

A Work Project, presented as part of the requirements for the Award of a Master Degree in Finance from the NOVA – School of Business and Economics.

HOW TO IMPROVE THE PROCESS OF SALES' PREVISION FOR THE
PHARMACEUTICAL DIVISION OF L'ORÉAL?
DEVELOPMENT OF A NEW MODEL TO ANALYZE THE GAP BETWEEN
SELL-IN AND SELL-OUT

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ABSTRACT

Until the present date, the Pharmaceutical Division of L'Oréal in Portugal did not have any tool to analyze the gap between Sell-In - the products sold by L'Oréal to its customers (Pharmacies and Parapharmacies) -, and Sell-Out - the quantity sold by L'Oréal customers to consumers.

The main objective of this Work Project was to develop a model to analyze such gap.

Subsequently, we conducted an investigation of the insights inferred from the analysis of the gap between Sell-In and Sell-Out. This investigation contributed to help the Pharmaceutical Division of L'Oréal - Active Cosmetics Division -, to better predict the level of stock they should establish with their customers (Pharmacies and Parapharmacies).

Additionally, the methodology used for the model involves using data from January 2015 until September 2017. Analyzing the model, we conclude that only 20% of the Sell-In needs to be adjusted in the next sales prevision. With this rearrangement of units, we were able to predict that 7% of the Sell-In has a high risk of not being sold and 4.3% still has an improvement margin.

Keywords: Sell-In; Sell-Out; Sales' Prevision; Active Cosmetics Division; L'Oréal;

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1. Introduction

Founded in Paris in 1953 by Eugène Schueller, L'Oréal has become the world's leading cosmetics company, with a large number of well-known consumer and luxury brands such as *Giorgio Armani*, *Yves Saint Laurent*, *Lancôme*, *Maybelline*, *Kérastase* and *Vichy*. L'Oréal's portfolio is organized by Divisions, in which, each one develops a specific vision of beauty according to its target and distribution channels. There are four Divisions: the Consumer Products Division, the Professional Products Division, L'Oréal Luxe and the Active Cosmetics Division, which is the Division under study in this Work Project. The Active Cosmetics Division brands sell dermocosmetics products exclusively to Pharmacies and Parapharmacies. The main objective of this Work Project is to develop a new model to improve the process of sales' prevision for the Active Cosmetics Division in Portugal by firstly gathering and categorizing data of Sell-In and Sell-Out and secondly analyzing the gap between the two types of data. By Sell-In, we mean the products sold by L'Oréal to its customers⁽¹⁾ (Pharmacies and Parapharmacies) and by Sell-Out, we define the quantity sold by L'Oréal customers to consumers⁽²⁾. The period chosen for the analysis was from January of 2015 until September of 2017. Since previous stock on customers can affect the analysis, we decided to choose a significant period length (33 months) to mitigate this issue.

I am currently doing an internship as a business controller in the Active Cosmetics Division of L'Oréal Portugal. The first surprise I got when I started this activity was to verify that the Division did not have such model, which made the process of sales predictions extremely difficult. For this reason, I decided to address this issue in my Work Project. In particular, I had to first organize the Sell-In and Sell-Out data in a way that would allow the model construction. This process may seem obvious, however it took me a large period of time and head me to confront many technical difficulties.

⁽¹⁾ and ⁽²⁾: in this Work Project and following the terminology used in L'Oréal, customers are defined as retailers (e.g. pharmacies and hairdressers), while consumers are the people who consume and actually purchase the products.

2. Contextual Background

2.1. L'Oréal

Known as the global leader of the cosmetic market, L'Oréal – with more than one hundred and eight years of experience – is a French cosmetic company that operates on five continents and over one hundred and forty different countries.

Recently, WWD (Women's Wear Daily – a fashion-industry trade journal) elected L'Oréal as the best cosmetics group worldwide (Beauty Inc.'s Top 10 Beauty Companies of 2016). At the end of the same year, the company had more than 89 300 employees all over the world, presented 25.8 billion euros of consolidated sales and 4.5 billion euros in operating profit.

With a market capitalization of 97.4 billion euros, the group has businesses in the skincare, fragrance, hair care, hygiene and make-up categories. Figure 1 presents the consolidated sales per division (L'Oréal Luxe, Consumer Products Division, Professional Products Division and Active Cosmetics Division).

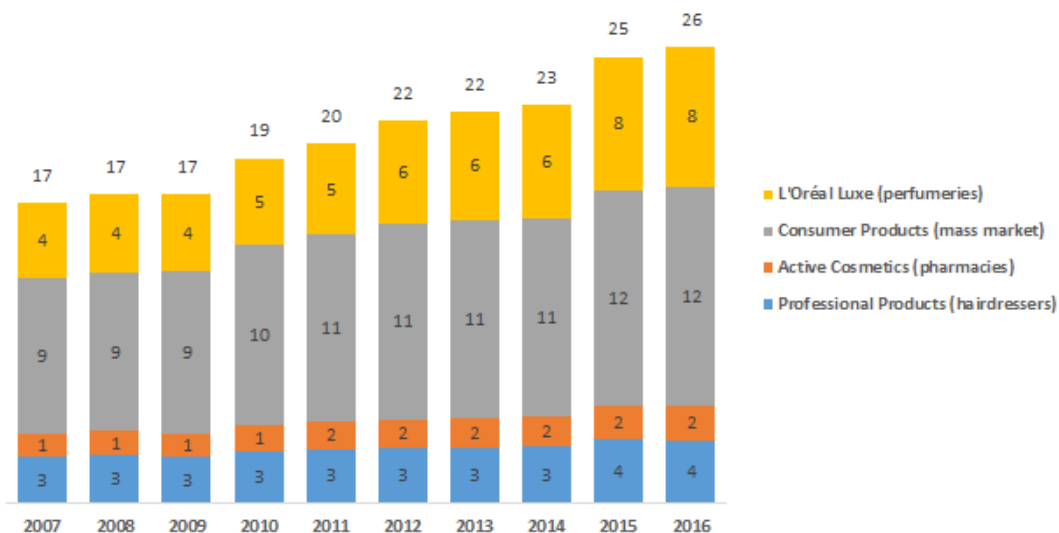


Figure 1: L'Oréal Consolidated Worldwide Sales in Billions per Division (market channel for each Division)
(Source: L'Oréal Annual Reports 2007-2016)

2.2. L'Oréal and the Active Cosmetics Division in Portugal

L'Oréal Portugal initiated activity in 1962. Portugal was in a political scenario of dictatorship with a market closed to international transactions, therefore showing no potential growth or ableness to keep up with the international expansion. During these times the market was poorly developed. Nevertheless, L'Oréal Portugal managed to catch the few opportunities by producing in its own local factories. Presently, L'Oréal Portugal has a unique portfolio of 29 international brands and it is the national leader of the beauty market (Figure 2).

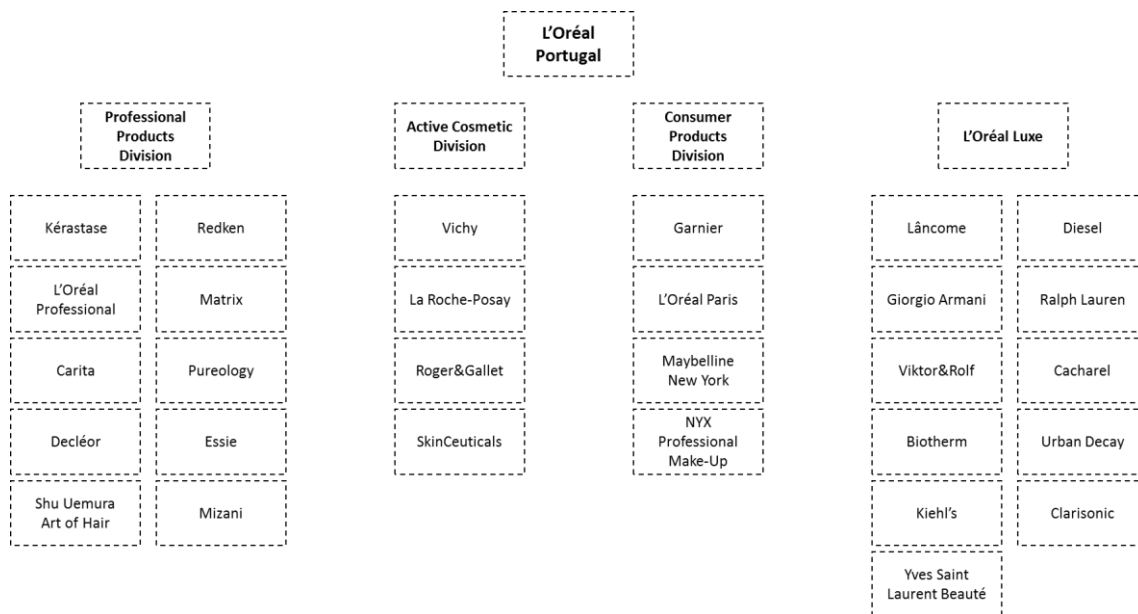


Figure 2. L'Oréal Brands in Portugal per Division in 2017 (Source: L'Oréal Website)

L'Oréal Portugal has four brands in the Active Cosmetics Division. The brands provide solutions to several skin types/problems.

- *Vichy* is the top seller brand of this Division. Since its birth in 1931 in France, the mission has remained the same - being able to help women in their daily skin care routines, regardless of age or skin type.

- *La Roche Posay* develops and sells skin care products for sensitive skins ensuring “parabens free” feature. The brand is a reference for the dermatological World.
- Armand Roger and Charles Gallet, brothers-in-law and business partners, founded in 1862 *Roger&Gallet*. Seventeen years later was introduced one of the most iconic products of the brand, the *round soap*, which allowed a better grip and remained perfumed throughout the time.
- *Skinceuticals* is an American brand used not only by dermatologists but also by plastic surgeons. The brand’s products are also often used to complement aesthetic procedures.

2.3. Distribution Channels of the Active Cosmetics Division in Portugal

The Active Cosmetics Division’s Distribution Channels in Portugal are divided in two major groups, Direct and Indirect Distribution as it can be seen in Figure 3. The Direct Distribution is organized by four different areas:

1. Mass, that concerns the Parapharmacies managed by the main retailers in Portugal;
2. Drug, that covers individual street drugs where medicines and miscellaneous articles are sold;
3. Selective, which refers to El Corte Inglés (the biggest department store group in Europe)
4. Pharmacy, which includes street or shopping center ones.

The Indirect Distribution includes all the Active Cosmetics Division’s distributors that do not sell products directly to consumers, but to retailers, being themselves wholesalers or intermediaries.

We could analyze the Sell-In and Sell-Out data breaking down the Distribution Channels into two parts, being the first one the Direct Distribution and the second one the Indirect Distribution. However, this is not possible since there is no Sell-Out data from Indirect Distribution. In the subchapter 3.1.1.2., regarding the measure of Sell-Out, we show how the

Active Cosmetics Division gets the Sell-Out information from two suppliers, which present the data divided in Pharmacy and Parapharmacy. Therefore, we also divided the Distribution Channels into these two parts, being the Pharmacy the total of the consolidated data from the Selective, Pharmacy and the Indirect Distribution sales and the Parapharmacy the total of the consolidated data from the Mass and Drug market.

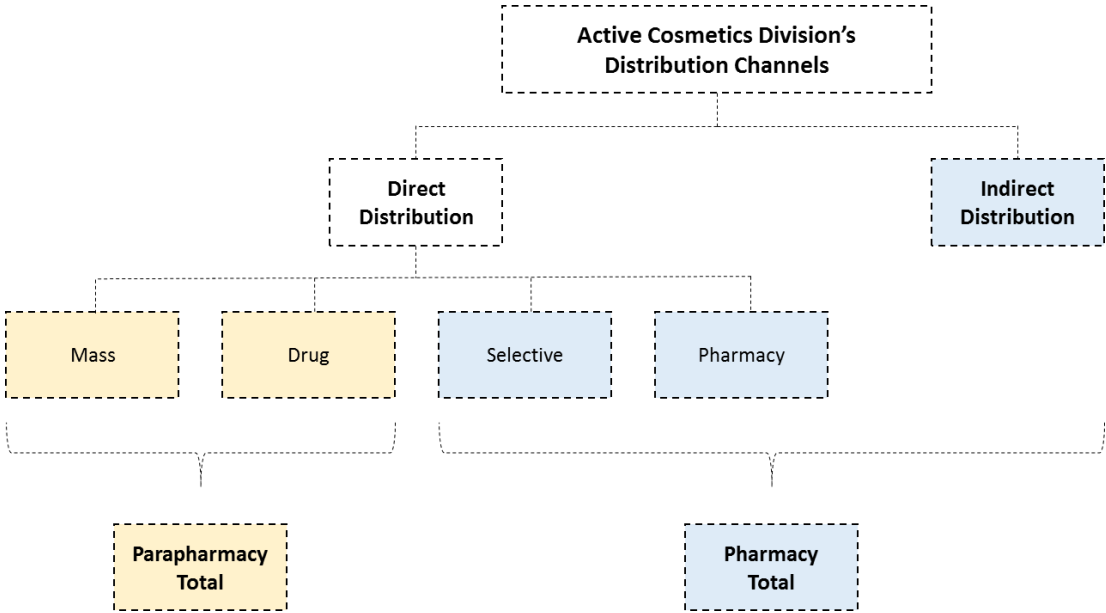


Figure 3. Active Cosmetics Division's Distribution Channels in 2017

2.4. Definition of Sell-In and Sell-Out

Sell-In refers to a business-to-business (B2B) relationship, which consists in a transaction (e.g. sale) that occurs between a supply wholesaler (L'Oréal Portugal) and a retailer (L'Oréal Portugal customers, such as pharmacies, hairdressers and perfumeries) with the purpose of reselling or processing the products involved. The particularity of this relationship is that the transaction occurs between wholesalers and not directly with the consumer.

Sell-Out lies on a business to customers (B2C) perspective. In this situation the transaction (e.g. sale) occurs between a distributor (L'Oréal Portugal customers) and consumers (L'Oréal Portugal products consumers), who are the end-users of its products or services.

In this Work Project, all the references to customers are specific to L'Oréal customers that sell L'Oréal products and all the references to consumers refer to the individuals who actually use L'Oréal products.

3. Addressing the WP Objective: Building the Model

3.1. Methodology

With the purpose to understand the articulation of Sell-In versus Sell-Out and start the analysis, it was necessary to create a model in which all the data is presented in a comparable way.

The goal was to obtain a framework that allows the comparison of Sell-In and Sell-Out of all the products sold by the Active Cosmetics Division in Portugal. However, it is illogical that all the products are shown in this framework, considering that it would origin a long list and would not help in understanding the problem. We thus suggested grouping the products in categories so that the number of variables under study could be reduced.

3.1.1. Construction and Analysis from the Model

The Active Cosmetics Division has a portfolio of more than two thousands references in Portugal. Considering the specific characteristics and uses of each product, it is possible to create a category that covers all the product references with the same functions. In order to create the appropriate categories that would represent all the references it was necessary to make a rigorous analysis along with the Marketing Team so that every product could be correctly categorized.

This analysis led to the creation of seventeen different categories: *Acné* (acne treatment), *Amincissants* (slimming products), *Capilares Champô*s (shampoos), *Capilares Tratamento* (hair treatment), *Corpo* (body care), *Deodorants* (deodorants), *Eaux Thermales & Florales* (thermal and floral waters), *Higiene Corporal* (body hygiene), *Homme* (men products), *Levres* (lip care), *Mains* (hand care), *Maquilhagem* (make up), *Nettoyage* (body cleansing products), *Peau Lesée* (damaged skin), *Perfumes* (extracts with fragrances), *Soin Visage* (face care) and *Solaires* (sun protection).

As soon as we selected the right categories to group all the Active Cosmetics Division's products, we started classifying all the references, which represented the most difficult part of this Work Project.

The entire data of Sell-In and Sell-Out is obtained in two different ways and this leads to the issue that each reference does not cross between the Sell-In and Sell-Out data, meaning that the same product is labeled differently on each list. Therefore it was necessary to label each reference under the Sell-In view, and again, under the Sell-Out perspective.

It is important to notice that in order to comply with L'Oréal's Confidentiality Agreement, signed by both parties, all the data in this Work Project has been modified with a numerical factor defined by the Chief Financial Officer (CFO).

After labelling all references, we could confirm that the database of this model was complete. The last thing needed in order to start the analysis was a framework, which could present the data in a coherent way. According to the teams that will use this model the best way to show the data is by brand and by sector (Pharmacy or Parapharmacy).

3.1.1.1. How Sell-In is measured

Following all the products sold by L'Oréal to its customers (Sell-In), 688 references represent the portfolio sold in 2015, 2016 and 2017, in which *Vichy* is the brand with more references

(40% of the total) followed by *La Roche Posay* with 33%. Figure 4 shows the number of products in each category by brand. The biggest issue in categorizing all the products was related to the lack of technical knowledge and sensitivity about each product, which made the process difficult and long. After the categorization process, the Marketing Team did a revision, so there were no products mistakenly labelled.

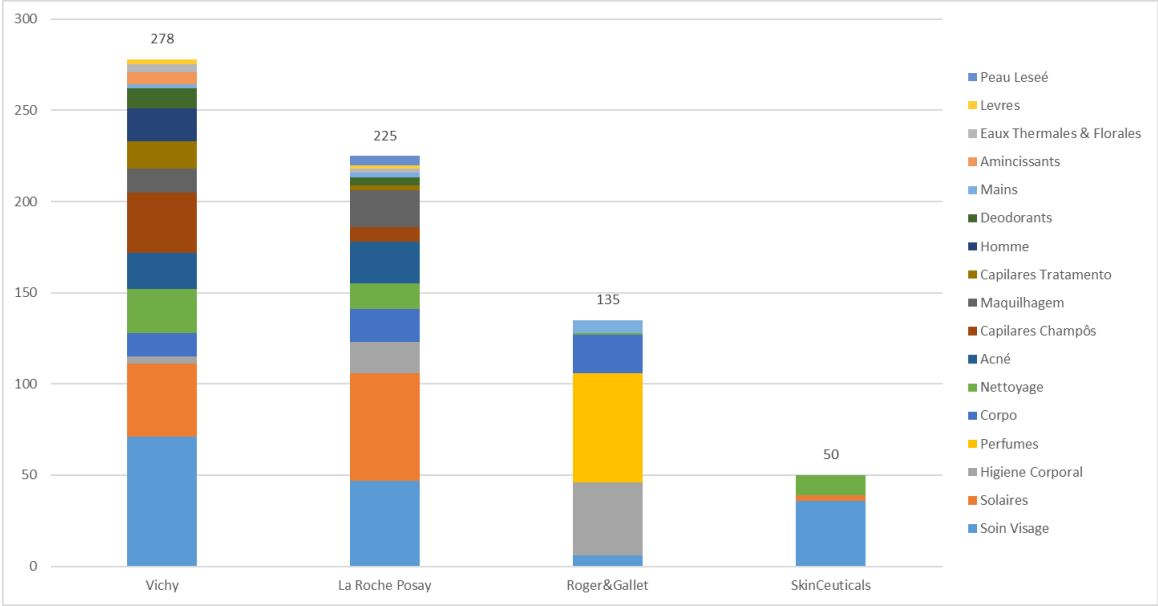


Figure 4. Sell-In References by Brand and Category (Consolidated Data from 2015, 2016 and 2017)

In order to better understand how the Sell-In is measured, one needs to analyze how the data is obtained. “Compass” is a financial data platform used by L’Oréal that contains all the Sell-In data. Additionally this platform is sustained, every month, by “SAP” which is another platform that receives on a daily basis all the sales executed by the Active Cosmetics Division to its customers in Portugal.

The obtained data was organized in two main fields, Pharmacy and Parapharmacy. The Pharmacy field includes the Selective, Pharmacy and Indirect Distribution sales. Regarding the Parapharmacy field, the Mass and the Drugs sales comprise it.

Once the data was collected and straightened out it was possible to better study the Active Cosmetics Division Sell-In from January 2015 until September 2017. From Figure 5 it is noticeable that, every year, there is a high peak in the month of March along with moderated peaks in September and October. Moreover, it is perceptible that the levels of Sell-In are lower in August and December.

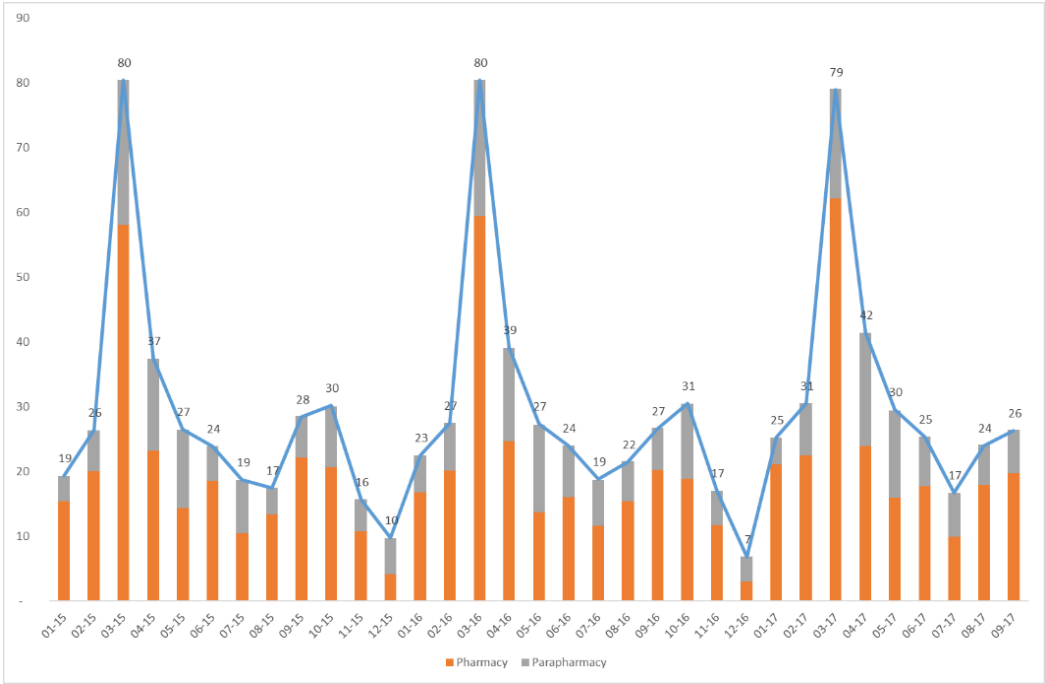


Figure 5. Active Cosmetics Division’s Sell-In in thousands of units (January 2015 – September 2017) ⁽³⁾

Considering the previous observations, it seemed important to further analyze those peaks in both Pharmacy and Parapharmacy markets.

3.1.1.1.1. Measure of Sell-In in the Pharmacy Sector

Concerning the Pharmacy market, it is noticeable that this market reflects the same dynamic existent on the total market as it can be seen comparing Figures 5 and 6.

Respecting the high peaks of March and as Figure 7 illustrates, we can conclude that these result from the sales of solar products and shampoos. Regarding the moderate peaks of September

and October, they are justifiable by the differences in *Levres* (lips care) and *Soin Visage* (face care), products that offer a preventive action against the winter season.

Furthermore, it is possible to understand the low peaks of August and December as being a consequence of the holiday seasons, which result in a lower number of brand representatives visiting and selling to the customers, as well as the stagnation of the market.

The Pharmacy sector represents 70% of the Active Cosmetics Division’s Sell-In. This high percentage justifies the similarity between the charts in Figures 5 and 6.

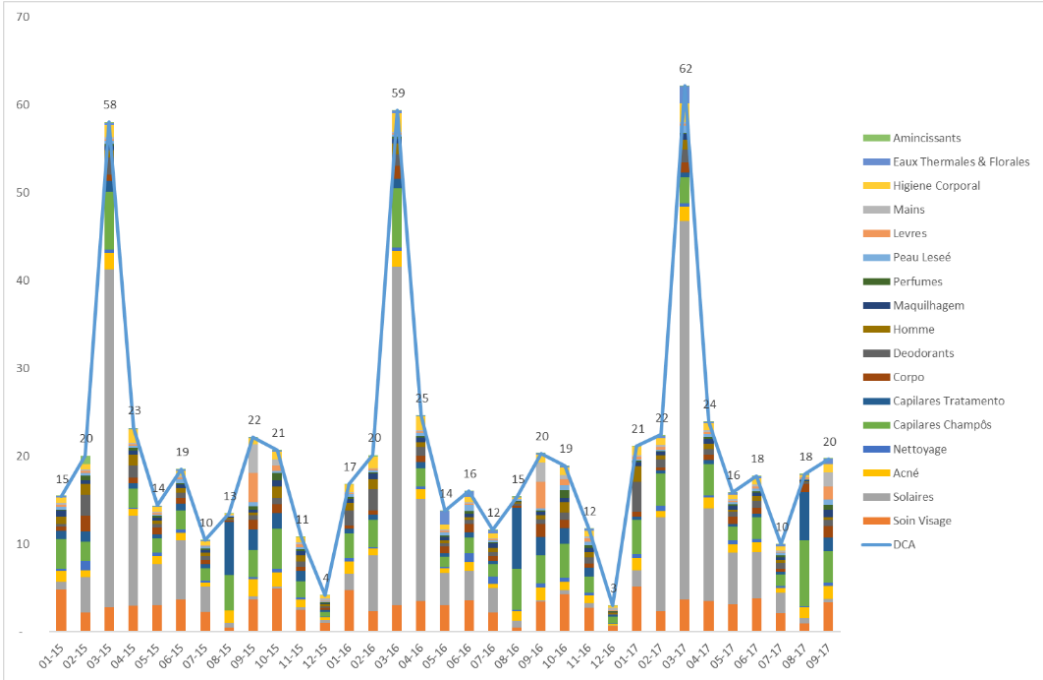


Figure 6. Active Cosmetics Division Pharmacy’s Sell-In in thousands in units (January 2015 – September 2017) ⁽³⁾

3.1.1.1.2. Measure of Sell-In in the Parapharmacy Sector

Regarding the Parapharmacy analysis (Figure 7), this sector reveals the same tendency as the Pharmacy field, having identical monthly cycles as it can be verified in Figure 6. Relatively to the high and low peaks, we suggest that the products and justifications converge for both Pharmacy and Parapharmacy sectors. However in terms of the moderate peaks (September and

October) there is a divergence in the products sold, being the shampoos the main reason of these differences instead of the *Levres* (in the Pharmacy sector).

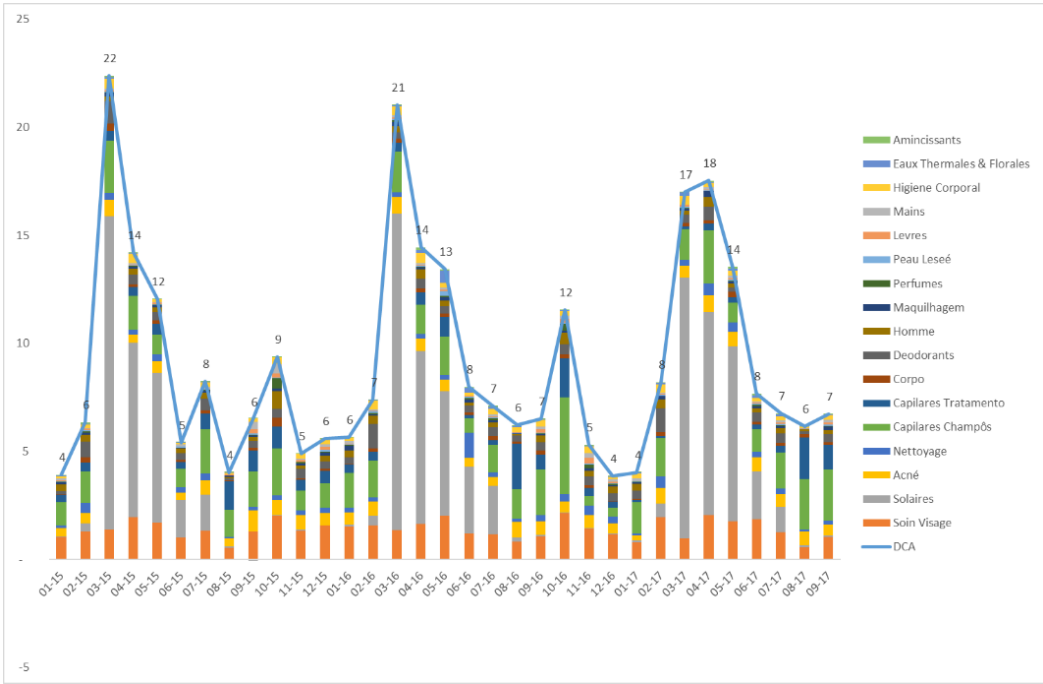


Figure 7. Active Cosmetics Division Parapharmacy’s Sell-In in thousands in units (January 2015 – September 2017) ⁽³⁾

3.1.1.2. How Sell-Out is measured

Under the Sell-Out perspective, the information about the products, sold by L’Oréal customers to consumers are available in two parts, the first one regarding the Pharmacy sector and the second one regarding the Parapharmacy. Thereby, between January of 2015 and September of 2017, the period chosen for the analysis, 1765 references were categorized, which can be seen in Figure 5.

This perspective generates an increase of references due to the platform that provides the Sell-Out data, differentiates products between the same hierarchy, instead of the platforms that provides the Sell-In data (e.g. lipstick with the same name and functions has only one reference under the Sell-In view, despite the various types of colors, since in a financial field it all refers

to the same product; however in the Sell-Out perspective this differentiation of colors needs to be discriminated resulting into several references).

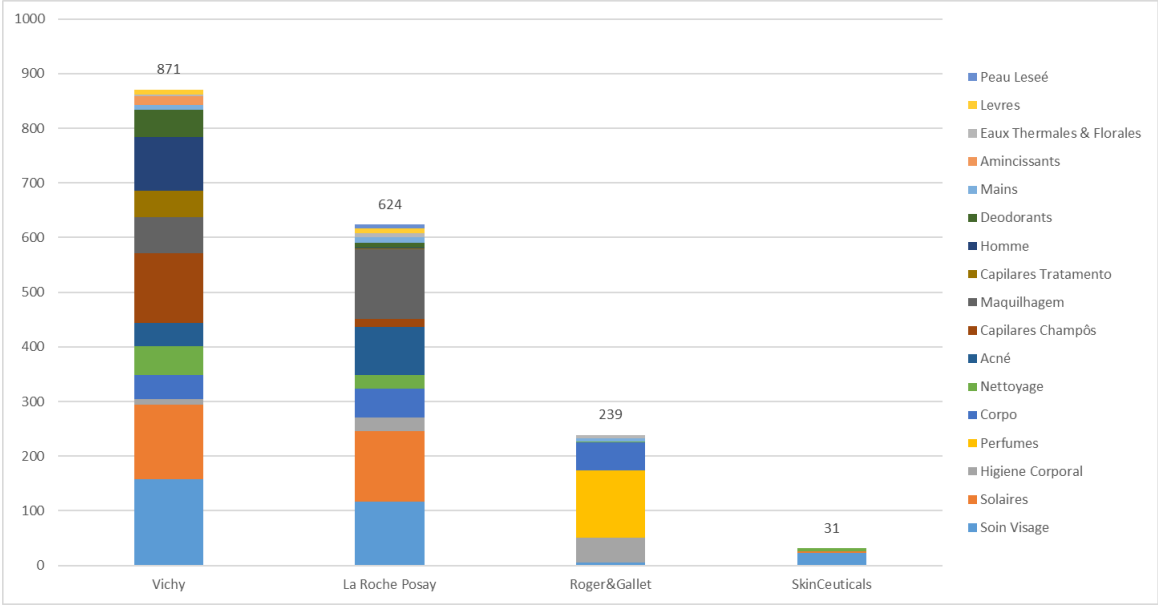


Figure 8. Sell-Out References by Brand and Category (Consolidated Data from 2015, 2016 and 2017)

Sell-Out, as defined, is the quantity of products sold by a retailer to its consumers. Therefore, the data that explains the dynamics of Sell-Out belongs to L’Oréal’s customers, and it is not directly available for L’Oréal.

In consequence of this absence of information, the Active Cosmetics Division contracted two suppliers, *IMS Health* and *Health Market Research (HMR)*, to provide figures and information about Sell-Out.

IMS Health gives the Sell-Out information of the Mass and Drug markets, which is the information necessary to consolidate the total of the Parapharmacy sector. HMR contributes with the Sell-Out data from the Pharmacy sector.

Both IMS Health and HMR present to L’Oréal, on a monthly basis, the data from the sales to consumers, consequently it is possible to draw the Sell-Out’s dynamic, which is showed in Figure 9.

Comparing the dynamics between Sell-In and Sell-Out we can observe that the values of Sell-Out are less dispersed, however it is still noticeable the existence of a smooth peak in June, July and August.

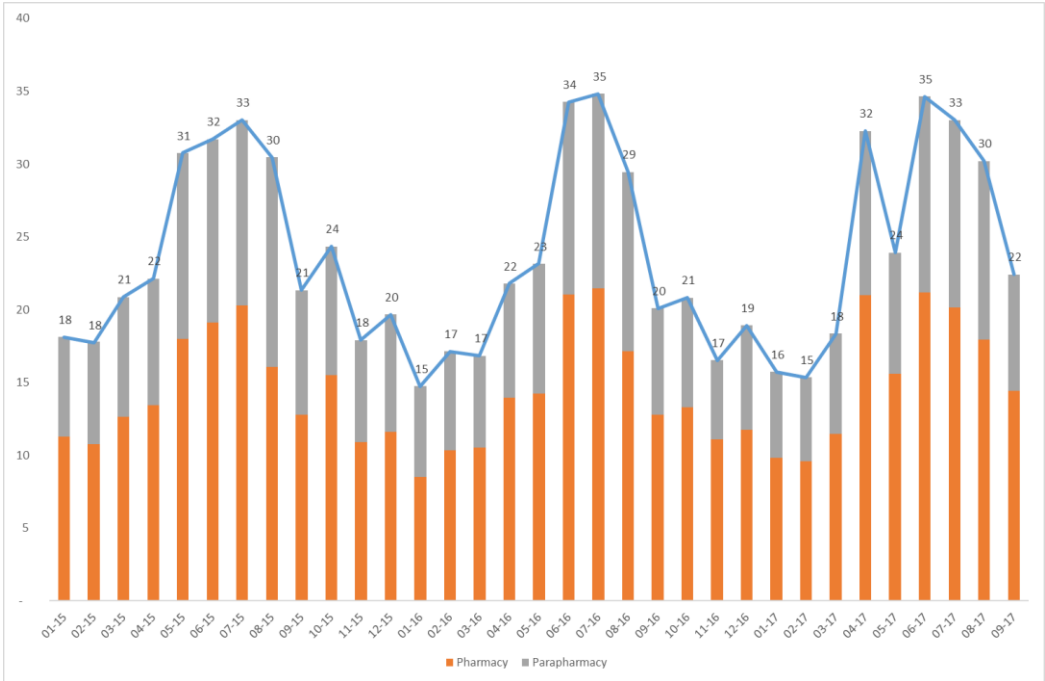


Figure 9. Active Cosmetics Division’s Sell-Out in thousands in units (Source: Consolidated data from IMS and HMR, January 2015 – September 2017) ⁽³⁾

3.1.1.2.1. Measure of Sell-Out in the Pharmacy Sector

Analyzing Figure 10, which presents the HMR’s data between January of 2015 and September of 2017, we can see the existence of high peaks in the months of June and July, and low peaks in the first months of each year, January and February.

Concerning the high peaks, we can see clearly that *Solaires* (solar products), that represent 34% of the Pharmacy total Sell-Out, explain this increase in Sell-Out values.

Regarding the low peaks, which occur in the beginning of each year, it is understandable that all categories in general show lower values in these months.

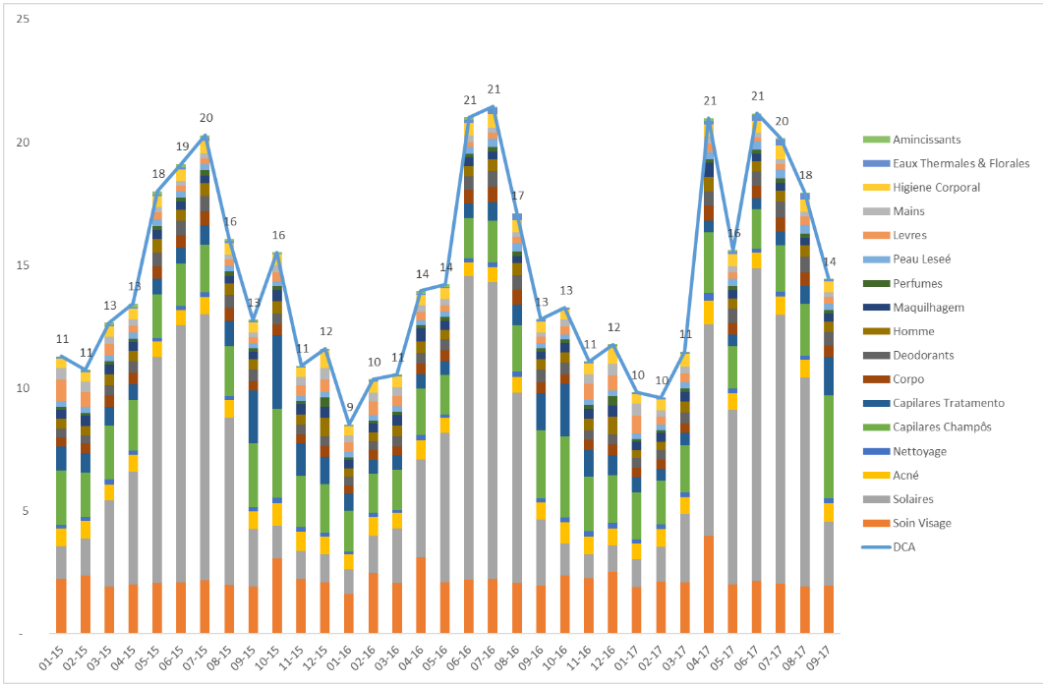


Figure 10. Active Cosmetics Division Pharmacy's Sell-Out in thousands in units (January 2015 – September 2017) ⁽³⁾

Finally, we can conclude that the evolution of the Sell-Out on the Pharmacy sector resembles to the Market's evolution. This sector is responsible for 60% of the total sales to the consumers and this justifies why the Pharmacy's Sell-Out evolution is similar to the Active Cosmetics Division's Sell-Out.

3.1.1.2.2. Measure of Sell-Out in the Parapharmacy Sector

The Parapharmacy sector represents 40% of the total value of the Active Cosmetics Division's Sell-Out. Looking at Figure 11, we see no divergences comparing to the Pharmacy sector. The main drivers of the high peaks in June, July and August are also the solar products, which represent 33% of the Parapharmacy's Sell-Out.

Although this sector represents only drugs and mass market, we can conclude that its evolution is similar to the Pharmacy's dynamic, showing an alignment between these two sectors.

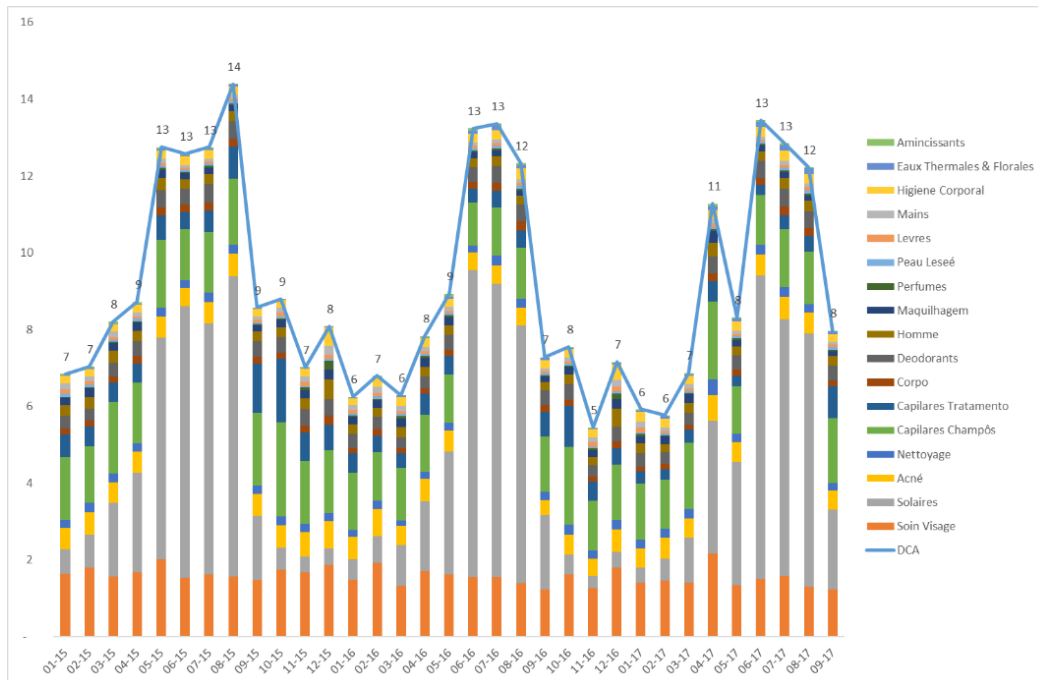


Figure 11. Active Cosmetics Division Parapharmacy's Sell-Out in thousands in units (January 2015 – September 2017) ⁽³⁾

3.2. Comparing Sell-In with Sell-Out

It is now possible to compare the information from the two types of data. Since there is seventeen categories, it is logical to classify them into three groups, according to L'Oréal rules:

1. Categories that show no margin to improve and no risk;
2. Categories that present a risk to future sales.
3. Categories that show margin to improve;

These characteristics (margin to improve and risk) are evaluated according to the existent stock at L'Oréal's Customers. Since the Active Cosmetics Division sells products to more than 2000 pharmacies and has only 10 representatives, who visit all the pharmacies with the intention to receive the customer's order notes, it is understandable that there is a large period of time in

which each Pharmacy or Parapharmacy do not buy products and do not restock. Therefore, the Sales Direction of the Active Cosmetics Division suggested that all customers should have between three to six months of products in their storage, to atone the periods in which the L’Oréal representative does not visit the customer. These “three to six months of products” represent a quarter or half of the total sales per year of each product. This guideline of the Sales’ Direction is known as the golden rule.

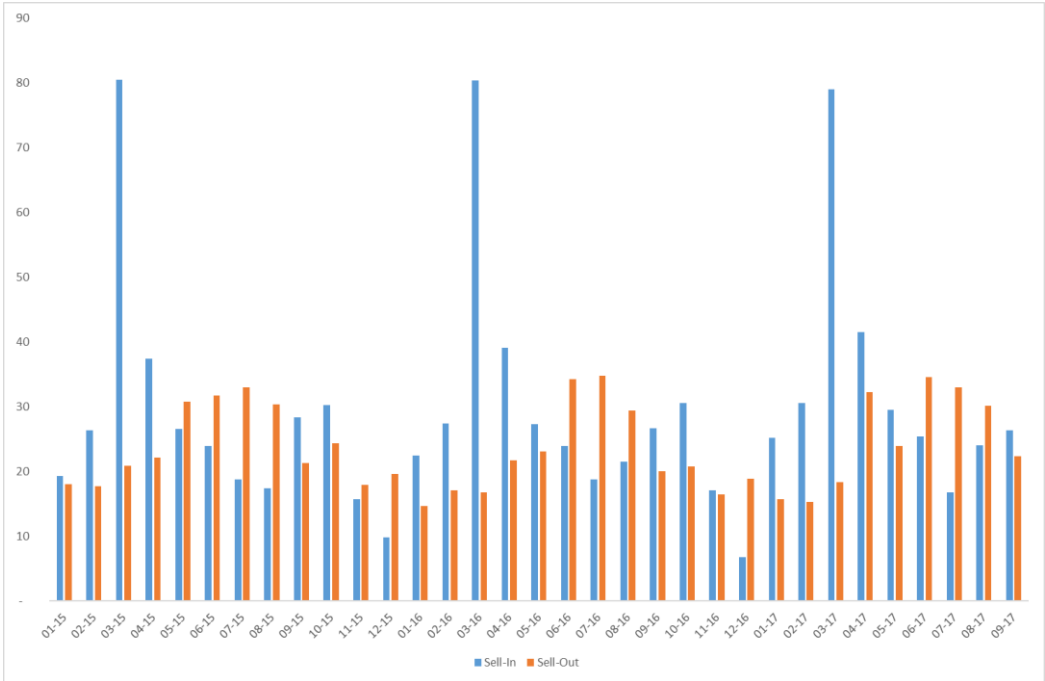


Figure 12. Active Cosmetics Division’s Sell-In vs Sell-Out in thousands in units (January 2015 – September 2017) ⁽³⁾

Before we start classifying each category, it is interesting to examine first Figure 12, which highlight some months with a large (positive) gap between Sell-In and Sell-Out (February, March and April) and other months that present higher Sell-Out values than Sell-In (June, July, August and December). This dynamic matches with what was demonstrated in the previous chapters. The Sell-In chart shows high peaks on March, September and October that are the responsible for the large positive gap. The Sell-Out graph shows high peaks in June, July and

August, which leads to a negative gap being the Sell-Out higher than the Sell-In over these months.

3.2.1. Categories that show no margin to improve and no risk

Within this section, we present all the categories that “respect” the rule of the Sales’ Direction, i.e. the Active Cosmetics Division’s customers have three to six month of stock in the categories showed in Table 1 (*Soin Visage* (face care), *Solaires* (sun protection), *Capilares Champô*s (shampoos), *Capilares Tratamento* (hair treatment), *Corpo* (body care), *Homme* (men products), *Peau Lesée* (damaged skin) and *Mains* (hand care)).

Table 1 presents the Sell-In and the Sell-Out in 2017, from January until September. Computing the difference, we obtain the stock generated in the current year; however, this value is different from the value presented in Table 1, due to the last one taking into account the stock of previous years. Lastly, we also present the value of stock in months, which consists in dividing the existent stock by the Sell-In and multiplying per 12 (12 months per year).

This final output of the developed model allows the Division Teams to know that eight categories are well predicted in terms of Sell-In and Sell-Out. These categories represent 80% of the Active Cosmetics Division’s Sell-In and contribute to demonstrate the positive work done in the forecasting process.

Despite the valuable work done in terms of predictions, it is important to notice that *Solaires* and *Capilares Champô*s, that represent 53% of the Division’s Sell-In, are with the maximum value allowed in its stock values. This fact will be critical in the next prediction’s process.

Categories	Sell-In 2017 (Units)	Sell-Out 2017 (Units)	Stock 2017 (Units)	Stock 2017 in Months	% of Sell-In Total
Soin Visage	40,38	33,43	13,61	4	14%
Solaires	114,36	87,91	58,24	6	38%
Capilares Champô	45,92	33,11	22,96	6	15%
Capilares Tratamento	14,60	8,36	4,00	3	5%
Corpo	7,80	5,85	3,25	5	3%
Homme	7,77	6,22	3,88	6	3%
Peau Leseé	3,64	3,14	1,66	4	1%
Mains	3,87	3,32	3,40	6	1%
				Total	80%

Table 1. Units of Categories with Neutral Behaviour in thousands (Consolidated Data between 2015-2017) ⁽³⁾

3.2.2. Categories that present a risk to future sales

Although 80% of the Sell-In has a favorable dynamic between Sell-In and Sell-Out, there is a small percentage of categories (12%), in which we identified a risk. In the categories presented in Table 2 (*Acné* (acne treatment), *Nettoyage* (body cleansing products), *Perfumes* (extracts with fragrances), *Higiene Corporal* (body hygiene) and *Eaux Thermales & Florales* (thermal and floral waters)), the values of stock demonstrate that this products do not respect the golden rule.

Categories	Sell-In 2017 (Units)	Sell-Out 2017 (Units)	Stock 2017 (Units)	Stock 2017 in Months	% of Sell-In Total
Acné	15,59	11,49	12,35	8	5%
Nettoyage	5,83	4,03	8,02	11	2%
Perfumes	1,98	1,68	2,87	9	1%
Higiene Corporal	9,60	6,43	10,64	9	3%
Eaux Thermales & Florales	4,28	1,98	5,89	15	1%
				Total	12%

Table 2. Units of Categories with Risk Behaviour in thousands (Consolidated Data between 2015-2017) ⁽³⁾

Therefore, thanks to the model, it is required to draft an action plan in order to compensate these high values of stocks. This situation results from a year with lower Sell-Out values (although not finished – the data is just from January to September), that could deteriorate 2018 Sell-In. Once the Active Cosmetics Division's Customers have products in stock, they have no need on buying more products and this could result in a “loss” of more than 20000 units sold, which represent 7% of the Active Cosmetics Division's Sell-In. This value is the total of units that would atone the difference between the expected stock value and the real one. Stratifying this value, in the acne treatment category, in order to reduce stocks, 9500 would come from this category, being this the most affected category; the body cleansing products, the thermal and floral waters and body hygiene would diminish 4000, 3000 and 2000 units respectively; finally the extracts with fragrances would reduce 1700 units.

3.2.3. Categories that show margin to improve

Finally, the categories that have margin to improve are *Deodorants* (deodorants), *Maquilhagem* (make up), *Levres* (lip care) and *Amincissants* (slimming products), as is presented in Table 3. These four categories only represent 8% of the 2016 Sell-In, however if we add the number of products needed to respect the golden rule, this percentage will get higher and will contribute positively to the quantity sold to L'Oréal Customers. The model displays that the level of stock in months for these four categories is below the expected value and consequently it is needed an increase in sold units.

In *Deodorants* (deodorants), which is the category with the lowest stock value, it is required an increase of 75% of the quantity sold to the customers. This growth required in the Sell-In of

this category was generated by an increase of the Sell-Out in 2015 and 2016. Over these two years, the Sell-Out showed higher values than the values of Sell-In. The increase of 75% signifies a growth of 10000 units.

Maquilhagem (make up) and *Amincissants* (slimming products) are the remaining categories with negative stock. In the make-up products, it is conceivable an increase of 65% of the Sell-In, which represents a growth of more than 3000 units. In the slimming products, an increase of 50% is expected and together with make-up, represents an increase of 3700 units.

Finally, the lip care (*Levres*) category is the only with margin to improve that shows a positive stock value. Although it is already in the values suggested in the golden rule, there is still room for improvement. An increase of almost 1000 units rises the stock for the maximum allowed and it will contribute positively to the Sell-In.

Categories	Sell-In 2017 (Units)	Sell-Out 2017 (Units)	Stock 2017 (Units)	Stock 2017 in Months	% of Sell-In Total
Deodorants	13,48	9,45	- 5,45	- 4	5%
Maquilhagem	5,05	4,89	- 1,09	- 2	2%
Levres	3,58	3,71	1,41	3	1%
Amincissants	0,75	0,89	- 0,03	- 0	0%
				Total	8%

Table 3. Units of Categories with Margin to Improve in thousands (Consolidated Data between 2015-2017) ⁽³⁾

Thereby, the four categories can have a total increase of 14700 units in the next process of sales’ prediction. This value represents 4.3% of the Sell-In.

⁽³⁾: in order to comply with L’Oréal’s Confidentiality Agreement, all the data in this Work Project has been modified with a numerical factor defined by the CFO.

4. Main Conclusions

This Work Project aimed firstly at the development of a model that would help to better analyze the gap between Sell-In and Sell-Out for the Active Cosmetics Division of L'Oréal and secondly the study of the model's insights. The core contribution to L'Oréal Portugal is the created model SISO (Sell-In/Sell-Out) that is going to be updated on a monthly basis backing the sales prediction process as well as the construction of trends and budgets.

The first step to the creation of the new model was the constitution of seventeen categories that would cover all the products sold by the Pharmaceutical Division of L'Oréal. Posteriorly, we had to address the right category for each existing product in the catalog of the Division, which has more than 2000 references. After classifying all the references, we built an Excel file in which we consolidated the information regarding Sell-In and Sell-Out. The model presents the data by sector, Pharmacy or Parapharmacy, and by brand (*Vichy, La Roche Posay, Roger&Gallet* and *Skinceuticals*).

After the model's creation was complete, we were able to begin the study of its results and obtain several insights. The analysis performed over the results was stratified into three parts, the categories with neutral behaviour which represent 80% of the total Sell-In, the categories with risk behaviour where it was stated that the Sell-In would decrease in 7% during the next years, and lastly the categories with margin to improve in which it was discovered an improvement opportunity of almost 5% of the Sell-In.

During the development of the Work Project, the main limitation relied on the lack of sensitivity in categorizing the products, which led to the fact that most of the time available for the analysis, was used to categorize the products and to the development of the model.

5. Bibliography

- 1909-1956 : *THE FIRST STEPS, CONSTRUCTING A MODEL*. (2017). Retrieved from <http://www.loreal.com/group/history/1909-1956>
- 1957-1983 : *"ON THE ROAD TO THE GRAND L'ORÉAL"*. (2017). Retrieved from <http://www.loreal.com/group/history/1957-1983>
- 1984-2000 : *BECOME NUMBER ONE IN THE BEAUTY INDUSTRY*. (2017). Retrieved from <http://www.loreal.com/group/history/1984-2000>
- 2001 - *PRESENT DAY : DIVERSITY OF BEAUTY WORLDWIDE*. (2017). Retrieved from <http://www.loreal.com/group/history/2001---present-day>
- Alves, V. (2017). Perfumaria e cosmética cresce 1,2% em 2016 no mercado Ibérico. *Dinheiro Vivo*.
- Arreigoso, M. P. (2015). Farmácias deixaram de ser um bom negócio. *Expresso*.
- Base de Dados Portugal Contemporâneo. (2016). *Quantos são os estabelecimentos farmacêuticos?* PORDATA.
- Investopedia*. (2017). Retrieved from <https://www.investopedia.com/terms/b/btoc.asp>
- L'Oréal Finance*. (2017). Retrieved from <http://www.loreal-finance.com/eng/share-key-information>
- L'Oréal Finance*. (2017). Retrieved from <http://www.loreal-finance.com/eng/share-ownershi>
- Pharmacies in Portugal. (2012). Duas farmácias de Lisboa explicam a gestão de 'stocks'. (Diário de Notícias, Interviewer)
- Pinto, I. (2017). Portugueses voltam a comprar mais produtos de marca branca. *Diário de Notícias*.
- Staff, W. (2017). Retrieved from WWD: <http://wwd.com/beauty-industry-news/beauty-features/loreal-gets-top-spot-on-wwd-beauty-inc-s-2016-top-10866993/>