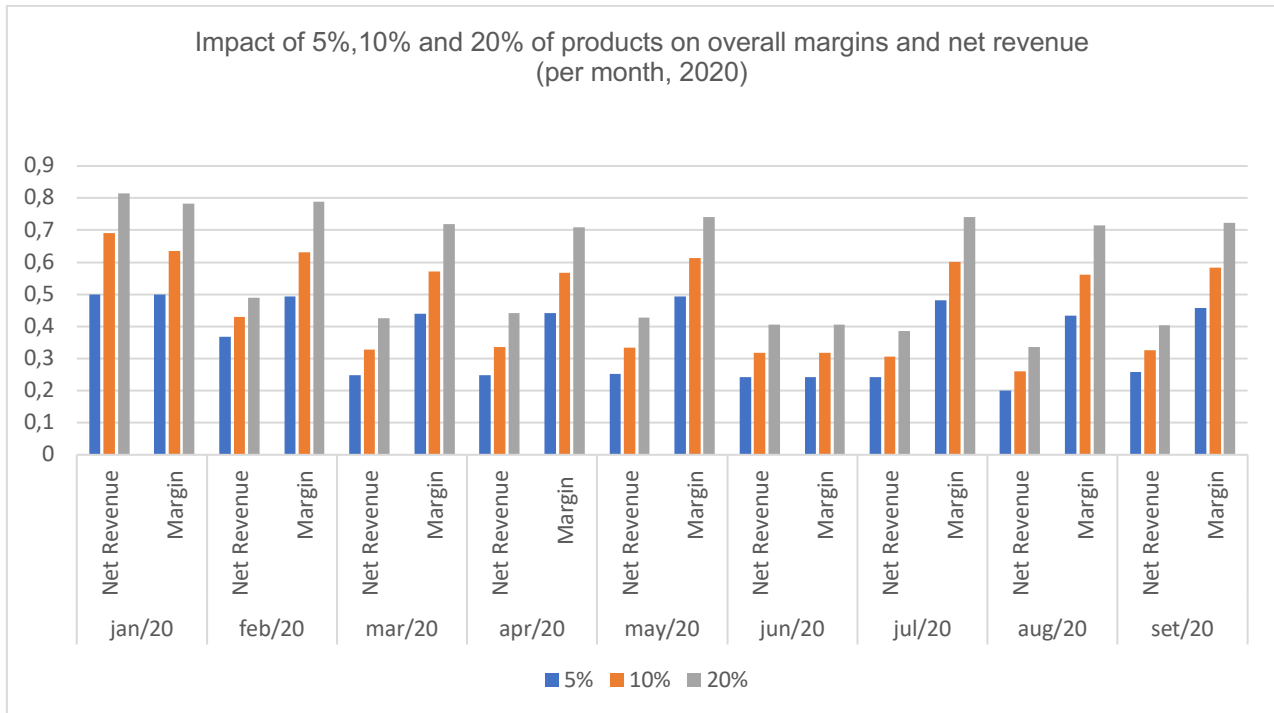


Figure 26 Impact of various percentages of top-profit products on total revenue and profit (Jan20-Set20).

Table 27 Relevant data about the Buraca's store top-profit products (Jan20-Set20).

| % of Top-Profit Products | Average Number of Items | Average Net Revenue (Jan/20-Set/20) | Average Margin (Jan/20-Set/20) |
|--------------------------|-------------------------|-------------------------------------|--------------------------------|
| 5%                       | 86                      | 28,38%                              | 44,25%                         |
| 10%                      | 172                     | 36,95%                              | 56,47%                         |
| 20%                      | 344                     | 45,91%                              | 70,28%                         |

Until September 2020, 20% of the top-profit products are responsible for approximately 70% of profit and 45% of net revenue. It is noticeable that between 2019 and 2020, there is a significant difference between the impact of the top-profit products in revenue and margin. It is important to acknowledge that 2020 data has some degree of bias due the effects of the COVID-19 pandemic. Since the pandemic caused consumers to display an enlarged willingness to pay, it was expected that the top-profit products would have a smaller impact on the average net revenue (consumers were less likely to display brand-preference and buy whatever brand was available in large quantities) and a larger impact on the average margin (margins were increased).

However, when analyzing the items and categories that are more often among the top-profit products, there are not many differences between 2019 and 2020.

The sales data from January 2019 until September 2020 was analyzed, especially the products that are among the 5% most profitable and most sold. During the aforementioned 18 months, 22 products were identified more than 8 times. From these 22 products, 13 belong to the Fruits & Vegetables category, 2 belong to the Dairy category (sliced cheese and eggs) and the remaining products belong to the services and bakery categories (which included all types of freshly baked bread). Additionally, after April 2020, some new products became top-profit products, namely facial masks.

Only after securing these items proper pricing, should the company analyze the remaining items. After identifying what are the store's key-valuable items, it is then necessary to combine this analysis with the price sensitivity categorization made in the previous section.

With a proper demand elasticity, it is possible to predict how price shifts will affect sales and hence revenue and profit.

- Frequency of update

As seen in chapter 3, consumers tendentially make their decisions based on comparisons among players. Together with shifts in products' costs, competitor's price shifts should be a driver for defining how often markups need to be updated.

The Buraca store manager has reported that *Minipreço* issues a new promotional flyer weekly and, as approached in chapter 3, customers are becoming increasingly receptive to strategies that include promotions and discounts. To gain and maintain competitive advantage, *Compracá* needs to shadow its competitor's moves with the shortest delay possible and update their prices as soon as *Minipreço* does the same. However, certain categories of products should be prioritized when performing this task. Firstly, key valuable SSP and SPP should be updated, since these will be the items customers search for the most (bring in the most profit and revenue) and are also the items that influence customers' price perception the most. Secondly, the store should focus on non-key SSP and SPP. Despite having lower demand for these products, they deeply impact the customer's price perception, and, for that reason, their prices should be carefully managed. Lastly, the store should focus on IPP: first on key valuable IPP and secondly on non-key IPP. A proposal for an adequate markup policy, per bucket, follows:

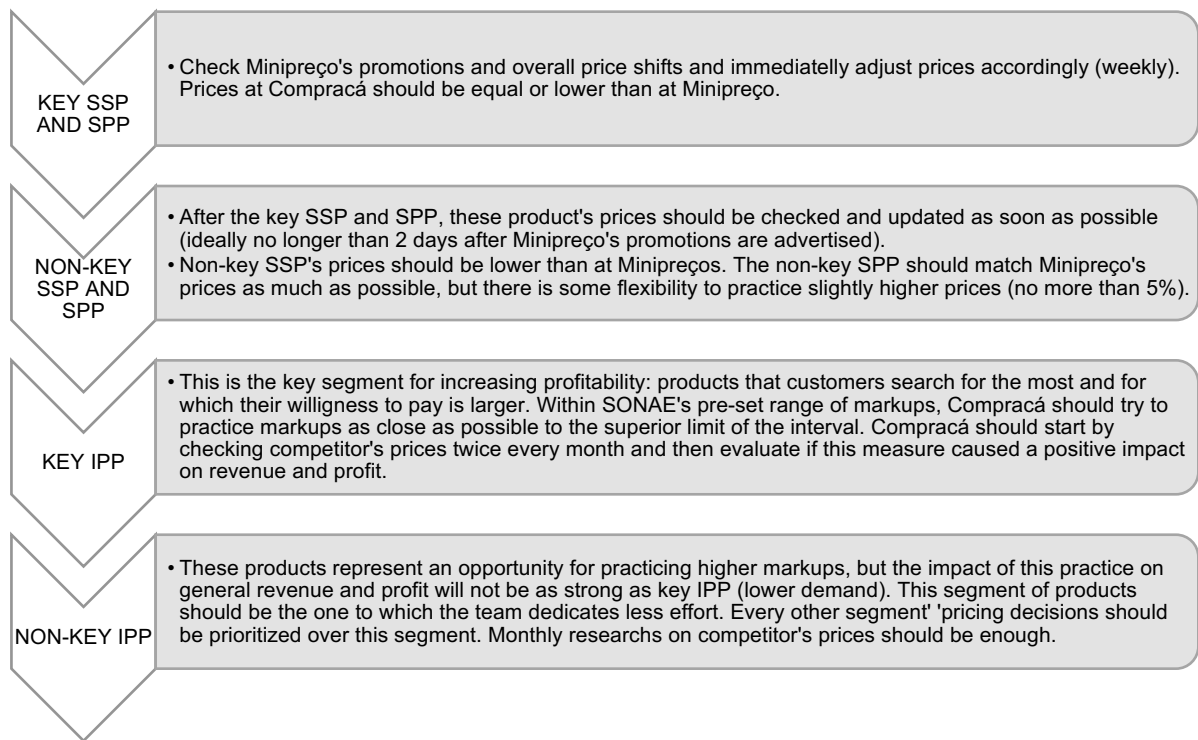


Figure 27 Suggestion for a markup prioritization policy.

According to the information gathered thus far, all evidence suggests that these guidelines will be a good starting point to achieve the goals set in chapter 1. However, it is crucial to keep in mind that these guidelines are merely suggestions and that there is flexibility for adjustments, if the results differ from what is expected. The previously suggested policies will require the acquisition of a capable software, that provides the competitors' prices in real-time.

- Managing Promotions and Discounts

Ideally, to obtain the highest margins as possible, companies should adopt a promotion planning model that resembles the mathematical model presented in section 3.5 of this dissertation. However, applying such models requires a high level of expertise that the company does not possess. For this reason, on a first instance the company should try to keep their current methodology but taking into consideration the previously presented algorithm regarding the frequency of updates.

Then, if this first attempt does not cause an increase in revenue and profit, the possibility of hiring an expert or outsourcing this task should be considered.

#### 6.4 Next Steps

The most critical steps in this approach are steps 4 and 5 (Test Implementation and Result Analysis and Improvements, respectively), as they will demonstrate whether modifications are necessary. However, it was not possible to enforce them due to scarcity of data and lack of collaboration of behalf of the company.

## 6.5 Model Limitations

This second methodology was presented as an attempt to improve the methodology presented in chapter 4, considering the limitations encountered. However, there are some constraints that can limit its effectiveness. First, this methodology will require some initial investment that will only have return in the long run. *Compracá* would have to invest on a good data base that could provide reliable information regarding its competitor's prices. Moreover, the mathematical model that was proposed to obtain an optimized promotion plan would require that someone in the company learned how to use it. As an alternative, *Compracá* could outsource this task or invest in its employee's education to learn how to manipulate it, but this decision would imply extra investment.

Still regarding the information that this methodology requires, *Compracá* keeps no records of daily sales, tickets or wastage. All this information would have to be periodically gathered to attain the objectives this company seeks to achieve.

Secondly, teams have reported that adjusting prices regularly consumes too much time and that this task is not compatible with their regular workload at the store. It is noticeable that some of the pricing decisions presented in chapter 5 are a result of not analyzing information properly.



# Chapter 7 | Conclusions, Recommendations and Future Work

## 7.1 Conclusions

With all the information that was gathered, presented and discussed, it is clear that pricing is much more complex task than what it is commonly thought.

This dissertation aimed to bring some clarity into *Compracá's* most urgent pricing-related issues and to develop a methodology to improve its strategies and its customer's price perception.

Due to the scarcity of data that the company was able to provide it is difficult to pin-point what *Compracá's* exact issue is, but some plausible hypotheses were raised.

### **Hypothesis 1:** Lack of Managerial Insights among Store Managers

The Buraca manager has confirmed that her team does not have the requisite expertise and tools to deal with complex pricing matters. The managerial insights survey and also reflected this view.

Due to lack of managerial knowledge, pricing at this store has fallen into a repetitive and inflexible pattern, that does not take into consideration the local's preferences. According to Mr. Jorge Farinha, this practice can cause significant financial damage. For the products *Compracá* supplies, prices are determined by the CEO and the financial department and for the perishables (categories for which the store found its own suppliers) the manager uses a standard excel spreadsheet that is not frequently updated. Furthermore, this tool does not account for seasonality which means the store is losing an opportunity to price discriminate and explore its customer's willingness to pay. A second consequence that comes from not accounting seasonality, that has been found while analyzing sales data, is recording negative margins for certain perishables, for example Lettuce (see table 28), during winter months. During these months this SKU's cost increases and the final RRP does not reflect that, which causes the store to lose money.

*Table 28 Quantities sold and margins obtained from the item Lettuce (Nov19-Mar20).*

|                    | <b>Nov 19</b> | <b>Dec 19</b> | <b>Jan 20</b> | <b>Feb 20</b> | <b>Mar 20</b> |
|--------------------|---------------|---------------|---------------|---------------|---------------|
| Quantity Sold (Kg) | 74,74         | 176,17        | 197,41        | 199           | 203,45        |
| Margin (%)         | 33,84         | -208,94       | -433,36       | -404,98       | 14,01         |

### **Hypothesis 2:** Lack of communication between the company's administration and the stores.

After interviewing the Buraca store manager, and when confronting the received answers with the information provided by the company's administration, it became apparent that there are communication issues within the company. Mr. Miguel Murta and *Compracá's* financial department have reported that the stores actively listen to their customer's opinions and adjust prices and the product assortment accordingly. However, the

manager has reported that the store mainly obeys by the guidelines that are provided by the company's administration (in what concerns pricing and product assortment management).

Neither one of the parts appears to take full responsibility for setting final RPPs which can be a possible problem source.

### **Hypothesis 3: Lack of Interest among Stores' Teams**

During the methodology implementation, more specifically during the price collection, close contact with the store's team (not just the manager) was required. During these contacts, it soon became clear that the Buraca team was not interested in cooperating. The data collection was delayed for several weeks because, despite committing to gather the information that was requested, the team often fail to do so. An additional factor that contributed to the delay was the difficulty in reaching the team (via e-mail or by call). Whenever the manager was not at the store, it was not possible to obtain any feedback regarding the data collection such that when the manager went on vacation, the team stopped performing this step of the methodology. This is problem was identified not only at the Buraca but also in the Massamá store, as it was described in previous chapters.

### **Hypothesis 4: Unfit Product Assortment**

This hypothesis comes as a direct consequence of hypothesis 1,2 and 3. As it was previously mentioned, the Buraca store records negative monthly margins for some items, meaning that those products caused the store to lose money.

*Table 29 Financial Impact of key-value destroying items.*

| <b>Month</b> | <b>Products with Negative Margins</b> | <b>Losses (€)</b> | <b>Number of top-profit items needed to compensate for the losses</b> | <b>Percentage of items needed to compensate for the losses (%)</b> |
|--------------|---------------------------------------|-------------------|---|--|
| Sep 19       | 27                                    | 30,99             | 190   | 12,53  |
| Oct 19       | 38                                    | 34,95             | 224   | 14,60  |
| Nov 19       | 31                                    | 31,31             | 187   | 12,34  |
| Dec 19       | 32                                    | 340,46            | 306   | 19,67  |
| Jan 20       | 32                                    | 390,46            | 715   | 47,10  |
| Feb 20       | 32                                    | 466,54            | 790   | 50,31  |
| Mar 20       | 29                                    | 90,85             | 309   | 17,76  |
| Apr 20       | 29                                    | 87,96             | 285   | 14,68  |
| May 20       | 45                                    | 30,15             | 195   | 10,64  |
| Jun 20       | 43                                    | 33,16             | 211   | 12,25  |
| Jul 20       | 43                                    | 44,46             | 244   | 13,70  |
| Aug 20       | 38                                    | 59,57             | 283   | 17,01  |
| Sep 20       | 24                                    | 43,26             | 226   | 13,28  |

When analyzing the monthly lists of value destroying items or of items that constantly register low sales volume, a repetitive pattern was identified. These products are often manufacturer brand's products for which

the store offers a private label alternative (eggs “Aviovo”, Olive Oil “Gallo”, Ice Tea “Lipton”, Tuna “Bom Petisco”, and Loaf Bread “Bimbo” are some of the most recurrent examples).

The cannibalization effects of private labels have been extensively studied and is easily identified at *Compracá* (see the following figure).

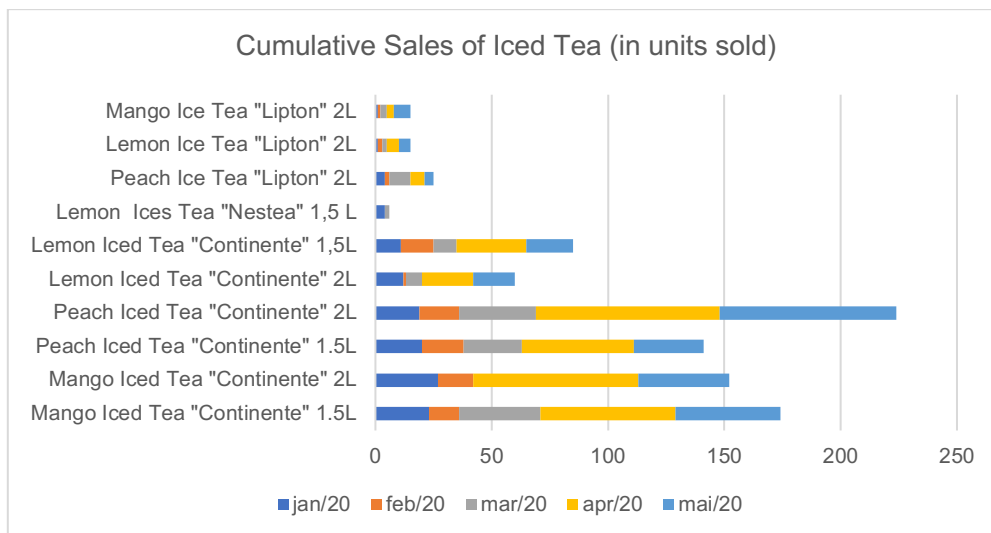


Figure 28 Comparison between the cumulative sales of private label and name-brand label, for Iced Tea (Jan20-May20)

**Hypothesis 5:** The data that was provided does not portrait reality

The quality of data that was provided has been pointed out as one of the most significant limitations of the methodologies in chapters 4 through 6. Even when disregarding the fact that working with monthly data does not lead to the most accurate outputs, there are some additional factor that have to be considered as well. Losses due to wastage and theft are not quantified, and these are factors that can create appreciable bias. *Compracá* keeps no record of the markups their stores effectively practice. The company only keeps records of the profit margin that was obtained with each SKU (at the end of the month) and relies on these profit percentages to define next month’s markups. The teams have reported that this store is located in a particularly problematic area and that theft is often perpetuated, not only by customers but sometimes by employees as well. Regarding the effects of wastage, the company has reported that the stores are encouraged to offer promotion on articles that are nearing its expiration date, however, according to the Buraca manager, this practice is not implemented as often as expected.

It is reasonable to assume that both these elements will greatly affect the monthly profit margins of the store’s SKUs and that using these numbers as guidelines to define the following month’s markups can lead to inaccurate pricing.

It is important to notice that these hypotheses are not mutually exclusive, meaning that one or more can simultaneously be the cause of the Buraca store’s pricing issues.

Despite the initially defined objectives, while studying *Compracá*’s operation some unanticipated issues arose namely the shortage of reliable data and problems with the teams which compromised the data analysis and

collection respectively. Additionally, the COVID-19 pandemic precluded the accomplishment of the “improving customer’s perception” objective, since it was not possible to physically inquiry the customers and *Compracá* does not have access to its client’s e-mails.

Lastly, it is important to notice that this study was performed during a time in which the F&G retailing market and the average consumer profile are both undergoing thought fundamental changes, factor which greatly increase the complexity of the study.

## 7.2 Recommendations and Future Work

As Kerstens (2013) said, “any company is only as good as its employees”. Throughout this dissertation many issues arose due to the team’s overall uninterest. It is possible that the teams do not take great interest in management and administrative issues because they do not fully understand them. In order to decentralize pricing from the company’s administration and achieve a store concept in which the store is fully adapted to its current market, teams need to be educated. By training the teams to correctly analyze data and make pricing decisions, it will be possible to progressively and partially transfer this responsibility to the store. According to the experts, the *Meu Super* concept owes its success because their stores are highly adapted to their customers bases, both regarding prices and product assortments. The only entities within the company that are capable to achieve this objective are the people who physically interact with customers thus justifying the need to invest on their training. Ideally, teams should take the initiate to periodically suggest the prices the store should practice to the financial department. Then, this department would confirm the feasibility of the proposed decisions and give a go or no-go decision. By adopting this methodology, each *Compracá* store would have a personalized pricing strategy that is aligned with specific customer needs. As Mr. Miguel Mateus stated, one of the most significant mistakes companies like *Compracá* often make is defining a common strategy for all its locations without considering each location’s singularities. Giving the stores more autonomy and proper tools could be a way to tackle this mistake.

A second driver for the team’s overall uninterest in pricing issues is the effort this task requires which is often not compatible with the workload at the store (particularly when it is necessary to shadow competitor’s prices). Investing in a software that provides competitor’s prices in real time is advised.

Acquiring such a tool could constitute a considerable investment, however, it is necessary to understand that having one employee, at each *Compracá* location, performing price regular price checks is also quite costly. Furthermore, allocating this task to an employee would possible demotivate the teams even further since it is a very repetitive task.

Regarding product assortment at this store, some measures should be adopted as well. According to SONAE (2018), each *Meu Super* store offers about 2000 different products and have a sales area of about 200 m<sup>2</sup>. The *Buraca* store has a sales area of 102 m<sup>2</sup> however, at any month during 2020, the total number of SKUs at the store was always above 1500. This store offers too many products and its assortment should be reviewed. More specifically, the possibility of discontinuing the sale of undifferentiated name brand products should be evaluated (olive oil, tuna, sodas and loaf bread, for example).

Regarding the pricing technique used at this store for perishables, it also needs to be urgently reconsidered. The tool the store uses only takes into consideration a predefined interval that has not been updated in recent

years. The markup for these products, along with taking SONAE's proposal into consideration, has to account for seasonality, so that the situation that occurs with lettuce during winter does not repeat itself with other perishables in other seasons.

Furthermore, a lot of attention was placed on promotional practices throughout this dissertation's literature review and the interviews with experts. *Compracá's* promotions are essentially set by analyzing *Minipreço's* (at Buraca) flyer and by encouraging the teams to sell items that are nearing its expiration date at a lower price point. As seen in chapter 3, promotions are a great opportunity to increase revenue and customer inflow, however *Compracá* is not taking advantage of this opportunity. The company needs to study each store's CCC and CCS effects and define a solid promotional plan that takes these into consideration. As it was pointed out by the experts, clients are becoming increasingly receptive to promotions and discounts, and, as seen in chapter 3, it is also accurate to assume that this interest will grow in times of economic contraction. It is expected that the consequences of the measures taken to tackle the COVID-19 crisis will cause a retraction in consumer spending. For this reason, betting on promotions and private label products is encouraged.

Additionally, *Compracá* needs to ensure that the stores implement strategies that allow for the quantification of wastage. Such an attempt has been made; however, the teams did not collaborate. Theft has also been pointed as a serious issue at this store and since it also affects the accuracy of the data that the company relies on to define markups, urgent measures must be taken to solve both these issues.

Another situation that arose from the interview with Mr. Miguel Mateus, is the fact that proximity formats focus too much effort on trying to compete with large chain competitors. The methodology proposed by company in chapter 4 supports this affirmation. Competitors' prices cannot be fully disregarded, but these should not be taken into consideration for all pricing decisions. For KVI, especially key SSP and SPP, *Minipreço's* decisions should be weekly analyzed and considered when adjusting prices. For the non-KVI and for all IPP, it is plausible to assume that a small difference in prices will not significantly affect *Compracá's* clients price perception, especially if shopping at *Compracá's* stores is a more valuable experience than frequenting other stores. For example, the Buraca store could expand its schedule, so that it becomes more convenient for its customers and hence justifying an eventual price premium for some items.

In chapter 3, the growing demand for take-away at supermarkets has been approached. Offering such a service combined with a latter closing schedule could be used as a strategy to attract more customers and to cross and upsell the store's products (offering combos of meals or sandwiches with the store's beverages or deserts such as ice cream, for example).

Lastly, another important factor that concerns pricing that appears to have been neglected is its advertisement. According to *Compracá*, the vehicles of publicity this store adopts are posters that are posted inside the store and a small board that is placed outside the store and announces a very reduced number of promotions. It is unlikely that this policy attracts a considerable number of customers and for that reason it needs to be improved. Nowadays, online presence is becoming increasingly relevant. By creating an account on websites such as Facebook or Instagram, the store could easily reach the local population and even attract new customers.

### 7.3 Final Remarks

Summarily, to achieve the objectives that were defined in chapter 1 and to improve this store's pricing strategies, the following steps should be taken:

- Motivate and train employees in pricing matters, so that this task can be progressively and partially decentralized to the stores;
- Obtain more reliable information so that decisions can be made based on objective facts (quantify theft and the effectiveness of promotion items that are close to its expiration date);
- Purchase a software that provides real time data regarding competitor's prices;
- Invest in a structured promotional plan and on its advertisement;
- Conduct customer surveys to measure its customer's price perception. Additionally, these surveys could be used to assess the reasons for the low sales recorded for certain items;
- Add value to the shopping experience at *Compracá* (expand schedule and offer additional services, such as a take-away service);
- Create an online presence.

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## Appendix A: Competitor's Analysis

- *Continente*

*Continente* is the largest retailer in the Portuguese F&G market. The company currently operates across all store formats and is a market leader for the hypermarket segment (SONAE, 2020). *Continente* is also considered an overall market leader since it detains the most significant slice of market share among all players when considering all formats (21,9% (SONAE, 2018)).

The company practices a strategy that is partially divided into a promotional strategy and a customer value-based pricing strategy (Sousa, 2016). A customer value-based pricing strategy means that *Continente* charges what a customer is willing to pay. The Every Day Low Pricing (EDLP) strategy is an example of this type of strategy

Nowadays, retail stores are facing competitive pressure from E-commerce's growing popularity and changes in the average consumer profile, which is more price-aware and demanding (Deloitte, 2014). These factors began to erode the need and appeal for big-box stores (Planet Retail RNG, 2017). SONAE soon realized this and redesigned its expansion strategy accordingly. As consumers return to small neighborhood shops, *Continente* strengthens its investment in this segment by opening 87 proximity formats between 2018 and 2019 (Santos Pereira in *Jornal de Notícias*, 2019). Among the factors that contribute to this format's appeal, consumers point out the opportunities to bargain, the available local products, and the lack of an overall stressful environment (Bhatia, 2005). *Continente* is the main competitor for the Porto de Mós store.

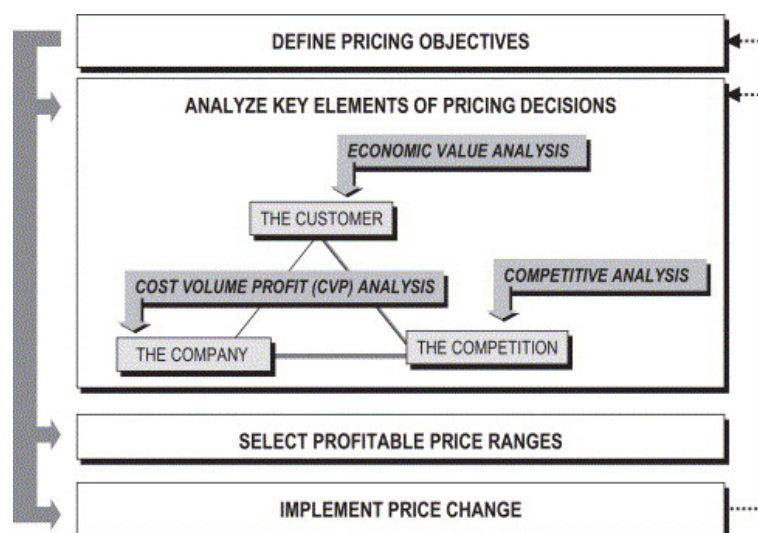


Figure 29 Framework for value-based pricing (Source Hinterhuber (2008)).

- Pingo Doce

*Pingo Doce* is a super and hypermarket network owned by the Jerónimo Martins Group, operating in Portugal since 1980 (Pingo Doce, 2020). *Pingo Doce* accounts for about 20,8% of market share (SONAE, 2018). In 2019, the brand was considered a market leader for the supermarket segment (Pingo Doce, 2020). *Pingo Doce* also has a customer loyalty card, in which customers can accumulate points that can later be traded for credit at *Pingo Doce*'s or *BP*'s gas stations (Pingo Doce, 2020).

Regarding pricing, *Pingo Doce* practiced an EDLP strategy until 2012 but has since then changed its pricing policy to a Hi-Lo or Promotional based strategy (Paixão, 2015). This means that the brand will strive to deliver maximum quality products across all categories and offer temporary discounts, advertised in weekly flyers. The strategy shift was motivated by numerous factors. Firstly, Portugal was amidst an economic crisis and consumer's disposable income was scarce. Secondly, in that same year, VAT on food products increased from 13% to 23%. *Pingo Doce* was in a fragile position, since consumers' purchasing power was contracting and the company purchased large product stocks before 2012 to avoid the 10% VAT increase (Rousseau in *Distribuição Hoje*, 2018).

These factors culminated in a strategy shift that was marked by the May 1st, 2012 promotions. On that day, *Pingo Doce* offered a 50% direct discount on purchases over 100€, across all products and brands.

This promotional action was responsible for a 2,4% increase in the second quarter sales of 2012 (Silva in *Público* 2012). Despite bringing in an estimated revenue between 25 and 27 million €, the company's financial losses from that promotional action arose to 10 million €, due to products being sold below cost price (an illegal practice named dumping) and subsequent fines applied by *Autoridade da Concorrência*, the supervising authority for these matters (Paixão, 2015).

However, from a marketing and operations perspective, the campaign was successful since it enabled a massive draining of stock and strengthened *Pingo Doce*'s competitive position in the market. Due to the mediatic attention this promotion drew, *Pingo Doce* was able to reduce its costs with advertising by 88,5% during May 2012 (MediaMonitor, 2012). Since then, the company has held other 50% promotions on May 1st, but only on a limited number of products or brands (Rousseau in *Distribuição Hoje*, 2018).

*Pingo Doce* offers both private labels and name label products and opts for buying about 83% of the products from national producers (Pingo Doce, 2020). By advertising themselves as a company that supports local and national producers, *Jerónimo Martins* is emphasizing the individual responsibility every customer has in stimulating Portugal's economy. Ultimately, this strategy will stimulate customer inflow and increase the sales of national products. *Pingo Doce* is the main competitor for the Coimbra (Luís Gonzaga) *Compracá* store.

### **Continente's and Pingo Doce's Strengths**

- Both players can quickly adapt capacity (due to their investment capacity in research, development, and marketing).
- *Continente* and *Pingo Doce* are both functioning online and have shown a high capacity to adapt their offer to new dietary regimes. (SONAE, 2018).

- Their diversified product assortments can lead customers to believe they are saving time by frequenting these stores.
- These supermarket networks actively invest in large assortments of private label products, for which demand is growing in Portugal (Silva, N. M in *Jornal Económico* 2019.). Also, since private-label goods are generally considered inferior goods, for which demand may increase due to the economic impact of COVID-19.

### **Continente's and Pingo Doce's Weaknesses**

- Store locations are generally, further away from housing zones (for hypermarkets).
- Since both players operate mostly under the supermarket or hypermarket formats, the shopping experience can be more agitated (for example, longer waiting queues) than in smaller formats.
- *Minipreço*

*Minipreço* is a supermarket and convenience supermarket owned by the DIA group (Distribuidora Internacional de Alimentação(Dia Portugal Supermercados, 2020)

*Minipreço* is commonly known for carrying a wide variety of its own brand's products (Dia%) and is committed to a strong discount strategy mixed with an EDLP strategy (Almeida, 2013). Discounts are offered in various formats such as coupons, direct discounts advertised in flyers or via the customer loyalty card (Dia Portugal Supermercados, 2020).

In 2017, *Minipreço* detained 4,1% of the market share in the Portuguese market, but has been showing a declining path (SONAE, 2018). This decrease can be due to the over-usage of their discount policy: by offering discounts and promotions too intensely, customers might have felt overwhelmed with information and switched stores (Wood, 2018).

Equity research conducted by (BPI SA, 2014) points out that *Meu Super* is the competitor that most seized *Minipreço's* market share. *Minipreço* is the main competitor for four of *Compracá's* locations: Camarinha, Carregado, Massamá and Buraca.

### **Minipreço's Strengths**

- A constant promotion policy may transmit consumers the idea of maximization of savings.
- By applying discounts on different product categories each week, customers are likely to visit the stores more frequently and to complement their original shopping list with extra products.

### **Minipreço's Weaknesses**

- There are several ways via which customers may access the discounts (coupons, loyalty cards...). This situation can create an over-advertised and complex discount policy that can quickly become confusing and unappealing for customers.

- Studies point that *Meu Super* is seizing *Minipreço*'s market share, at a national level (BPI SA, 2014.)
- Aldi

*Aldi* is a German multinational, and one of the largest supermarket chains in the world (Rudolph et al., 2012). *Aldi*'s initial strategy was to open stores in the Algarve area, due to the high inflow of tourists, who are already familiar with the brand. Currently, *Aldi* is exploring new opportunities in Portugal, especially in northern areas (*Jornal Económico*, 2019).

*Aldi* accounts for about 4,1% of market share Within the next four to five years, *Aldi* intends to expand their network significantly (*Jornal Económico*, 2019).

*Aldi* possesses a very singular operating philosophy. Its approach to retailing has not suffered significant change since the 1940's and is based on the principle of eliminating all unnecessary costs that would be imposed on customers. *Aldi* stores carry a limited range of products, usually around 1.000, chosen on the basis of utility and local demand (the average European supermarket carries between 15.000 and 30.000 products). (Rudolph et al., 2012)

By doing so, *Aldi* is able to keep its stores small, usually no more than 4 isles (while typical European supermarkets have around 15) and is consequently able to keep a reduced workforce (Rudolph et al., 2012). *Aldi* focuses on efficiency over aesthetics, meaning that their stores do not have decorations and that employees are not required to shelf the products, and these may be exposed inside the pallets they were delivered in. Services like bakeries, butchers or fishmongers are eliminated , so that the customer is not charged with their extra costs (Rudolph et al., 2012)

Most featured products at *Aldi* are from its own private label, and these account for about 95% of the group's sales volume (Rajendra K. Srivastava, 2016). Another aspect of *Aldi*'s successful strategy is that when entering new markets, the brand conducts local research in order to find products and suppliers who will meet their client's demand and their cost and efficiency requirements (Rudolph et al., 2012).

*Aldi* is one of the most important competitors to the Coimbra (Luís Gonzaga) store.

### **Aldi's Strengths**

- *Aldi* is a relatively new brand in Portugal that consumers will be curious to try.
- The company's intent to expand its network of stores might represent an even more significant threat for *Compracá* in the future (*Jornal Económico*,2019.).
- *Aldi* offers a large assortment of private label products, for which demand may increase due to the economic impact of COVID-19.

### **Aldi's Weaknesses**

- Aldi is not a very well-known brand in Portugal and its store concept is yet to be proven.

- Local Minimarkets

For three of *Compracá's* locations (Porto de Mós, Coimbra and Entroncamento), local minimarkets are the most relevant competitors. As previously stated, the demand for this store format has been growing due to their specific characteristics (described in previous chapters) which tend to enhance customer loyalty (Santos Pereira, 2019).

Local minimarkets often incorporate local products on their offer. This is an appealing strategy for consumers: firstly: since local products are grown or transformed at a limited scale, they usually have better quality than the products supplied by big chain suppliers and, secondly, because buying local products will stimulate the local economy.

Lastly, in many cases, these minimarkets have been managed by the same families for several years. Customers may have developed an emotional connection to the supermarket itself or the supermarket's staff (Bhatia, 2005). Customers will get more emotional fulfillment when shopping at these establishments. This enjoyment will offset the extra money they will spend if they have shopped at another store with lower prices. Inertia for change, often found within older consumer groups, may also be contributing to this stores' success since Porto de Mós, Coimbra, and Entrocamento are located in areas with significant populations over 65 years of age (Wilson & Black, 1994). About 23% of Porto de Mós' inhabitants are older than 65 years. For Entroncamento, this percentage is 19% and for Coimbra 25%. Portugal national average population over 65 years old is under 22 % (PORDATA, 2018)

There is no available information regarding the market share for these establishments.

### ***Compracá's* and Local Minimarket's Strengths**

- Convenient locations (typically housing zones or zones with high pedestrian traffic).
- Customers resort to these stores in cases of urgent need and therefore customer's willingness to pay is larger. (Benoit et al., 2020).
- Existence of personalized services and, on more traditional establishments, flexibility regarding payment methods and promotions is positively valued by customers (Bhatia, 2005).
- Local fresh fruits and vegetables attract specific customer segments (special dietary regimes and environmentally conscious customers)
- Inertia for change favors this store's format, especially in areas with large percentages of senior citizens.

### ***Compracá's* and Local Minimarket's Weaknesses**

- Limited product assortment.
- Traditional establishments have difficulties in adapting to the omnichannel reality. *Compracá*, in particular, has shown some adaptation capacity and started to do home deliveries in the Lisbon metropolitan area.
- Smaller companies have less financial flexibility and less market research tools than larger enterprises (Oliver and Mussa, 2016).



## Appendix B: Data Collection at the Buraca Store.

Table 30 Data collected at the Buraca store for SSP (promotions highlighted in green))

| Product                       | RRP Buraca (€) | Mon (Oct 19) | Tue (Oct 20) | Wed (Oct 21) | Thu (Oct 22) | Fri (Oct 23) | Sat (Oct 24)  | Sun (Oct 25) | Weekly Demand | RRP Competitor (€) | Regular RRP (€) | % difference between stores |
|-------------------------------|----------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|---------------|--------------------|-----------------|-----------------------------|
| Bread "Carçaça"               | 0,18           | 55           | 50           | 50           | 53           | 50           | 60            | Closed       | 318           | 0,15               | -               | -16,67                      |
| Bread "Bola"                  | 0,23           | 34           | 46           | 40           | 45           | 50           | 115           | Closed       | 330           | 0,20               | -               | -13,04                      |
| Coca-Cola 1l                  | 1,00           | 3            | 3            | 6            | 6            | 2            | Out of stock) | Closed       | 20            | 1,39               | 1,35            | 39                          |
| Milk "Mimoso" (M/G 1l)        | 0,59           | 23           | 10           | 2            | 15           | 14           | 1             | Closed       | 65            | 0,59               | 0,69            | 0                           |
| Milk "Grosso"(M/G 1l)         | 0,56           | 3            | 1            | 6            | 7            | 4            | 6             | Closed       | 27            | 0,56               | -               | 0                           |
| Bananas                       | 1,19           | 8,07         | 11,5         | 13,54        | 1,15         | 4,46         | 17,15         | Closed       | 55,87         | 0,89               | -               | -25,21                      |
| Letuce                        | 0,79           | 2            | 4            | 3            | 6            | 3            | 7             | Closed       | 25            | 0,67               | -               | -15,19                      |
| Cheese "Atabafado"            | 2,40           | 1            | 2            | 5            | 0            | 3            | 1             | Closed       | 12            | 1,39               | 1,99            | -42,08                      |
| Cookies "Maria"               | 0,31           | 0            | 0            | 1            | 1            | 2            | 3             | Closed       | 7             | 0,32               | -               | 3,23                        |
| Still Water "Continente" (1l) | 0,20           | 2            | 1            | 3            | 1            | 6            | 3             | Closed       | 16            | 0,19               | -               | -5                          |
| Pão de forma dulia            | 1,00           | 3            | 3            | 3            | 3            | 6            | 3             | Closed       | 21            | 0,89               | -               | -11                         |
| Average                       | -              | -            | -            | -            | -            | -            | -             | -            | -             | -                  | -               | -12,72                      |

Table 31 Data collected at the Buraca store for SPP (promotions highlighted in green).

| Product                              | RRP Buraca (€) | Mon (Oct 19) | Tue (Oct 20) | Wed (Oct 21) | Thu (Oct 22) | Fri (Oct 23) | Sat (Oct 24) | Sun (Oct 25) | Weekly Demand | RRP Competitor (€) | Regular RRP (€) | % difference between stores |
|--------------------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------------|-----------------|-----------------------------|
| Iced Tea "Continente" (2l)           | 0,96           | 0            | 1            | 3            | 1            | 1            | 0            | Closed       | 6             | 0,80               |                 | -16,67                      |
| Shredded Cod "Continente"            | 4,85           | 0            | 0            | 0            | 1            | 1            | 4            | Closed       | 6             | 4,49               |                 | -7,42                       |
| Eggs (Size: M)                       | 0,89           | 3            | 11           | 5            | 6            | 6            | 7            | Closed       | 38            | 0,87               |                 | -2,25                       |
| White Wine 1l                        | 0,84           | 4            | 2            | 4            | 0            | 11           | 2            | Closed       | 23            | 0,77               |                 | -8,33                       |
| Red Wine 1l                          | 0,84           | 1            | 2            | 3            | 4            | 4            | 4            | Closed       | 18            | 0,77               |                 | -8,33                       |
| Red Wine "Galitos"                   | 1,99           | 3            | 0            | 1            | 3            | 2            | 1            | Closed       | 10            | 2,19               |                 | 10,05                       |
| Red Wine "Contemporal Alentejano"    | 1,97           | 3            | 2            | 1            | 1            | 2            | 1            | Closed       | 10            | 1,86               |                 | -5,58                       |
| Chocolate Milk "Ucal"                | 0,49           | 7            | 12           | 1            | 36           | 6            | 18           | Closed       | 80            | 0,68               | 0,52            | 38,78                       |
| Oranges                              | 1,99           | 2,13         | 5,68         | 16,3         | 13,93        | 16,09        | 12,1         | Closed       | 66,23         | 1,49               |                 | -25,13                      |
| Onions                               | 0,89           | 1,01         | 2,09         | 0            | 1,31         | 0,23         | 2,68         | Closed       | 7,32          | 0,89               |                 | 0                           |
| Potatoes                             | 0,79           | 13,56        | 10,58        | 13,24        | 8,81         | 16,4         | 20,61        | Closed       | 83,2          | 0,99               |                 | 25,32                       |
| Carrots                              | 0,99           | 5,99         | 3,23         | 3            | 7,56         | 6,58         | 10,4         | Closed       | 36,76         | 0,74               |                 | -25,25                      |
| Butter "Vaqueiro"                    | 0,94           | 0            | 2            | 3            | 1            | 7            | 3            | Closed       | 16            | 0,99               |                 | 5,32                        |
| Wheat Toasts                         | 1,60           | 1            | 0            | 0            | 1            | 0            | 1            | Closed       | 3             | 1,63               |                 | 1,87                        |
| Sliced Cheese "Continente" (250g)    | 1,60           | 2            | 6            | 2            | 4            | 1            | 3            | Closed       | 18            | 1,39               |                 | -13,13                      |
| Sliced Ham("Perna Extra Continente") | 1,50           | Out of stock | Out of stock | Out of stock | Out of stock | 2            | 2            | Closed       | 4             | 1,56               |                 | 4                           |
| Coffee Capsules "Continente"         | 2,23           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 2,19               |                 | -1,79                       |
| Average                              | -              | -            | -            | -            | -            | -            | -            | -            | -             | -                  | -               | -1,68                       |

Table 32 Data Collected at the Buraca Store for IPP (promotions highlighted in green).

| Product                     | RRP Buraca (€) | Mon (Oct 19) | Tue (Oct 20) | Wed (Oct 21) | Thu (Oct 22) | Fri (Oct 23) | Sat (Oct 24) | Sun (Oct 25) | Weekly Demand | RRP Competitor (€) | Regular RRP(€) | % difference between stores |
|-----------------------------|----------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------------|----------------|-----------------------------|
| Butter Beans (bottle)       | 0,63           | 2            | 0            | 1            | 0            | 3            | 3            | Closed       | 9             | 0,60               |                | -4,76                       |
| Nutella                     | 3,79           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 3,64               |                | -3,96                       |
| Grease Remover "Continente" | 1,18           | 1            | 0            | 0            | 0            | 0            | 0            | Closed       | 1             | 1,31               |                | 11,02                       |
| Gelatine                    | 0,81           | 0            | 2            | 0            | 0            | 0            | 0            | Closed       | 2             | 0,68               |                | -16,05                      |
| Canned Fruit                | 1,46           | 0            | 0            | 0            | 0            | 0            | 1            | Closed       | 1             | -                  |                | -                           |
| Deodorant "Axe"             | 4,88           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 2,49               | 4,99           | -48,98                      |
| Body Wash "Nivea"           | 3,45           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 5,99               |                | 73,62                       |
| Jams                        | 1,35           | 0            | 0            | 0            | 1            | 0            | 0            | Closed       | 1             | 1,20               |                | -11,11                      |
| Wine "Lambrusco"            | 2,37           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 1,99               |                | -16,03                      |
| Shredded Coconut            | 1,24           | 0            | 0            | 1            | 0            | 0            | 0            | Closed       | 1             | 1,25               |                | 0,81                        |
| Roasted Peanuts (with salt) | 0,75           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 0,89               |                | 18,67                       |
| Anti-bleach Wipes           | 3,41           | 0            | 0            | 0            | 0            | 0            | 0            | Closed       | 0             | 2,98               |                | -12,61                      |
| Average                     | -              | -            | -            | -            | -            | -            | -            | -            | -             | -                  | -              | -0,85                       |