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Assortment Review for Ecommerce Business

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Ao meu irmão.

Resumo

O comércio online está a crescer a um ritmo rápido e Portugal está a seguir essa tendência. Este estudo vai oferecer uma visão de como o maior retalhista em Portugal enfrenta o desafio que provem do negócio da venda de produtos alimentares através da internet. O momento de encomenda dos produtos não é o momento de recolha dos produtos da prateleira e este desfasamento pode originar que alguns produtos possam não estar disponíveis para entrega ao cliente – este fenómeno de não entrega de produto é chamado de rutura.

Uma proposta para ultrapassar este problema é apresentada e testada durante o período deste estudo, conduzida através de um conjunto de pilotos para entender qual a melhor forma de aumentar a satisfação do cliente. Uma racionalização de gama é executada em unidades de negócios selecionadas, com o intuito de reduzir a gama de produtos disponíveis online. Com menos produtos online, será mais fácil garantir a sua disponibilidade nos pontos de recolha. Esta estratégia parece ser eficaz, mas a concentração da procura nos artigos que são deixados disponíveis obriga a criação de uma estratégia de suporte para a substituição dos produtos em rutura pelos que foram retirados de site devido à implementação da racionalização de gama.

Abstract

The Ecommerce is growing at fast pace and Portugal follows that trend. This work will provide an understanding on how a big retail player in Portugal faces the challenges that come from the business of selling grocery products through the internet. The moment of ordering is not the moment of picking in store the ordered products. This delay may cause that some ordered products are not available to be delivery to the customers – this phenomena of not delivering the product is called StockOut.

A proposal to overcome this problem is presented and tested during a defined period, conducted as a set of pilot tests to understand the best way to improve the customer satisfaction. An assortment review is performed in selected business units of the grocery products, to then downsize the range of products available online. With less products online, it would be easier to guarantee the availability of them in the picking stores. This seems a god strategy, but the demand concentration forces to create a support strategy of substitution of the StockOut products for the ones removed on the assortment downsize implementation.

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List of abbreviations

COL – Continente Online

PMO – Project Management Office

SKU – Stock Keeping Unit

StockOut – Out of Stock

Sonae MC – Sonae Modelo Continente

1 Introduction

The world is going through fast changes and technology development is now faster than ever, these facts together imply that organizations must adapt their selves to this changes in order to successfully answer the market requests. According to Dave Chaffey (2009) ever since the creation of the first website 15 years ago, companies have been transforming their businesses through the application of technologies based on the internet, World Wide Web and Wireless communications which have provided these institutions with opportunities based on new approaches to their businesses.

1.1 Project background

The Assortment review for ecommerce business is a projected integrated in the Call for Solutions program of Sonae. The company develop annually three programs to receive the best talent of Portugal: Contacto, Call for Summer and Call for Solutions. Each one of them has a different purpose. Contacto is a management trainee program that receives fresh graduated students, Call for Summer is the summer internship program that receive students willing to have their first professional experience during 1 or 2 months in summer break. Call for Solutions is the thesis internship program Sonae design to receive students performing the curricular internship when finishing the graduation degree, and is in this framework this project was developed.

The curricular internship done at the E-commerce department of Sonae MC had a duration of four months starting on the 9th of February 2017 and ending on the 9th of June 2017. The internship is integrated in the 15th edition of the program Call for Solutions which aims to receive master's students in the company and incentive them to develop their master's thesis under a corporate environment. For this purpose, SONAE challenges its interns to solve real problems that deserve scientific investigation to be solved. The program's objective is to bring the theory to the practice since the solutions presented by the students have real impact in the company's performance.

1.2 Problem Description

In the Ecommerce business, unlike the physical retail business, receive the client orders in advance. But the continente.pt offers mainly food products (fresh, bakery and grocery), and it deliver system allows the client to choose in a window of two hours when he/she wants to receive the product at delivery spot.

The whole service is available for 80% of the Portuguese population, covering 20% of the continental land. The remaining 20% of the population is served by the Continente Nacional service, which only deliver grocery products due to transportation lead times that could compromise the conditions how fresh food would arrive at the client.

To a better understanding a deeper analysis on the StockOut term will be needed. The different types of StockOut will be present as well as an estimation of the importance of each one and the group it belongs.

1.3 Research Objectives and Questions

The questions that will guide this study, and the dependents objectives related with each question are presented next:

- Does assortment review reduce the StockOut problem? Does it influence sales?

This question leads to the most quantitative objectives. To reduce StockOut (%) on the product range selected; to track the impact of the actions implemented (StockOut (%), Substitutions); to increase customer satisfaction and improve assortment offer and management.

- What are the challenges to implement an assortment review on the online retail business?

The second research question, is related with tool and process management and its objective of is to create a tool that supports the assortment review. A process to guide the assortment review is expected, in order to standardize all applications.

The research questions are guidelines for the work developed during the 4 months of internship. In the last chapter, an answer to each of this question will be provided as result of the project implemented.

1.4 Report outline

This report is composed by 6 chapters, but the experience gained during the internship is on the core 3 chapters: Problem, Methodology and Results.

- **Chapter 1 – Introduction:** This chapter describes the scope of the internship and present dissertation. In this chapter, the hosting company and the problem faced are described.
- **Chapter 2 – Literature Review:** A State of Art is performed in the second chapter. Topics related to the project developed during the 4 months of internship are identified and aligned to further support the dissertation project. The main trends on the business area of the project are acknowledged in order to guide the proposal of solution and better understand the business.
- **Chapter 3 – Problem:** A detailed description of the problem is performed and the possible causes are pointed.
- **Chapter 4 – Proposal:** The proposal to overcome the problem is presented. First, the methodology is explained and then the different actions are framed, along with the expected results and items involved.
- **Chapter 5 – Demonstration:** Using the proposed process, during the project it was implemented 4 actions that are explained in this chapter.
- **Chapter 6 – Evaluation:** This chapter is present the results from the proposals actions and an evolution of the impact on the problem.
- **Chapter 7– Conclusion:** Lastly, an executive summary is presented, comparing the results with the project objectives. Limitations of the work done are identified and future work is proposed to proceed with this project.

2 Literature Review

In times that internet access is almost a basic need for civilization to evolve, the online business models are disrupting the business world faster than ever. If you are not on Google, you probably don't exist, says Joshua Decker (2015), in its LinkedIn Pulse. This is the now reality, where the consumers have the world in their fingers, ready to search for their needs at the pace of a click. Although online grocers currently have a smaller share of markets such as the US and Germany, they are growing steadily, and there are credible signs that major players such as AmazonFresh and Walmart are ready to invest rapidly to accelerate this online growth (James Bacos, et al., 2014). Continente Online is also investing to accelerate its growth, and is the first retailer in Portugal that operates with a darkstore, that has a capacity to deliver 1000 orders per day (Rita Simões, 2017), only with one store in Lisbon metropolitan area.

2.1 Grocery Ecommerce

E-commerce is growing year by year with more and more people opting for the convenience of online shopping (Ternstrand et al., 2015). Ecommerce offers commodity, simplicity and an exciting shopping experience at home, in the top of our fingers. In the other face, it presents some challenges as well: capital requirements, delivery costs, fulfilment costs, and price transparency are all high. Additionally, customer spend can be lower because of less impulse buying (Bernard, et al., 2014), what contrasts with the promotional areas and last-minute shelves on the payment trailers of the physical stores.

You may think you can save time and costs of transportation by not going to a grocery store, but the client that buys from ecommerce channels needs to spend a lot of minutes registration, searching for the pretended products, adding to the cart and finalizing the order by inserting delivery mode and payment details. At the end, you are using the same time, but you can do it from everywhere in any time. You also pay the transportation of the goods, but the time they travel to you and the time you would need to go and pick the products on the store is saved. It is all a matter of what you value the most.

Another very important topic in grocery ecommerce is the fresh food. Many customers resist the idea of having someone else pick fresh food for their family (Bernard, et al., 2014). Goods like vegetables, fruits, meet, fish and bakery are demanded by the consumers with a high degree of quality. Usually the customers spend several minutes appreciating this kind of items in store, where they can touch, smell and choose for their own.

Some online customers still prefer to buy the fresh food products on traditional commerce, nearby their residence and purchase only grocery goods like rice, pasta and potato; water and drinks; hygiene and cleaning products; etc. due to their height and quality standard. Consumers said their biggest concern is not being able to see or touch the actual products before buying. They want reassurance that their grocery will be fresh and with high quality (Galantè, et al., 2013).

In what concerns to ecommerce strategy for a company to implement its online business, Oliver Wayne (Bernard, et al., 2014) also present to us three characteristics that are decisive when investing in the grocery ecommerce:

- Population density – that affects the cost of the order delivery. In case you have a very dense population, your delivery costs will dramatically decrease because you may serve more clients in less time.

- Overall population – your customer may be close, but you still need to have a high volume of demand to make your business profitable.
- Market price levels – gross margins should be enough high to compensate the level of workforce you need in the picking and delivery process.

Another topic enhanced by Bernard, et al. (2014) is the shopping experience a customer goes through in the different channels. In bricks-and-mortar retailers can deliver better value or a better shopping experience, but things will be much tougher for the online grocers. Figure 1 shows the different picking and delivery models an online grocery retail may follow (Bernard, et al., 2014).

Exhibit 5: Different models for online grocery retail

	DETAILS	WHO TYPICALLY DOES THIS
Picking: In store, by retailer	<ul style="list-style-type: none"> • Retail employees pick orders directly from the shelves • Orders typically picked from a store near delivery address 	<ul style="list-style-type: none"> • Bricks-and-mortar retailers, especially at launch, e.g., Tesco UK at launch
Picking: In store, by third party	<ul style="list-style-type: none"> • Individuals contracted through a third party pick orders directly from the shelves, just as an in-store customer would 	<ul style="list-style-type: none"> • Technology based start-ups, e.g., Instacart
Picking: From warehouse or dark stores	<ul style="list-style-type: none"> • Orders picked from purpose build warehouses or dark stores • Dark stores are essentially warehouses that are laid out more like stores, complete with shelf replenishment processes • Automation is generally higher in warehouses, although the two are converging 	<ul style="list-style-type: none"> • Online-only retailers, e.g., FreshDirect • Many bricks-and-mortar retailers add dark stores to in-store picking as online business grows, e.g., Tesco UK • Some bricks-and-mortar stores use third-party warehouses from the beginning to minimize upfront investment yet take advantage of picking efficiencies, e.g., Morrisons
Delivery: Click-and- collect	<ul style="list-style-type: none"> • Customer collects pre-picked order from a collection point • Collection point may or may not be attached to a store • Increasing range of collection points (e.g., refrigerated lockers at an airport in the UK) 	<ul style="list-style-type: none"> • Bricks-and-mortar retailers, especially in France and the UK, e.g., Auchan
Delivery: By retailer	<ul style="list-style-type: none"> • Retailer has own fleet of vans and delivery drivers • Order is driven to the customer 	<ul style="list-style-type: none"> • Bricks-and-mortar retailers and online-only retailers, e.g., AmazonFresh
Delivery: By third party	<ul style="list-style-type: none"> • Third party may be a traditional logistics company, a dedicated grocery delivery service, or contracted individuals 	<ul style="list-style-type: none"> • Mostly when picking is also done by (the same) third party, e.g., Instacart • Retailers focused on ambient groceries (e.g., Amazon, not AmazonFresh) may send via traditional courier services

Figure 1 - Ecommerce Business Models (Bernard, et al., 2014)

There are three main picking models and three main delivery models. The adoption of the models may vary, thus online-only home delivery options may capture a large part of the market and bricks-and-mortar grocers may move and establish a mix of click-and-collect and delivery models (Bernard, et al., 2014).

As picking models, a grocery ecommerce can go for picking in store, picking by third party or picking from darkstore. A darkstore is a warehouse of items, where the products are displayed similarly like in a grocery store, but there are no clients to collect the goods for their own. In darkstores pickers and replenishment employees are working together and the shelves are filled with the products in the easier way to quickly store and pick them.

Often, companies invest in a darkstore model but parallelly work in a picking by store model at other stores, because it is a huge investment to do in the whole business, and must only be made when there is a population density and high level of demand in the surrenders of the darkstore location. Picking in store is the low-cost investment option, because the operation is already settled in a current store of the offline grocery company, and the main operational work is to pick the products that the existent replenishment team always supply to the shelves. This model is also easier and quicker to implement because the store directors are already experienced in the operational tasks, such as, inventory management, replenishment, provision of goods, etc.

The picking in store by third party is a model more adapted by unexperienced retail companies. This model consists in the outsourcing of the picking task, which is the simple one in the operational process.

The delivery models are also compatible to use a mix of them at the same time. From the three delivery models presented, two of them are home delivery and the other is click-and-collect. Click-and-collect is when the customer drives to a store at the time previously defined by the client, and collect the order that is already packed. Another way to deliver the orders by click-and-collect is by leaving the order in a locker at a central point in the city, so the clients can collect it anytime. Here there is the implication of security and management of lockers in the collect points.

The deliver by third party or retailer are the home delivery models. The big difference is that in the third-party model, the retail company does not own the vehicles neither the operation that is used to deliver the order. Usually, this model is outsourced to an experienced logistics company. Here the investment risk is lower, and the outsourcing company is more experienced in this kind of service.

The other model is delivery by the retailer. This is the model that requires investment in vehicles, drivers and operational processes. Most experienced grocery companies, which have more access to funding, use the delivery by the retailer model, so they have full control of the supply chain operations.

More than understand business models, is important to understand the customer. Online shoppers say that reduced assortments, higher prices, and additional fees had driven them back to supermarkets (Galantè, et al., 2013). The convenience of shopping for groceries online is alluring but consumers who haven't yet tried grocery shopping online said their biggest concern is not being able to see or touch the actual products before buying (Ternstrand, et al., 2015).

For example, a Deloitte report (Ternstrand et al.,2015), said that in France, only about a quarter of consumers who have shopped online for groceries once continue to do so regularly. Consumers often use ecommerce web-site to research and seek out products, and its details (Katherine). For all of this, having an omni channel business (physical and online stores) requires a special coordination, and assortment management is very important. Shall companies present the same assortment both in online and offline channels?

2.2 Assortment Management

Assortment is the range of products offered by a retailer and its basic characteristics are breadth and depth (Piris, 2014). Breadth refers to the amplitude of the product families' assortment offered by a retailer. For example, there are a lot of types of chips: smooth, wavy, light, ketchup sauce, barbecue sauce, etc. Depth refers to degree of brands and formats of the products. For example, there are chips from Contente, Lay's, Matutano, Pringles, Ruffles and at the same time there are packs of 150 gr, 250gr, or the individual ones of 50gr.

Many e-commerce businesses suffer from "over assortment". In brick and mortar environments the assortment is naturally limited by space and by inventory investment (Sears, 2012). The focus on sales guide the Ecommerce to present the maximum portfolio possible so they can target all segments of the business. When considering assortment as a combination of breadth and depth (Piris, 2014), we can study the relation between cutting breadth or depth with sales behavior.

For years there has been a strong belief among retailers that having more assortment is always better. Rather, having an optimal amount of assortment (which may not be the largest) is more critical (Broniarczyk and Hoyer, 2010).

The poor shopper has to scroll down pages and pages of styles if they choose to spend the time. Too much inventory investment and cash flow is another reason to limit the assortment. Customer satisfaction can also be lost by carrying too many styles if one can't keep the sizes/colors in stock for the customer.

I usually suggest that the merchandise hierarchy have no more than five levels: division, department, class, style, SKU, says Sears (2012). Sonae uses also a five-level hierarchy: commercial direction, business unit, category, sub-category and base unit. For example, a "100% pork beef, 500gr." item is in the commercial direction of fresh food, business unit of butchery, category of pork, sub-category of service counter pork and unit base of service counter boneless pork.

The product categorization must be managed in a centralized way. A skilled center team gives a far greater capacity to run good analytics on the assortment due to the advantage of managing a big volume of data because it can use analytics on a more structured and global level, instead of having a team per store deciding the assortment for that only store. For this model to work, it's crucial to have a feedback mechanism in the system that can be used to report back when changes are made to central plans on one physical store (Loikkanen, 2017).

So, planning a good assortment is very important, alongside with an effective categorization of products in the hierarchy, so the customer needs can be met more efficiently. The goal of the assortment managers is to deliver the right product, with the right price at the right moment to the client. But it is known that this is not always possible, and physical stores sometimes have a lack of items in the shelves. But how is this phenomenon happening in the online grocery business?

2.3 Out of Stock

Katherine Wilson is a Director in Clavis Insight, and an expert in online assortment. In a very interesting article, Katherine explain in detail the out of stock problem in ecommerce.

With the intent of having less inventory costs, online retailers tend to carry far less inventory, which increases the probability of out of stock problem. Out of stock is when a product is

ordered but this is not available to delivery. This situation creates problems to the ecommerce company. The first and most obvious is lost sales (Katherine). The situation is even worse because the customer already ordered the product, and already send the payment details and afterward the product is not delivered, forcing the client to walk through a physical store to complete their needs. So basically, the company is promising a product that latter will tell the client it will not deliver, decreasing customer satisfaction.

An accentuating of this is the payment of the delivery fee, because in case of out of stock, the customer is paying a delivery fee of a product that will never receive. Of course, the client is not only ordering the product in out of stock, but the fee should be spread over the different items ordered.

If happening several times, the loyalty of clients may start to disappear, compromising the long-term business. Another risk that being out of stock is related with the brands image. When not delivering an ordered product, you're risking lose sales in a long-term, consumer loyalty in physical business, and consideration for other products. To protect this to happen, the product page is hidden from view. A search for the out of stock item is going to bring up similar items, maybe substitutable items within the brand or competitive item but it's not going to bring back this particular item (Katherine), what at least protect the out of stock situation but gives the image of short assortment.

The ultimate challenge of grocery online business, for Katherine is if you're out of stock your main goal is to get back in stock. Katherine suggest ecommerce companies to use a responsive service, telling the client that the product is back on stock, and apologizing for the service breakdown. But being always in this cyclical problem is not healthy for the company, which leads us for the following section, where other strategy is studied.

2.4 Assortment Review and Downsizing

To answer all the challenges that a grocery business faces, some research was already performed, although none of them specifically in an ecommerce environment. The strategies implemented in this case was a reduction in the range of products in the assortment. SKU rationalization is the science of assortment reduction, says Janice Sears (2012). Broniarczyk and Hoyer (2010) presented two very interesting works related to assortment rationalization.

The Food Marketing Institute (1993) conducted a study in which it reduced SKUs in six product categories (cereal, pet food, salad dressing, spaghetti sauce, toilet tissue, and toothpaste) at 24 pilot stores. Redundant SKUs were removed and in shelf space was allocated to high-market-share items.

This may look like an obvious practice to do, because companies want to sell as much as they can, and having high quantity of high-volume SKU may increase sales. But sometimes, having a diversified assortment of products may bring niche customers that will purchase the high-volume items as well.

The results of this study showed no significant negative impact on sales suggested that efficient assortment might result in cost savings. But there were some limitations as the magnitude of SKU reduction in these categories was vague.

Later, another study was done during a period of 4 months, a 10% reduction of low-volume SKU were made. The space released by these products was filled with high-volume SKUs. Across eight categories, they found that sales increased by 4% for 30 test stores compared with

30 control stores. These results began to indicate the possibility that smaller assortments might even have a positive effect on sales (Dreze, et al., 1994).

2.5 Future of Ecommerce

It's clear that digital technologies are transforming the retail business and consumer-goods landscape (Galantè, et al., 2013), but this is not all good news. The shift from physical stores to online business will reduce margins due to the additional costs of labour, picking and transportation. McKinsey (2013) still warn that a significant fraction of online sales will cannibalize offline business. But if this trend keeps on going, it is better that a retail company cannibalize himself instead of letting another competitor gain sales from its offline stores to the competitors' online business.

In other hand, the investment in an online business can also allow to the retailer to reach new customers, serving different segments and increasing loyalty. It is important to invest in online business as soon as possible, and target the most attractive markets first, so the company can have a serious advantage and make it much harder for those who set up online operations later (Bernard, et al., 2014).

Local competition is no more a priority problem, and real estate challenges are not the same. The most important capabilities that now creates key success factors for online players are assortment management and availability, brand loyalty, delivery process and web-site user experience. McKinsey (Galantè, et al., 2013) says that convenience is important, but quality, assortment, and price also matter tremendously. First-time users won't return to a site that they find difficult to navigate, and Contiente Online still has a very low retention rate of new users.

To address this challenge, McKinsey (Galantè, et al., 2013) recommends some well managed features for user experience navigation during the online purchase process: high-quality photographs of products; clear labelling of brands, prices and pack sizes; smart searching algorithms with autocorrections and suggestions.

These are important guidelines for a company to lean on, sooner than later, for investment decisions to get into the online business.

3 Problem

In this chapter, we can find a detailed presentation of Sonae group and its biggest ecommerce business – Continente Online. Continente Online is the biggest Portuguese Ecommerce business, having more sales in the online commerce of Portugal than Amazon and EBay, for example. But COL is an ecommerce model based in the grocery business of Continente, extending the value proposition of Continente to the online world. This means that COL is not independent in their marketing and operational dynamic, which brings very hard challenges to overcome. The ecommerce clients' needs and expectations are different from the traditional client of a hypermarket.

3.1 Sonae

Sonae is a Portuguese private group, with a much-diversified portfolio of businesses but focused in retail in general. Sonae MC is the biggest company of the group, working in the Food and Non-Food retail business. Sonae MC Ecommerce or Continente Online is the online business of Continente, operating since 2001 and now have more than 10 operations.

SONAE

SONAE was founded on 1965 and started as an industrial company whose core business was to produce and supply the construction and furniture market with wood derivative panels. In the following years, SONAE, started diversifying its business portfolio in the Hotel and Restaurant management sector. By 1983 the holding SONAE investments, SGPS, SA was founded and enters the capital market with a stock market capitalization of €2,493 M. SONAE opens its first hypermarket by 1985 which marked the beginning of Sonae distribution activity in the country and the company's first experience in food retail. Ever since that date SONAE continued its diversification by investing and starting business in different markets (Real Estate, specialized retail, mall management, health clubs, health care, telecommunications and financial services).

At the present, the Holding is called EFANOR and owns equity in three different companies with completely different core business comprising a role model in most of them and employing around 40.000 which makes it a crucial player in the Portuguese economy. SONAE itself, owns equity in six different companies being the major shareholder in four of them and having significant participations in the other two. The following scheme mirrors the portfolio of businesses owned and managed by the holding.

Sonae MC

Sonae MC is the food retail sector market leader in Portugal and manages a diversified portfolio of businesses with a distinct range of products whose main value proposition is to offer the best quality at the best prices. The businesses within Sonae MC range from hypermarkets (Continente), convenience stores (Continente Modelo e Continente Bom Dia), franchising business model of proximity stores (Meu Super), Cafeterias and Restaurants (Bagga, Bom Bocado), Book stores & stationary stores (Note!), Healthcare and Wellness (Well's) and Pet food & Pet care (ZU).

E-commerce

At the present, only 38% of Portuguese companies have started using E-commerce in their day-to-day activities, Continente however, is celebrating this year its 16th anniversary of Continente

Online. In 2001 when only 2,1%, of the Portuguese population used e-commerce to acquire goods and services, Continente launched its E-commerce business (Continente Online) with the main value proposition, of selling food products and fresh goods through and online channel and providing the client with the delivery of this goods at their own front door from Monday to Sunday. By 2006, Continente Online, had already 75.000 registered clients and 20.000 thousand different products available at the online store. Last year (2016) Continente Online has delivered around 550.000 different orders and has grown 17% when compared to 2015. Currently, Continente Online counts with 101.173 that make orders regularly and 50.000 different products available on the platform.

The e-commerce business is institutionally represented by Modelo e Continente Hipermercados (MCH) which belongs to Sonae MC. Sonae MC on the other hand, integrates Sonae Investimentos SGPS, SA. Continente Online is comprised by six different teams and a PMO (Project Management Office) and Figure 2, on the following page, present us the organigram:

- Offer: This team is responsible for managing the businesses the contents on the web pages of the following categories: Bio & Healthy; Fresh food; Grocery; Frozen goods; Dairy; Baby; Beverages; Beauty; Health; Hygiene; Pet
- Non-food and Product: This team is responsible for managing the home, leisure and temporary businesses – School books. Besides that, they also manage the campaigns related to the customer acquisition and loyalty (Ex: Não paga mais; EntregaZERO).
- Business Intelligence: The team prepares the necessary reports for business analysis being a crucial role for work of other teams.
- Mobile: This team responsible for managing the apps and developing new ones.
- Operations: This team is responsible for all the logistics related with online purchases, starting when an order is made, going through the picking in the stores and finishing in the delivery of the order.
- UX: This team is responsible for enhancing the user experience throughout the whole customer journey, for this purpose, they manage the multimedia content of the website, follow the customer lifecycle and send digital communications in accordance with it. Besides that, the team is responsible for fomenting the digital culture among the business.
- Projects and portfolio: Also known as PMO – Project Manager Office. This was the team were the project was developed. This team is responsible to manage the different projects of the Ecommerce business: innovation, grated projects, continuous improvement projects, systems or other project that suits the business goals.

Continente Online works mainly under a B2C e-commerce business model in the sense that the goods and services are sold directly to the end user. The service provided by the online platform enables Continente Online's clients to make their food/non-food purchases and receiving them in one of two ways, Home delivery (receiving the goods at their own front door) or Pick-up-point where the customer can choose the goods in the online platform and then pick its order in a pick-up-point (usually Continente stores) without being charged any extra fees.

The operational procedure in order to give answer to its client's requests is based upon a picking-in-store method where the goods required by the users are picked up in Continente stores located in Portugal. Presently, Continente Online has E-commerce operations settled in 12 Continente stores (Arrábida, Cascais, Coimbra Shopping, Covilhã, Telheiras, Gaia Shopping, Guia, Guimarães, Maia Jardim, Montijo, Seixal, Viseu).

The following diagram mirrors COL's team organigram:

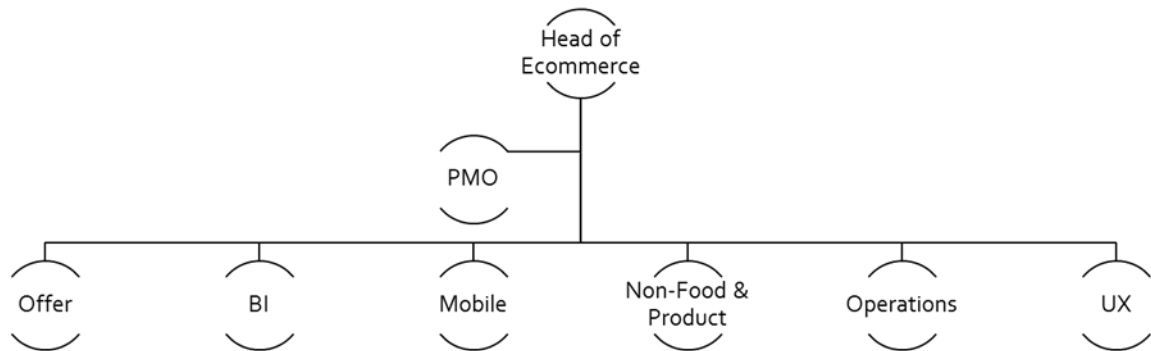


Figure 2 - Ecommerce Organigram

Additionally, the picking process can be done at a “Dark Store” located in Lisbon which consists in a “store” specially designed for the E-commerce business. “The Dark Store” is used exclusively to fulfil the orders of COL. The products centralized at the Dark Stores are usually top sellers and whenever there is lack of a good, there is a backup store in Telheiras that’s supports the fulfilment of the order (Rita Simões, 2017).

Furthermore, some businesses (Yammi, school books, toys, outdoor items etc.) are centralized at the main warehouse located in Maia and the picking of these can only be done at this location, these goods are usually top sellers or bulky items and the only way of ensuring a sufficient stock and the delivery of the goods to the customer is through this method.

Figure 3, in the following page, mirrors the location of all e-commerce operations where the picking process is done and the order is prepared to be ready for delivery. Upon a first registration on the website, the platform automatically attributes one of this operations to the user taking in too account the address where the goods are to be delivered. The available stock for the customer corresponds to the stock available at the store he was allocated, the delivery is then provided through an external partner.

COL works under an Omni-Channel scope. The darkstore of COL was a major investment made in the business that at the same time was integrated in Sonae MC Company.

3.2 Grocery Ecommerce challenges

The big difference between physical stores and online stores is the limitation of space. In physical stores, the shelves and the square foots of the store limits the number of SKUs presented to the customer. But in online store, the space is unlimited, due to the ecommerce business model, where a giant list of products may be uploaded to the site.



Figure 3 - Picking locations of COL

In this line of thinking, problems that are not so evident in the traditional business model, became clear in the ecommerce business: grocery retail companies cannot offer unlimited range of products to its clients, either by picking products in store or at darkstores, because after all, the products picking are made in a physical store or warehouse, thereby in the end the limit of the range of products offered in the online store should be equal to the limit of space in the picking products location.

This situation creates what the business calls a StockOut problem. StockOut is when a product is ordered by the client, but by many reasons it is not delivered. This means that the client service satisfaction is not satisfied and the business is losing money in two ways: not selling the product and having operational costs (web-site maintenance, assortment management, picking, transportation, call centre).

In 2016, this problem meant almost 8% of total sales of the business, and reaching in average 20% in the Fresh Food products, due to their perceived characteristics, forcing to short lead times in delivery windows or addition work for the service counter of fresh food in store.

Substitution process

To decrease losses, COL implemented a substitution process. This process consistent in the picking of a similar product of the one in “StockOut” to deliver the client a product that can match his/her needs. This process has some rules:

DESCONTO EM CARTÃO
1. Substituir por produto indicado pela comercial
PROMOÇÃO DE FORNECEDOR
1. Substituir por produto standard (s/promoção)
RUTURA DE MARCA PRÓPRIA
1. Marca própria, mesmo sabor, gramagem diferente
2. NÃO-ALIMENT&E : Marca própria, sabor diferente
ALIMENT&E : Outra marca, mesmo sabor (*)
(*) produto original até 5l : substituição até +0,50l
produto original superior a 5l : substituição até +1l
R1
1. Substituir por promocional com vantagem p/Cliente
R2
1. Mesma marca, mesmo sabor, gramagem diferente
2. Marca própria, mesmo sabor e gramagem
3. Marca própria, mesmo sabor, gramagem diferente
R3
1. Mesma marca, mesmo sabor, gramagem diferente
2. Marca diferente, mesmo sabor e gramagem
R4
1. Mesma marca, mesmo sabor, gramagem diferente
2. Mesma marca e gramagem, sabor diferente

Figure 4 – Substitution rules

In Figure 4, we can see the different rules for the substitution process. There are four ways to substitute depending on the item that is in “StockOut”: item with Fidelity card discount, item with supplier promotion, own brand products and the other cases where it can be applied 4 rules. Each one of the 4 rules are applied to the different business units (ex: R2 for Grocery, R4 for Frozen goods).

At continente.pt web-site, the company approach this problem in its services policy:

“Política de ruturas

As suas encomendas são satisfeitas fisicamente, pela loja Continente associada à sua área de residência. Desse modo, as suas encomendas estarão sujeitas à disponibilidade dos produtos adquiridos aquando da sua recolha na loja que o(a) serve.

*Se tiver definido no menu **Informações**, na área **A minha conta**, que em caso de rutura de um produtos devemos substituir por um produto alternativo sugerido pelo Continente, fá-lo-emos, procurando apresentar-lhe um substituto o mais similar possível ao artigo em ruptura. O preço faturado será o do produto substituto e não o originalmente encomendado.*

Sempre que desejar poderá alterar a sua regra de substituição nas Informações de A Minha Conta. Poderá também especificar as suas preferências de substituição no passo 1 do processo de compra.”

This means that the customer of Continente Online has the possibility to choose if COL may substitute the ordered products that are stocked out or not. If so, the clients pay the price of the substitute product.

Explaining the indicators

- Order – A client purchase
- Line – One (unique) item of a client purchase, with the respective quantity
- SKU – Stock Keeping Unit, reference code of the item
- Order Quantity – The quantity ordered of an item
- StockOut – When the order product is not available to delivery
- Line StockOut – When the item referring the line is in not available. Term most used to approach the problem
- Order StockOut – When the order had 1 line in “StockOut”.
- Gross StockOut – When the line/item is not available but it may be substituted. Term most used to approach the problem.
- Net StockOut – When the line/item is not available after substitution process
- Value Loss – The economic value of the lines in “StockOut”
- Substitution – The number of lines in “StockOut” that are substituted
- Order Net Sales – The sum of the total value of the Lines
- Final Net Sales – The sum of the total value of the Lines delivered

3.3 StockOut

For every curricular internship, SONAE presents a problem for the students to work on. To solve the StockOut problem was the challenge proposed by the company for this project. The main indicator that reflects this problem is the % of Gross StockOut:

$$\% \text{ Gross StockOut} = (\text{Lines in StockOut}) / \text{Total Ordered Lines}$$

Another important indicator is the % of Net StockOut, which express the StockOut problem after the substitution process of the products in StockOut.

$$\% \text{ Net StockOut} = (\text{Lines in StockOut} - \text{Lines Substituted}) / \text{Total Ordered Lines}$$

- % Ruturas UN 2017 (01/01 a 22/01)



Figure 5 - StockOut graphic by Business Unit

4 Proposal

COL is not responsible to create and drive the assortment of the SONAE grocery business, but have the ability to manage it. Meaning, Continente.pt cannot have more products than a client can find in a Continente store, but it can have less items available. And having less items available on the web-site, it is easier for the supply chain team to manage and guarantee this shorter pool of items always available in store. So, the proposal tested during the internship was a downsizing of assortment for the Ecommerce of SONAE MC.

4.1 Cause Analysis

Before going through the proposed solution, it is beneficial to understand the causes of this problem. For 1 week, in the Store of Gaia, and for the Food products, was monitored the possible causes of each StockOut Line. The results are presented in the next point.

StockOut Causes

During the internship, to better understand the problem, a sample of StockOut lines during one week in a selected store were collected. Afterward, the causes of each StockOut were identified by checking the stock information in the ERP, the last arrival date of perceive goods (to realize if there were an out of validity problem) and if the status product was even available for that store. Three main types of causes were identified: insufficient amount of stock for the demand, wrong stock accounting on the company ERP and operation and validity causes. In figure 6 there is the results of this investigation:

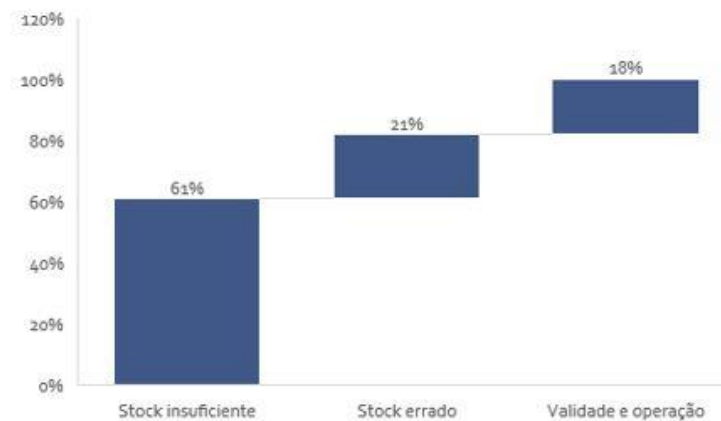


Figure 6 - StockOut causes

4.2 Proposes Process

In the first months of the internship, a process modelling was performed, to allow the future assortment reviews the possibility to be standardize and tracked their status. In this process modelling step, the teams involved were identified and responsibilities were assigned to the respective teams at the respective step of the process. The following figure shows the process designed.

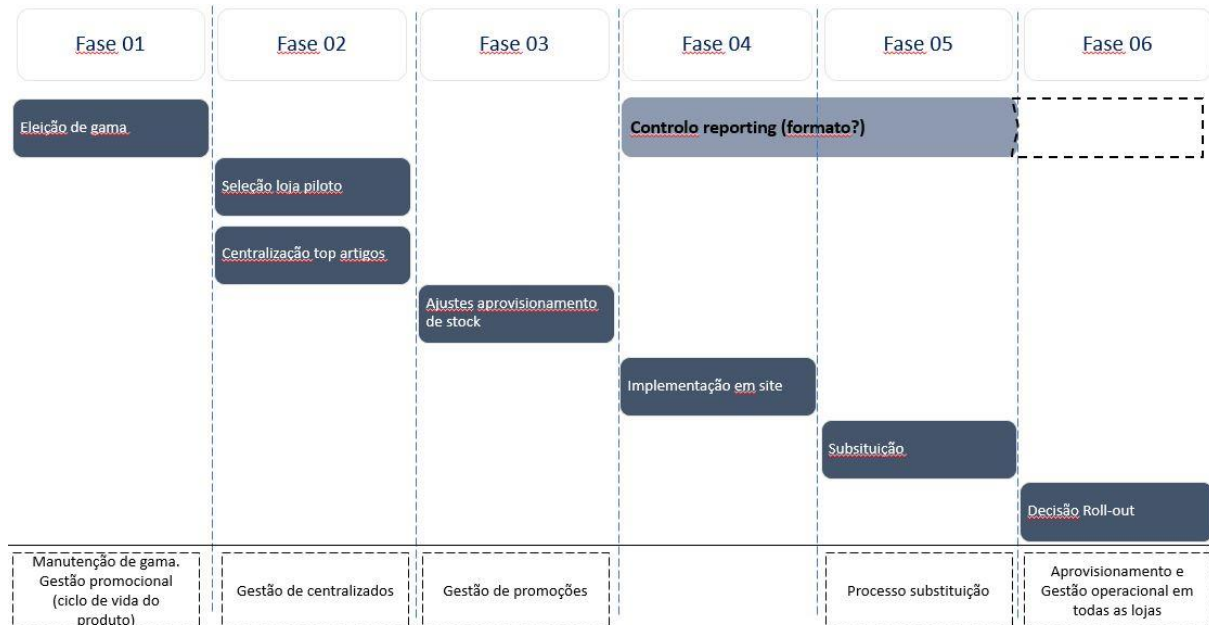


Figure 7 - Review process

The assortment review process has 6 phases:

- Phase 1 – Assortment election: The first step to do in this process is to select a business unit, or a category of products (ex: Fresh Food or Butchery) and analyse the different kind of products inside this range, having in concern the following topics: Sales, StockOut, Substitution process, Promotions and Discounts activity. During this analysis, a strategy must be defined for that business unit. As result of this phase, a list of SKUs to remove and to remain online is drafted.
- Phase 2 – Pilot store and centralization of products: As this is a new process for the company, for each of the actions taken through this review process, it is selected a pilot store to test the effectiveness and perform adjustments to the assortment elected. The darkstore is always included in the pilot phase because it is fully managed by an Ecommerce team. To bring better results on the StockOut problem, from the elected assortment, the items with high sales expression are picked in the darkstore at Lisbon. This process of moving the items takes 1 week.
- Phase 3 – Stock increments: One of the premises of this proposal is that the downsizing of assortment do not affect the sales. That being true, we expect a transfer of demand between the products with similar characteristics of the removed ones. That transfer need to be calculated, and delivered to the supply chain team, so they can supply the store with the increase of demand in the remaining items. In Exhibit A, we have the practical exercise of the increments calculation.
- Phase 4 – Web-site implementation: When all the above phases are done, we are ready to go live with the downsizing action. The Business Managers of the Offer team will remove the respective items from the web-site.

- Phase 5 – Substitution: With a reduced assortment and knowing that we removed items that are similar to the ones we transfer demand for, it is expected that we can substitute the remaining items for the ones removed in case of a StockOut.
- Phase 6 – Roll Out decision: After a period of monitoring (1 month approximately), the project team need to meet and decide if the downsizing should be spread to additional stores.

At the bottom of the process diagram, we can find the challenges that the phases present to the project team. In the first phase, the team need to have in consideration the maintenance of the assortment review. Managing fresh food is very hard, because the suppliers have a huge impact on the business and the products offered to the clients may change from times to times, and season to season. The centralization of products in the darkstore must be a continuous work, to don't have long tail products occupying space on the shelves of the darkstore. This is the challenge pointed in the phase 2. At phase 3, the importance of promotion products stock management is the challenge. With the challenge of assortment management identified in the phase 1, it comes the need to always design a substitution process after the implementation of the assortment downsizing: if you change the assortment after the downsizing, you should also update the substitution process – challenge of phase 5. In the last phase, after Roll Out of the assortment downsizing to all the stores, the supply chain and operational work needs to be redefined to each new store. The Exhibit D summarizes the assortment review process.

4.3 Team

In the assortment review project of Sonae MC Ecommerce, the teams involved were from different departments of the Sonae group. Below there are the description of the main responsibilities of each team:

- PMO of Sonae MC Ecommerce: responsible for the management of the project, and therefor for the daily reporting, process designing and communication among all the teams
- Offer team of Sonae MC Ecommerce: responsible for the election of items in the assortment to be removed.
- Business Intelligence team of Sonae MC Ecommerce: team that provided and supported the analytical data, either to elect the assortment and to daily control the results.
- Directors of operations and supply chain of the darkstore: responsible to implement the practical changes in the darkstore, in Lisbon.
- Supply Chain of Sonae MC: responsible to deliver the increments and adjustments over the downsized assortment.

5 Demonstration

Using the assortment review process explained in the previous chapter, the team implemented a total of 4 assortment reviews in the following families of products:

1. Butchery: high impact on the problem
2. Chicken: medium-low impact on the problem
3. Coca-Cola: punctual implementation
4. Processed vegetables: punctual implementation.

Above of performing a downsizing of assortment, it is also needed to create a strategy to support that sales do not decline. In each of the following sections, that substitution strategy will be explained.

5.1 Butchery

The first action was taken upon the Butchery Business Unit, because as we could see on the 3.3 StockOut section it was the Business Unit with the higher % of Gross StockOut. This Business Unit has 5 Categories, but the team only choose to work on 3 categories. As result of this action, 40% of the SKUs were removed from the web-site. In Continente, the main butchery products have the free service and counter service version, with the same price per kilo and promotions and discounts applied. The strategy behind this downsizing was to maintain the free service items (standardized plastic packed) and to remove the counter service items, which would need transformation process from the butcher and was always busy answering the physical clients' needs. This means that sometimes, the StockOut cause was the occupation of the butcher during the time to prepare the online Orders.

CATEGORIAS	Nº SKUS	A RETIRAR	AT	LS
Cat A	83	28	3	52
Cat B	132	58	3	71
Cat C	83	31	0	52
Cat D	Não será possível racionalizar a gama pois preços e promoções são diferenciados entre Atendimento e Livre Serviço, o que impossibilita apenas mantermos artigos de livre serviço em alternativa aos artigos de atendimento.			
Cat E	Não será possível racionalizar a gama pois artigos são únicos, não existe praticamente duplicação de gama, e os preços são distintos entre Atendimento e Livre Serviço.			

Figure 8 - Butchery review resume

In figure 8, there is a table with the overview of this first action. At the end only 6 products from the service counter were maintained because they didn't exist in service counter assortment. In total, 40% of the SKU were removed from the web-site. In the Exhibit A, we can

find the respective items that were removed (offline) and remained (online) in the assortment review. We can also see that increments were made considering that demand would distribute into the most similar product of the one removed.

To assess the impact of the assortment review applied on the continente.pt, a dashboard was developed. Main measures were controlled daily by the PMO team and daily reports were sent to all the project team.

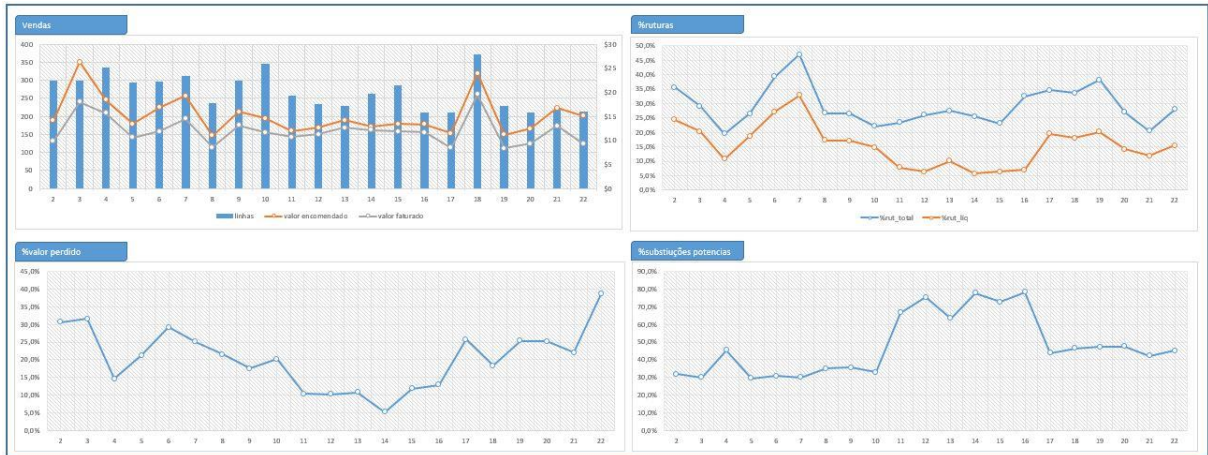


Figure 9 - Butchery daily dashboard

In Figure 9, we can see four graphs with information related to the butchery business unit: sales, %StockOut, value loss and %substitution.

5.2 Chicken

In this action, the team believed that a change in assortment strategy was more important than a downsizing. Then, following the strategy used in the Butchery, we change the SKU offered by COL from the free services items instead of the service counter service, that requires a employee who prepare the product. Instead, we are offering a standardize product of 1,2 Kgs that the chicken supplier provides more frequently. This action applied in two items: Chicken Breasts and Chicken Legs. In figure 10 we can see the strategy designed by the team for the chicken assortment review.

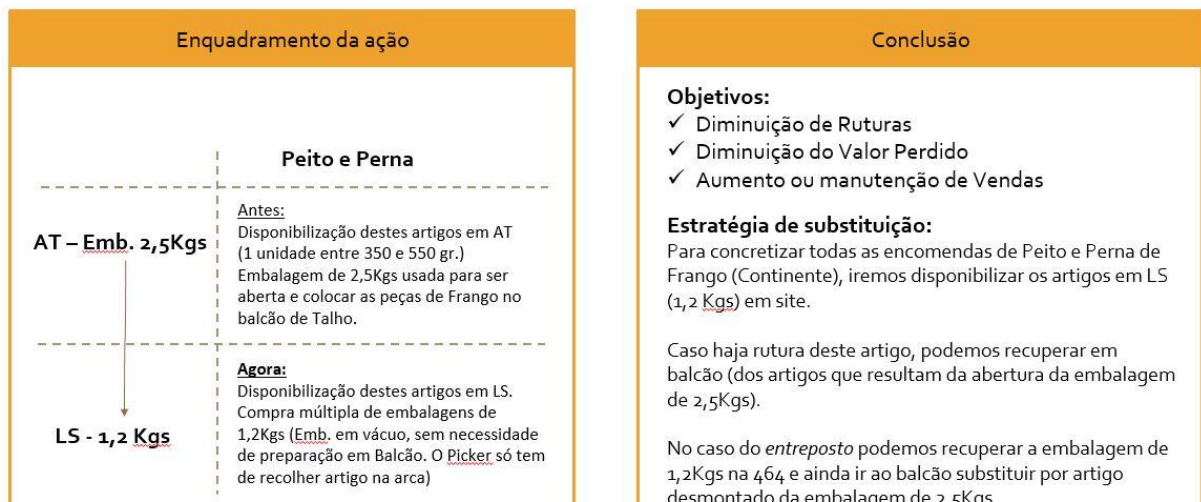


Figure 10 - Chicken assortment review diagram

The aim of this action was to decrease % StockOut, as well as the Value Loss and to at least maintain or increase sales. The substitution process designed to support this action was to substitute the free service product for the service counter one in case of StockOut. The pilot test on this item was made only on the darkstore, in Lisbon, because this is a very important product to put in risk the sales.

To assess this action, a Dashboard was set up. On the following image we can see that the Chicken Breasts had a very positive result, with 0% of StockOut in the first week of being live alone in the web-site. For the Chicken Leg some adjustments were made with the supply chain team to reach 0% of StockOut.

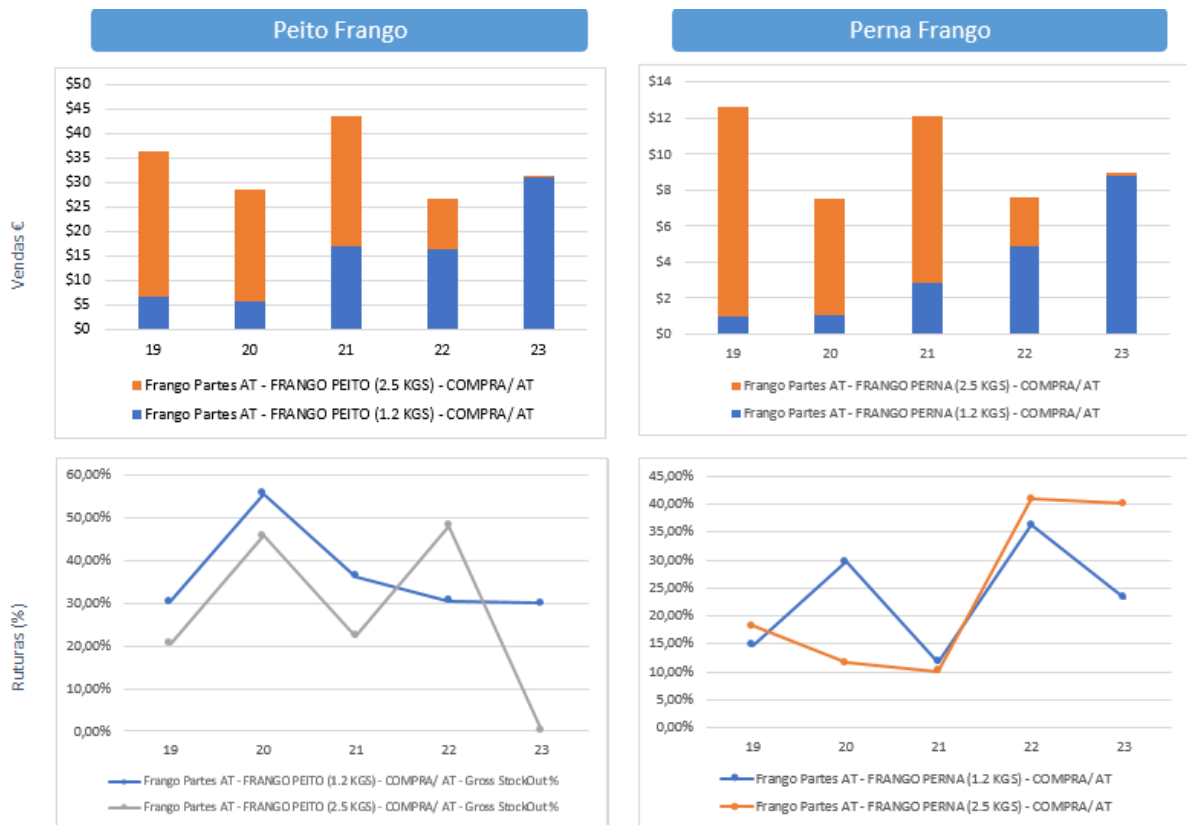


Figure 11 - Chicken Dashboard

5.3 Coca-Cola

To pick individual cans and bottles of drinks is not a profitable operation. This action was already identified by the company, but never implemented. During one board meeting, was suggested to test removal of individual cans and bottles of Coca-Cola from the web-site to understand if the Sales would be affected. In this case, it was more a matter of productivity instead of StockOut challenge. The expectation of this action was also to increase Sales, because the client could only buy in packs of cans and bottles. The pilot was made for all the COL stores but initially only in the category of Coca-Cola drinks. The idea is to roll out this action for all other drinking categories like waters, sodas, juices, etc. At exhibit B we can see that 11 SKU's of individual cans or bottles are marked in red, in a pool of 33 Coca-Cola items. This means a downsizing of 33% in this assortment range.

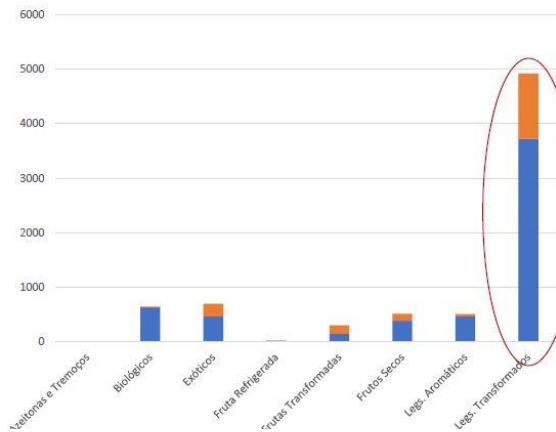
SKU DESC	SKU	Gross StockOut %	Net StockOut %	Value Loss %	Substitutions Effort %	Linhas	Ruturas
REF.C/GAS COCA COLA ZERO LATA 6*33CL		6,76%	5,62%	6,01%	16,87%	1227	83
REF.C/GAS COCA COLA LATA 12*33CL		7,13%	5,76%	5,46%	19,30%	799	57
REF.C/ GÁS COCA COLA MINI LATA 12*15CL		8,91%	6,42%	5,74%	27,94%	763	68
REF. C/GAS PEPSI COLA ZERO LATA 6*33CL		5,37%	3,90%	8,33%	27,27%	205	11
REF.C/GAS PEPSI COLA LATA 6*33CL		4,17%	2,50%	2,44%	40,00%	120	5
REF.C/GAS COCA COLA LATA 6*33CL		35,05%	24,74%	21,90%	29,41%	97	34
REF.C/GÁS COCA COLA T/P 6*20CL		2,78%	2,78%	3,49%		72	2
REF.C/GAS ZERO COCA COLA LATA 33CL		5,56%	5,56%	2,48%		72	4
REF.C/GAS COCA COLA LATA 33CL		3,03%		0,37%	100,00%	33	1
REF.C/ GÁS COCA COLA 12*20CL C/OFERTA		55,56%	55,56%	70,95%		18	10
REF.C/GAS ZERO COCA COLA 8*33CL		100,00%	33,33%	33,33%	66,67%	3	3
REF.C/GAS PEPSI MAX LATA 6*33CL				0,00%		1	0
REF.C/GAS COCA COLA 4*2 L		0,78%	0,53%	0,44%	31,25%	2063	16
REF.C/GAS COCA COLA 4*1L		8,52%	6,79%	8,10%	20,25%	1914	163
REF.C/GAS COCA COLA 2L				0,00%		678	0
REF.C/GAS COCA COLA 1,5L		1,64%	1,64%	1,37%		428	7
REF.C/GAS COCA COLA 4*1,5L		7,58%	3,65%	3,10%	51,85%	356	27
REF.C/GAS COCA-COLA 50CL		3,60%	1,80%	3,10%	50,00%	278	10
REF.C/GAS COCA COLA 2X2LT		82,50%	55,00%	55,14%	33,33%	40	33
REF.C/GAS COCA COLA 2*1,5 L		100,00%		11,05%	100,00%	2	2
REF.C/ GÁS ZERO COCA COLA 4*2LTS		3,63%	2,19%	2,17%	39,56%	2507	91
REF.C/GAS ZERO COCA COLA 4*1L		7,05%	3,89%	3,30%	44,79%	2312	163
REF.C/GAS ZERO COCA COLA 1L		7,63%	5,05%	6,14%	33,75%	1049	80
REF.C/GÁS COCA COLA ZERO 4*1.5L		7,34%	2,45%	2,54%	66,67%	613	45
REF.C/ GÁS COCA-COLA ZERO PET 1.5 L				0,00%		362	0
REF.C/GAS ZERO COCA COLA 50CL		8,44%	6,22%	5,43%	26,32%	225	19
REF.C/GAS COCA COLA ZERO 2X2LT		89,39%	39,39%	44,50%	55,93%	66	59
REF.C/GAS COLA CONTINENTE 2L		17,23%	8,01%	14,79%	53,52%	412	71
REF.C/GAS COLA ZERO CONTINENTE 2L		14,33%	8,79%	6,38%	38,64%	307	44
REF.C/GÁS COLA É CONTINENTE 4X2L		27,87%	16,39%	17,86%	41,18%	61	17
REF.C/GAS PEPSI MAX 2LT		0,69%	0,69%	0,34%		291	2
REF.C/GÁS PEPSI 4X2LT		7,91%	5,04%	5,45%	36,36%	139	11
REF.C/GAS PEPSI COLA 4*1,5L		13,89%	4,17%	-0,95%	70,00%	72	10
REF.C/GAS PEPSI MAX 1,5 L		62,07%	17,24%	5,58%	72,22%	29	18

Figure 12 - Coca-Cola assortment reviewed

5.4 Processed vegetables

When looking for the business unit of Fruits & Vegetables, the team identified that the category of specialities has a huge concentration of sales in a specific family of products: processed vegetables, as we can see in figure 11. With the bigger concentration of sales comes the StockOut problem, because the items are ordered more often provoking zero stock situation. In addition, as processed products, the validity time is very short, having only 5 days of validity when arriving to the stores. Together with the rule of delivering the product to the clients with at least 2 days of validity, the product window to be picked is very short.

Especialidades F&L – linhas rutura



Legumes Transformados – linhas rutura

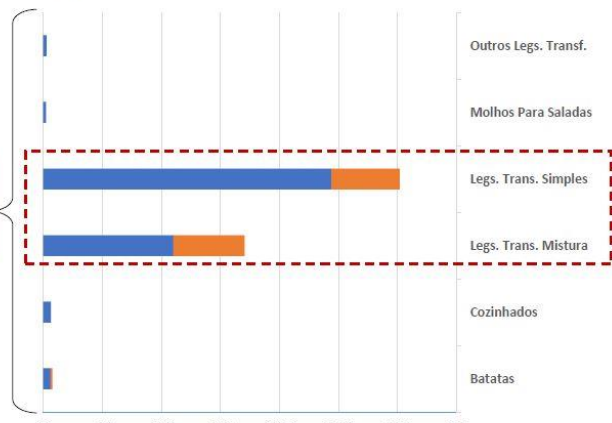
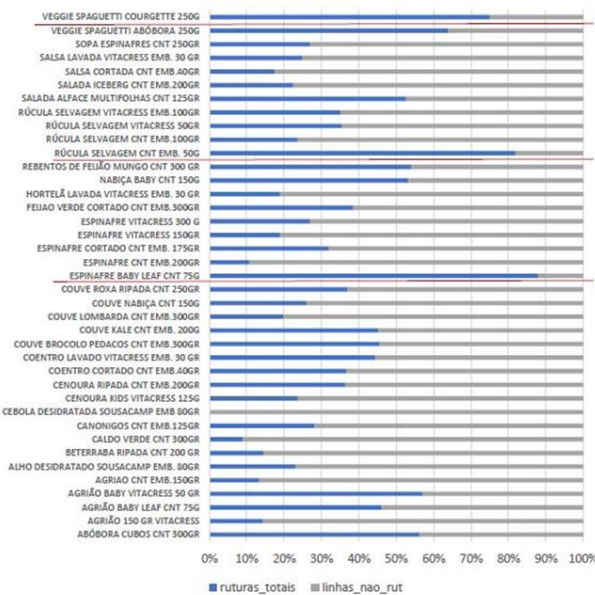


Figure 13 - Processed vegetables StockOut

To overcome this problem, the team decided to centralize more products of the processed vegetables family, in the darkstore and remove 4 SKUs from the assortment available, which are the items underlined in the Exhibit C. The items removed presented a low level of demand but an high level of StockOut situation, presenting a very bad service satisfaction then no value added on the assortment. More SKUs were not removed because internal studies showed that the biggest Ecommerce client segment in growing are the healthy trendy people that are looking for prepared healthy meals and at the same time, summer season was approaching and it gives an increasing on demand for this kind of fresh items.

Legs. Transformados Simples



Legs. Transformados Mistura

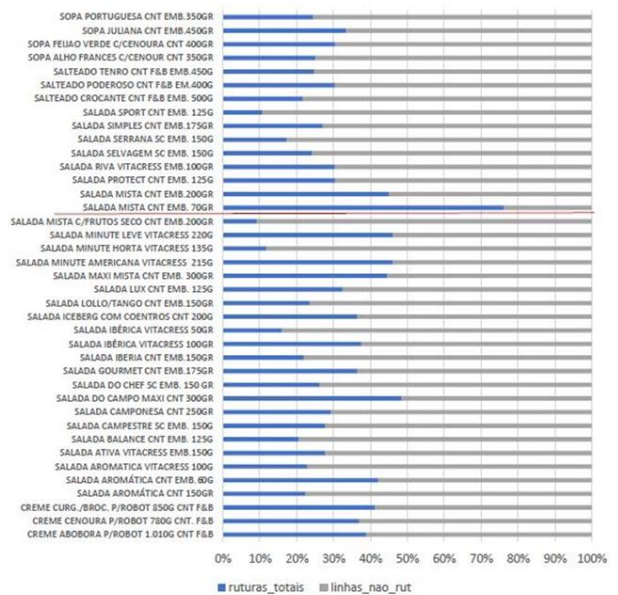


Figure 14 - Fruits & Vegetables – Specialities assortment reviewed

6 Evaluation

In this section, it will discuss and criticize the results from the implementation of the methodology. What numbers are positive and numbers that were negative. What actions were taken to improve the performance of the project?

More than numbers, what does the effort should keep with the project, and what people need to actively keep developing the project and what the pros and cons of this implementation.

6.1 Results

In the end of the implementation of the different actions of downsizing, we could see the actual image of the StockOut problem:

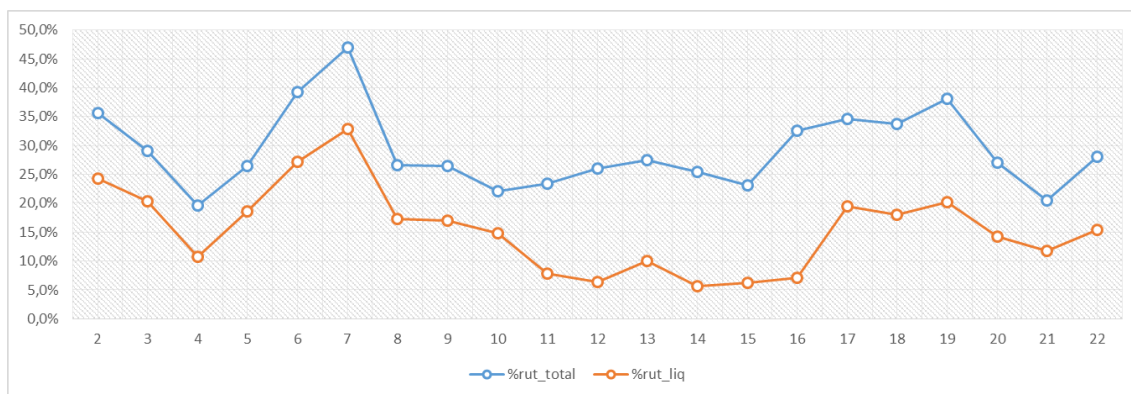


Figure 15 - %StockOut evolution of Butchery 2017

As we can see, in Figure 13, the evolution of %StockOut was not totally positive. Even tough, the % stabilized during the pilot project (week 10 to 16), the % Gross didn't decrease. The main cause identified to this problem was that, if we have less items available on the web-site, the remaining items would have more demand, meaning that a StockOut situation would appear more quickly. But with the substitution strategy, the % Net Stock Out decrease to approximately 8%. So, if at the beginning of the project the number was close to 20%, in the end of the pilot it was 12 points down, meaning 60% fall, with the removal of 40% of the Business unit items.

6.2 Does assortment review decrease the StockOut problem?

Not directly. Reducing SKU may look easier to the logistics team to guarantee the availability of the items but the stock quantity becomes 0 more quickly, producing the same % Gross StockOut than before the downsizing. Thus, a substitution strategy is very important to ensure service satisfaction. With a shorter assortment, the offer team have the possibility to identify the substitute products of the remaining items, which are usually one of the removed ones.

6.3 What are the challenges to implement an assortment review on the online retail business?

The main challenge is to align the different teams, departments and directions of SONAE MC. They are geographically dispersed and each one of them have different KPIs to focus on. As the KPI drivers of the business is offer (Sales and promotion/discounts) and reduction of costs, the focus on service satisfaction may be influenced negatively.

7 Conclusion

The proposal to battle the StockOut issue may not brought the results without a substitution strategy behind, but for sure that gave very important guidelines for future work. The lessons learned are now presented in the executive summary, limitations and future work sections.

7.1 Lessons Learned

The downsizing proposal may not have brought a huge impact in the % Gross StockOut but it brought a very positive impact in the % Net StockOut due to the strategy behind the downsizing: to focus on the free services items instead of the service counter service. The same happened with the individual cans and bottles and packed products. The main guideline to withdraw from this project is that the best assortment to operate in an Ecommerce are standardize packed products that allow a very fast and easy picking process.

7.2 Limitations

There were 2 main limitations in this work. First, the business is still driven by Sales KPI, instead of operational performance and customer satisfaction. So, it was more important to keep growing in sales (even if this means more Value Loss), than improving the service. As a consequence of this, the business follows a very important strategy: focus on promotions and discounts. As COL is the ecommerce of Contiente, it should offer the same as the Contiente business, including promotions and discounts, meaning that we can't remove from the web-site products at promotion on Contiente.

Contiente has several promotional and discounts activities: Weekly paper – with a list of products that are in promotion during one week; Weekend promotion – with a list of products that are in promotion during the weekend, but shorter than the weekly flyer; Toys and Kasa weekly promotion – related with the different business lines of the Contiente diversification portfolio; Seasonal discounts – like Summer, Christmas, New year, Carnival, Sports events, etc.. If the products are removed by the Downsizing action, they should comeback active on the web-site for the promotional action.

The promotional dynamics may influence the team to do not downsize the categories were products are usually in promotion. For example, the fresh food is a very affected business unit by this limitation, because the marketing team needs to influence demand on a set of products in case the production and availability of certainty products present a good margin for the company.

The second limitation come along with the previous point. The business is now on a rethinking stage, and the operations focus is to reduce costs. This means that the solution to solve the daily problems of the business should always be the one more cheaply and not the one that provide better customer satisfaction. Another impact

7.3 Future Work

With the aim of keep fighting the StockOut problem, would be great if the team keep roll outting the downsizing actions through the business units and stores of the COL business.

As personal recommendations, I believe the online business would benefit if it could have some independency in the assortment planning strategy and marketing – promotion and discounts.

This would allow the business to focus more in customer satisfaction and not so much in sales and costs. In my opinion, the focus on customer satisfaction would increase the interest from the customers on the business.

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APPENDIX B: Assortment review overview

O modelo de racionalização da gama no ecommerce deverá ter em conta os seguintes indicadores e inputs..

