

# POLITECNICO DI TORINO

Master of Science in

*Industrial Production & Technological Innovation*

**Master Thesis**

**The optimization of the process in the  
crisis management of the quotas**



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Master Degree Thesis

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# The Optimization of the process in the crisis management of the quotas

**DANONE**  
ONE PLANET. ONE HEALTH

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## INTRODUCTION

Variability and volatility of customers' requirements are shirking company's revenues

Being reactive and fast responsive to the new changes is a must for all companies that have a seasonal portfolio as the Danone Waters company.

To respond to the new world challenges, the company must improve its agility and flexibility by reducing the overall costs of transport, production and availability of their product.

Respond to the demand of the customer is being cost complicated with the new environment politic.

By trying to optimize the process in the crises management of the quotas, I really understand how a Supply Chain works in hard situation.

These thesis objectives will be to understand all my mission and how I tried to optimize all the process and help all the Customer Supply Service to understand all problematics.



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## Greetings:

Before talking about my research on the optimization of the process in the crisis management of the quotas, I would like to start this report by thanking all the people who contributed to this professional experience, who guided me, and made these six months the best professional and personal adventure I have never had.

I would like to thank and express my gratitude to all the Danone Eaux France Supply Chain team members who had been working with me during this internship and helped me and advised me all along these six months.

Especially I would like to thank:

My Manager, Guilhem Matray, who had quickly integrated me within the company and trust me. Furthermore, he spent a lot of time answering my questions, providing advices and encouraging me. All this considers together led me to constant progress. I wish him all the best in Danone Eaux France.

The Pilote de Flux team, Véronique Menager and Cécile Alheinc, who spent a lot of time with me to respond to all my requests.



# 1. Danone Waters teams & background presentation

## 1.1 The company background

Danone is a French food multinational founded in Barcelona, Spain and headquartered in Paris. Listed on Euronext Paris and on the OTCQX market via an ADR (American Depositary Receipt) program, we are a component stock of leading social responsibility indexes including the Dow Jones Sustainability Indexes, Vigeo, the Ethibel Sustainability Index, MSCI Global Sustainability, MSCI Global SRI Indexes and the FTSE4Good Index. It is the result of the merger between Danone and Gervais (in 1967) and the French group Boussois-Souchon- Neuvesel. In 1994, BSN – Gervais Danone shortened its name to “Danone” a brand with global potential already familiar to consumers in 46 countries.

Over the years, the company is divided into four areas:

- Essential dairy and plant-based products
- Water
- Advanced medical nutrition
- Early life nutrition

With products sold in over 120 markets, we generated sales of €24.7 billion in 2017 with more than half in emerging countries making it the 5th largest agri-food company in the world. The group employs more than 100,000 people worldwide and has more than 180 production sites.

Our portfolio includes brands present worldwide (Activia, Actimel, Alpro, Danette, Danonino, Danio, evian, Volvic, Nutrilon/Aptamil, Nutricia) and in local markets (Aqua, Blédina, Cow & Gate, Bonafont, Horizon Organic, Mizone, Oikos, Prostokvashino, Silk, Vega).



In 2017, the essential fresh dairy products and the herbal product accounted for 52% of the group's total sales, specialized nutrition, 29%; bottled water, 19% and medical nutrition, 7%. Danone becomes the second largest dairy processing company in the world and the first French, in turnover, behind Nestlé.





### 1.1.1 The different Units

#### Danone Eaux France

Water is an essential part of the human body. Danone is convinced that what you drink during the day has an influence on your health. Danone's mission in France is to inspire people to hydrate themselves more healthily. This is clearly a need of the world's population. International studies show that on average 49% of the population in the countries where we are present drink less water than the recommended amount.

Danone is constantly striving to help consumers adopt healthy hydration habits from an early age.

Through awareness campaigns and strong brands reaching millions of people, Danone is helping to spread its message for healthy hydration.

Awareness campaigns (reaching millions of people around the world for healthy hydration, many of them involve partnerships with regional authorities and experts, and continued investment in scientific research on the link between hydration and health Sharing knowledge and best practices around healthy hydration through their global Hydration for Health





initiative Protecting and restoring natural aquatic ecosystems, in cooperation with communities and local stakeholders.

## Nutricia

Advanced Medical Nutrition (AMN) is a division of the DANONE Group, specialized in the field of medical nutrition. NUTRICIA products from scientific research are intended to meet the nutritional needs of malnourished patients at risk of undernutrition and to overcome certain nutritional and metabolic deficits.

Nutricia products are prescribed by health professionals, provided in hospitals, health care facilities and delivered by city pharmacies and services.

NUTRICIA Medical Nutrition works in close collaboration with health professionals (doctors, nutritionists, dieticians, pharmacists, nurses) and patient associations to design products and services that are most adapted to the needs of patients.

With more than 100 years of experience, having research centers in Europe and specialized teams working with healthcare professionals, NUTRICIA Medical Nutrition develops ranges adapted to many clinical situations, at all ages of life: undernutrition, severe allergies, inherited metabolic diseases, patients in intensive care, cancer patients ... An ambitious program of clinical studies in partnership with the scientific and medical communities is implemented to support the interest of the products in the care overall of these patients.

Some figures:

- NUTRICIA is present in 34 countries.
- NUTRICIA Medical Nutrition products are available in 74 countries around the world.
- Of the 1250 Danone researchers worldwide, 200 scientists are working exclusively in the NUTRICIA research (Netherlands, France).
- More than 500 scientific, clinical and industrial collaborations worldwide.



## Bledina

At Danone Early-life Nutrition, their mission is that they think that by helping mothers and babies to enjoy adequate nutrition during the first 1000 days (from the beginning of the pregnancy until the child's two years-old), they can have a positive influence on their health in the short and long term.

Their overall commitment to parents and society is to help children get started in life in the best possible way from a nutritional point of view. They do this in several ways beyond their products: by adopting responsible marketing practices, sharing their scientific data and offering educational programs.

Baby Nutrition is the cornerstone of the food revolution. This is the starting point that helps children get a good start in life and build their health capital for the future.



## Danone Produits Frais France

Yogurt is part of the diet of many people around the world. Current studies show that yoghurt consumption can also be considered a marker of a balanced diet and a healthy lifestyle. In fact, the results show, for example, that adult yogurt consumers are 40% more likely to engage in regular physical activity (> 2 hours / week) and 30% less likely to smoke than non-yogurt users. This is reflected in the symposium "Yogurt Consumption Benefits: Results of International Studies and Perspectives" organized on October 22, 2015 by the YINI initiative (Yogurt in Nutrition Initiative strong Balanced Diet), at the 12th conference on nutrition.



Danone Fresh Products France submits its production to a triple requirement: rigor, know-how and irreproachable quality. In addition to guaranteeing quality milk, Danone is constantly adapting to the specific nutritional needs of France. Today, the French population is at risk of calcium deficiency. To meet this public health challenge, Danone strives to offer calcium source products and permanently improves the nutritional profile of its products: 6 out of 10 products are improved every two years to better suit the needs of French people. On the taste aspect, Danone is committed to satisfying all tastes by proposing a wide variety of products with more than 10 brands.

Offering a product that is so deeply rooted in the daily lives of French citizens gives us special responsibilities. Therefore, communicating clear and transparent information is at the heart of the relationship of trust they establish with their consumers. As such, they publish 100% of ingredient lists and nutritional values of their products on their website Danone.com. Therefore, they work to gradually replace dyes with natural origin ingredients or total withdrawal as soon as possible.





### 1.1.2 The Water Business Unit

Danone is one of the largest bottled natural water companies in the world. His leadership in the water sector is due to their focus on consumer expectations, their constant innovation and their commitment to integrating the concept of healthy hydration into our overall business strategy.

Packaging innovation is an essential element for research and innovation teams. Their products are deeply rooted in local cultures and regional moisturizing habits.

The head office of Danone Eaux France is in Rungis in the Paris region. Danone Eaux France's entire Business Unit is made up of its headquarters and these four factories: Evian in Amphion, Volvic in Chancet, Badoit in Saint Galmier and La Salvetat in Salvetat. Each of these brands has its own target and prospects.

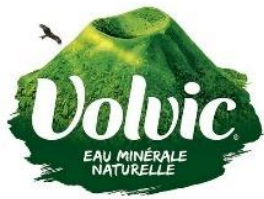




Present in more than 140 countries, Evian supports consumers in adopting healthier and sustainable consumption habits through its products and services.







Volvic natural mineral water is born in the full heart of the Auvergne volcanoes in France. Volvic, one of the leading brands of natural mineral water in Europe, wants to encourage its consumers to reveal their invincible attitude, convinced that a volcano dormant in each of us, each able to wake him up to achieve his goal to meet all the challenges.





Naturally bubbly at its source, is distinguished by its unique taste, a delicacy of aromas and a finesse of textures. Badoit is a Natural Mineral Water with added carbon dioxide to offer water of a constant taste quality.





Filtered for several decades in contact with crystalline rocks, it is a water of rain and melting snow that meets carbon dioxide from the Earth's mantle before emerging naturally sparkling.



## 1.2 Zoom on the Customer Service

### 1.2.1 The flow team

The flow team is a team with two types of business: the heads of retail chains or managers and the flow management of the different brands.

Signs fall into two categories: Shared Procurement Management and Electronic Data Interchange (EDI), and only the EDI customers were present in this team. That's why everything will be explained to you in detail in the second part.

### 1.2.2 The Demand Planner Team

All the medium- and long-term forecasts of each brand are made within this team. A Demand Planner must build a forecast and animate its transversal interlocutors on the use of this forecast and its uncertainty. In this medium and long-term forecast of the Danone Eaux France brands, the Demand Planner is coordinating its sales and marketing management partners with the quality and reliability of the inputs provided (promotion, new customers, weather innovations, ...).

### 1.2.3 The Customer Representative

The Customer Care team deals with customer inventory procurement, service rate optimization, litigation and logistical penalties in close cooperation with customers, stores, warehouses, sales and marketing. He is also responsible for managing each of the range changes (launch of stop innovations, product switches), promotional deliveries and pricing.



This animation of the operational performance also passes through customer negotiations but also in interface with all the directions: Plannings, forecast of the sales, Commercial management and service transport.

Depending on the client, either the manager or the Customer Manager visits the customer. Each month, logistic KPI are sent to the customer: the CSL (customer service level) and are compared with the customer's ones to define action plans for their improvements. As in every business, each Customer Manager leads optimization projects and develops the Supply in partnerships with different interlocutors. The interface with the other teams & the plants.

### 1.3 The interface with the other teams and the plants

#### 1.3.1 Interface with the plants

The interface with the factories is mainly managed by the Flow pilot, the Demand planner or the project manager.

The Flow pilot is in charge of the relation with the factories for the management of the term price. Indeed, the piloting of the plant by the flow pilots is done exclusively on the short term.

The Demand Planner, is in charge of the relation with the factories for the medium term and long term prices but also on the various projects of innovations products, projects which could also be piloted by the project managers. Interface with the commercial.



### 1.3.2 Interface with the commercial

Sellers are important in the supply management of a brand. In fact, they must negotiate the contracts and they know their brand very well. That's why monthly business meeting is organised for breaking, innovations promotions etc. to be able to have all the necessary information for the best management of the brand.



## 2 My missions in the flow team

### 2.1 The vendor-managed inventory

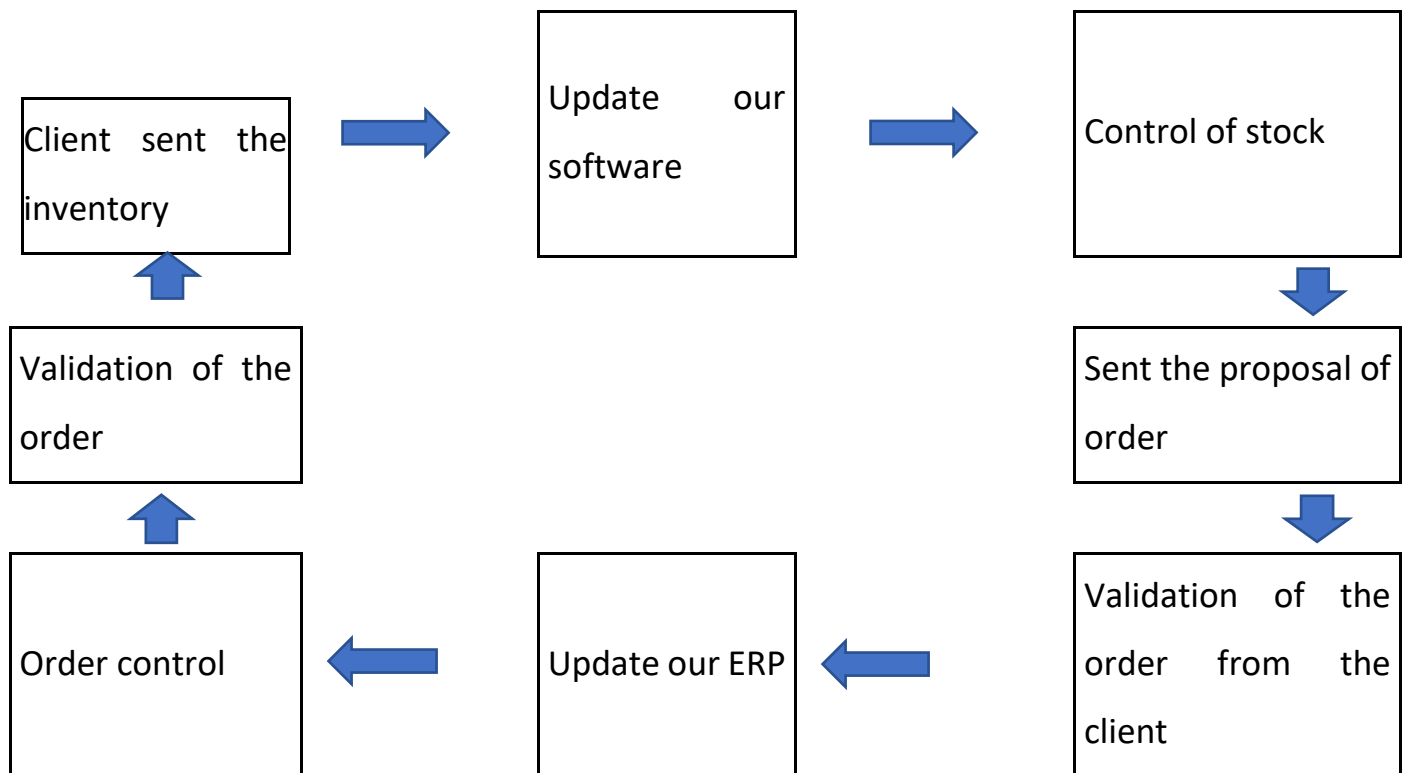
Shared supply management is created through a partnership with the customer. Indeed, we become actors in its stocks and have visibility on them. The responsibility becomes common and the communication easier.

The cycle of an order in GPA is different than in EDI. In fact, in EDI, the customer enters, and we validate it while in GPA, we make a proposal to the client that he validates according to his wish. To be able to do GPA, we have two OCS and SAP softwares.

Several brands are in GPA at Danone, for my part I take care of Auchan.



## The Cycle Order in GPA



The first step is sending the first EDI message by the customer to our OCS software. Every morning, we update the customer's inventory through the integration of these messages. It is a stock control. Thanks to this one, we can know if a truck is late or products are missing in it.

Subsequently our software is updated on the stock cover and quantities. Depending on the products, we could have different PCBs, that is to say different ways of counting the product: pallet, bottle or pack.



The third step is to control the customer's inventory. Every morning we went on each of the supplies to check the good stock coverage of each product. This coverage may vary from product to product.

After looking at the stock cover, we make order proposals so that the cover is good without overstating its customer on other products. This is where complexity can come to light. Indeed, if the customer sees that a product will be overstocked, he may refuse the order. If we sent too much product, the customer could also request a return of product when it is expired.

When we have made an order proposal, the EDI message of the order is sent to our customer. This one accepts or not the order.

When it is accepted, the customer validates it and the EDI message comes back to us and goes up in the SAP software.

Then we use the SAP software to control the order. It regularly happens that the order is incomplete, or that there is a problem on this one. EDI messages could be distorted, and it happens regularly that a product goes wrong with the customer or with us. It is for one of these reasons that communication with the customer is essential.

We validate the order and it goes back into the GPA software.



### 2.1.1 The classification of the inventory

The classification of the different supplies at Danone is done according to different criteria.

The products are diversified, and the plants are far apart.



Two types of products are defined:

A fast mover is defined as a product that runs very well. For exemple: Evian 1L5, Volvic 1L5 etc.

Slow movers are products that turn very little like juices: Volvic Juicy.

That's why, slow movers are stored on platforms. One for the North of France and another for the South.

The various supplies to the customers are organized by brand and by fast mover / slow mover to avoid many transfers of stocks:

- Evian grand format
- Volvic Plain
- Salvetat
- Badoit



- Evian petit format, Volvic Juicy etc.

### 2.1.2 The proposal to manage the inventory

Proposals made to the customer to manage the inventory are made every day according to the needs of the customer. At Auchan, the stock coverage requested is about ten days.

The software is optimal, we have a visibility of stocks and if we ask a proposal to cover the missing, it shows us what will be the coverage. However, this coverage is calculated based on the 10 previous days.

One day of stock = Average of 10 previous days outings

That is why we must check if a truck is not late or that a product has not been broken for several days otherwise it distorts the calculation of stocks.

At the end, we make a proposal if the customer needs it without over-stocking it.

*(The software is confidential, so I cannot show you through pictures.)*



### 2.1.3 The promotion

Every month, promotions are done for each brand. These promotions are negotiated and proposed for the coming year by sales representatives.

For each promotion, we receive an Excel file with the product label, the PCB, the EAN and the quantity in number of pallet.

Nom produit	EAN	PCB	Quantités en PAL
Evian 1L5	xxxxxxxxxxxxxx	6	150
Evian 1L	xxxxxxxxxxxxxx	4	100
Volvic Juicy			
Fraise	xxxxxxxxxxxxxx	720	2

Management of the promo needs several steps:

- Check the customer's calculations according to the PCB

We need to check the calculations because some products like BOXs, which are promo-specific products, usually change PCBs and are often poorly created and referenced at the customer's.

In order not to have to return the goods, we check if the calculation is good.

- Check product inventory at the customer

During a promotion, slow movers generally leave quickly. Indeed, the 1 bought 1 offered usually works with products like Badoit fruit bubble, Volvic Juicy etc. That's why during this



period, we can dispose of the stock of our customer if it does not go out. We only use the pallet, which often leads to over-stocking on our customers' slow movers.

- Make order proposals

If the customer does not have enough stock for his promo, we make proposals that will be sent 10 days before the start of the promo. Often, these orders are spent a long time in advance which is why we supplement them with fast movers.

- Verify and Validate Orders on SAP

When putting orders back on SAP, it is important to check the quantities that go back. This one could be modified because the customer thinks that it will be overstocked and does not always make the difference with the bottom of radius. That's why it's important to prevent it and validate everything. Without this, and without stock transfers on its side, we risk a break on these products the day the promo will arrive. In addition, the BOXs are problematic and goes up very regularly in the wrong way, it is important to check that they are still in control.



#### 2.1.4 The innovation and stop of the products

Innovations are regular at Danone. For the group, it is important to innovate regularly to live with its time and closer to its consumers. Today's trend is to produce healthier, organic and less sweet products. That's why Danone has released various novelties such as: Volvic Juicy Kids Bio



## Badoit Bulle de Fruit



To be able to operate these products in stores, many advertisements and events to taste the product are set up.

For innovations, we make proposals to the customer by checking with the national center that the product has been created in regional center. For example, we can guarantee to the sales forces who are in charge of shelving that the product is available on the launch date.

With regard to product shutdowns, we are gradually lowering inventories to breaking point. We do not make a proposal to the customer so that we do not have to go back to the stock left at home. The Key Performance Indicators

Once a week, we receive one CSL per warehouse to gain visibility of how we handle our customer. This one is done from the software which manages the proposals in GPA. It takes into account the stock covers and the missing ones.





## 2.2 The management of the plants

The piloting of a plant is done in close collaboration with the different factories of Danone. They are our suppliers, but they are not providers, which allows us to have a better visibility on future productions and greater transparency. The feed driver is not a Demand planner which means that he takes care of all the short-term part of the products. Every week, it has several operational parts which he has to deal with weekly or daily.

Monday	Tuesday	Wednesday	Thursday	Friday
Product Availability	Product Availability	Product Availability	Product Availability	Product Availability
	Reception of the production document	Meeting with the plant for talking about the production document		Short term Prediction



### 2.2.1 The short-term prediction

Short-term prediction done every Friday. This is made exclusively for the short term and subsequently sent to the factory.

This forecast is based on different parameters: BaseLine, Carrier volume, Additional volume, cannibalization and weather.

Baseline is the background volume of radius. This is the most constant customer volume.

The Bearer Volume is the volume sent for the promotion.

Additional Volume is the additional volume that will have been generated through the promotion.

Cannibalization is the volume for which the consumer will not take volume in the following weeks because he will have taken more in previous weeks with the promotion.



To calculate the short-term forecast SAP presents the elements in this form (*Not being able to take real data, this table is schematic*)

	Week n	Week n+1	Week n+2	Week n+3	Week n+4	Week n+....
Baseline	90	90	90	90	90	90
Baseline correction	100	100	100	100	100	100
Marketing event	10	10	-5	-8	-7	
Marketing HS LV		50	50	-40	-60	
Weather						
Ecretage	-10	-10				
Total	190	240	235	142	123	190
STPD	+10					
Order	200	300	20			

For the short-term forecast, we only had to look at the volumes of clipping, which are volumes envied in advance to the client for the season; HS LV Marketing volumes which are the promotions volumes and fill the STPD. This STPD will be the number sent to the factory to inform them if we need more or less production over the coming week.

For example, we can see on Week  $n + 1$  that the number of orders is greater than the total, so we must rephase the promotion.



	Week n	Week n+1	Week n+2	Week n+3	Week n+4	Week n+....
Baseline	90	90	90	90	90	90
Baseline correction	100	100	100	100	100	100
Marketing event	10	10	-5	-8	-7	
Marketing HS LV		100	0	-40	-60	
Meteo						
Ecretage	-10	-10				
Total	190	300	185	142	123	190
STPD	+10					
Order	200	300	20			

By rephasing this promotion, we can see that the total is more accurate. However, the order taking is still present and orders being positioned in Week n + 2, it is possible that the



promotion is larger than expected. This is planned by the sales representatives with the Demand Planner.

### 2.2.2 The product availability

Product availability have to be done every day. Indeed, the orders being positioned on the factories or the network, we could see the different alerts on the short term and ask the different plant deployment so that the customer has his product in the right place to deliver it.

The table is as follows:

Product	Plant	S1							S2						
Evian 1L5	1	0	0	-5	-5	-5	-5	-7	-9	-9	-9	-9	-9	-9	-9
	2	50	50	50	70	70	70	70	70	70	70	70	70	90	90
	3	20	10	9	8	8	8	5	5	5	5	-5	-5	-5	-5
	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0

We see that products will be missing on plants 1 and 3, so plant 2 will be asked to transfer products to plants 1 and 3.



In case, we have negative figures on all plants, it is important to make points with factories on future productions in order to increase them.

### 2.2.3 Meeting with the plant for talking about the production document

These meetings take place following the sending of the production document. This document is modified by the factory following our short-term production shipments. We receive this document on Tuesday and could see if the productions match the demand.

These tables are represented schematically as follows:

Production	1200	1000		1500	1000	2000			1000
Out Prediction	1000	300	500	1000	2000	500	300	300	700
Stock prediction	2300	3000	2500	3000	2000	3500	3200	2900	3200
Stock prediction in days	10	12	11	12	8	15	13	11	13

The stock landing must be above 10 days to be able to stock enough. We can see that there is only one week at risk, so we will monitor it carefully. In summer, the water is much more sold, that's several products could be regularly broken. That's why quotas are held every year and I was responsible for this project to improve it for next year.





### 3 The Quotas Management

Bottled water is a particularly seasonal product. Indeed, depending on the heat, a consumer is going to buy bottled water. This is why many processes have been put in place over time. The subject of quotas takes place every summer and is optimized every year.

This is the steering of all products that are in crisis.

#### 3.1 Definition

Quotas are a process during which the Pilot flows through different issues and different elements calculates the number of pallets to assign to each client. It is calculated with different availabilities and different priorities.

##### 3.1.1 Analysis of the problematics

During the summer season, broken down and risk of breaking several references are present. On the one hand, we have the known problem of the season which exponentially increases sales and on the other hand the risk of SNCF strikes. Evian's factory has a storage capacity of half of day production, emptied daily by trains. That's why we have especially Evian references under quotas.

##### 3.1.2 The product disponibility

A product is available when it meets the demand. However, between the SNCF strikes, the transport issues and the increase in sales due to the season, several references quickly found themselves under quotas which results in limiting sales and stop meeting the demand. The



product remains available but with many restrictions, many customers will not be able to respond to the customer's request. That's why it is important to prioritize each request and communicate well within the service but also to the customer.

### 3.1.3 The way of prioritisation

Several ways are used to prioritize the quota process. At first, we must check what type of product we will serve, the promo or the bottom of the shelf. Promotions are very sensitive, they are displayed on panels and indicate in the store. A consumer can legally complain to the store if the product is not available despite the announcement. That's why we prioritize the promo first. Any promo must be served but only if it had been planned, and only the quantities planned and signed by the sales representatives are considered as mandatory at delivery. If the customer speculates and orders more, we cannot always respond to the request. For example, some customers may order twice as much for their promotion, which, under quota, is far too complicated to deliver. That's why we serve the planned promotion and create a buffer.

The second way to prioritize is by customer: Depending on the contract with the company, the degree of priority of a customer is variable. At Danone, customers are prioritized according to the relationship with the company. If a client is a partner or not, but also if it penalizes a lot. Quotas are a very expensive process for the company, so we prioritize those who ask



#### 3.1.4 The communication

Internal and external communication is established.

Monthly letters are sent to the customers to remind them that we are in crisis and the references which are under quota. Even the client is a regional or national one, he has to be informed due to the risk to the company of being penalized by the client.

Responsible customer, commercial manager or sales representatives have to be informed of each problem that occurred to be able to solve it.

Although the customer is aware this one is angry because he does not have his product and sometimes a production can encounter a problem and we find ourselves without product while we announced something else.

Internal communication is done through two different boards:

The table of the total quotas remaining by signboard and my chart of follow-up of the promos:



The table of the quotas:

	S1	S2	S3	S4	S5	S5
Auchan	100	-50	0	-50	100	20
Carrefour	-200	200	0	100	100	100
Intermarché	150	100	0	-50	100	70
Système U	100	50	0	50	100	110
Total	150	300	0	50	400	300

The table of promos by sign:

Auchan	Check Promo	0	100	150	200
	D02	50	150	200	0
Carrefour	Check Promo	0	100	100	50
	D02	0	50	0	0
Intermarché	Check Promo	150	200	300	200
	D02	300	500	150	0

The quota table is a table that communicates the number of pallets remaining per sign. This one is sent every day to each managers so that they can communicate to the commercial managers the number of pallets left to their client. If the box becomes orange, it means that the customer has order too much, it is then necessary to modify or delete the order.

The table of promos by brand compares the number of orders in the wallet, the one in D02, and the volumes that the manager references in “the check promo”, the tool in which you can find the past and next promotions updated according to the order portfolio.

Each of the elements provided, could sometimes be unreliable that create internally and externally tensions. That’s the reason why I was asked to take into account each element and look for ways to improve in order to no longer meet this type of problem or at least with less scope.

### 3.1.5 The calculation

The calculation of a quota is done by following all these rules.

Quotas of the sign = (Volume defined by the flow pilot quotas - All the promo of all the signs)

\*Percentage background of radius of the previous year reviewed according to the priorities +

Check promo

## 3.2 Analysis of feasible solution

To be able to find axes of improvement it was important to analyse the problematic but also to take into account each information that could people of the service have.

### 3.2.1 Input of the service

The service inputs have been important to consider. Indeed, some signs may have different needs and when we do not drive from the factory, we may not understand its problems

The different requests were:

- To make the information more reliable
- To receive more information about what is happening on the factory side
- Simplify information
- To have an automated file to be able to select the orders to be shifted according to several criteria



### 3.2.2 The reliability of the information

To be able to make the information reliable it was important to think about the way to manage it. Everyone knows that a production can encounter a problem, but it can happen at the last moment. Therefore the information cannot be reliable. What was important to do, is to think about KPIs that allows you to follow the progress of each brand and understand how a production problem or an increase in the number of pallets for a promotion impacts the availability of product.

Everyone understood that without information and without follow-up, we could not know what was happening or why it was worse on one brand than another.

### 3.2.3 The simplification of the procedure

The simplification of the procedure needs the creation of a new file. Indeed, the one before had mainly a table to read, which we spoke a little higher. The other tables allowed an approximate follow-up of the situation and we could not know who really shifted his orders or which brand was better or not.



### 3.3 Optimization of communication & monitoring of the products

#### 3.3.1 New file

The file I had just recovered was complicated to update because it was full of formula and each of the extractions was copy paste by hand. This is why I reviewed the optimization of the file through the revision of the database to be able to set up KPIs.

This database contains:

- The document that references the productions sent by the factory of the current week
- The document that refers to the productions sent by the factory the week before
- The promo check of the current week
- The promo check of the previous week
- The order book of the day
- The order book of the day before
- % of client prioritizations set by flow driver
- The given volume defined by the flow driver
- An extraction of the clipping of each sign on each product





The documents referencing the productions sent by the factory will be used to calculate the volume that we want to give the signs per week. The objective of this week and the previous week is to create a production tracking KPI that will be explained in 1.2.2.

The coupon check is used to feed the comparative table of the specials volumes in the order portfolio and that provided by sales representatives. The objective of this week and the week before is to create a KPI for the planned volume tracking that will be explained in 1.2.3.

The order book is used to feed and calculate the remaining quota volume. IF we take the one of the day and the day before it is to help the selection of orders to shift by prioritizing the new orders.

The % of each sign defined according to the priorities is used to calculate the quota table.

The volume defined by the flow pilot will be calculated weekly in order to adapt as much as possible to production changes and promotional volumes.

Clipping is a volume delivered in advance to the customer so that it can release more during the season. The objective of being able to arbitrate in the event that a customer in EDI is out of order. Indeed, if it has clipping release then we can't align with his speech more easily.

With all these data, we get different tables:

The table of quotas, the same as in the past that allows us to visualize in a global way where is the volume released for the signs.



We will have the same table in three times, the first with global visibility, the second with data that concerns only the promo and the third with the one that concerns only the background of radius.

Let's recall the total quotas = ((Volume defined by the flow pilot quotas - All the promo of all the signs)

Total remaining quota = total quotas - orders in the wallet

The remaining promo quota = Check promo - Orders in the promo wallet

The Quotes Remaining Radius = Total Quotas - check promo

This will give 3 tables like this:

	S1	S2	S3	S4	S5	S5
Auchan	100	-50	0	-50	100	20
Carrefour	-200	200	0	100	100	100
Intermarché	150	100	0	-50	100	70
Système U	100	50	0	50	100	110
Total	150	300	0	50	400	300

A final painting will be sent by sign. Indeed, the head of the company wanted to see what kind of orders they had in their wallet. In SAP we can code each command to know what it contains or if it is more important than another.

Customer		Date of product availability		
	S1	S2	S3	S....
D02 / Promotion				
With Shipment				
With Groupage				
ZK => order checked				
Z4 => new order				

The commands are more or less difficult to modify. An order with D02 is a promo order not to shift especially at risk of having a lot of penalties to pay.

Orders with shipment are orders already received by the carrier and therefore more difficult to shift.

Grouped commands represent several interrelated commands. It will therefore shift all orders.

There are two categories that are easy to shift. Indeed, a command in ZK is a command just validated and a command in Z4 is a command not yet validated.

These orders are therefore the last to have been received by

These tables will be subsequently communicated according to a process defined with the KPIs.

### 3.3.2 The Key Performance Indicator

KPIs, as the name suggests, are performance indicators. They are set up to ensure a follow-up through the time of the good management and realization of a project. Following the different Inputs, we have defined several KPIs to send to the Sales Managers to be able to follow what his client is doing. Indeed, customers who are in EDI place their orders themselves, they can be many, that's why it can be difficult to follow what is happening.

In addition, sales managers have often wondered why he could have a week on a large volume and on another a small. Many of them were unsuccessful in evaluating what could be a loss of a pallet number over a week or an increase in promo.

KPI tracking orders. This KPI tells us three things:

In dark blue the number of available pallets, ie the volume allocated by the flow pilot

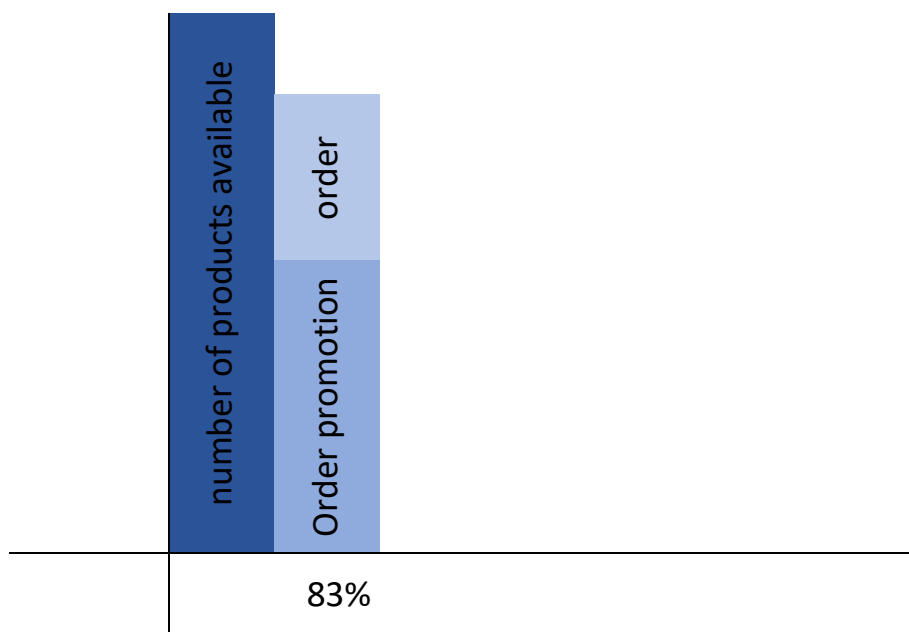
In blue, the number of promotion pallet



And in light blue, the number of pallets at the bottom of the shelf.

The percentage below is the number of pallets taken relative to the volume defined by the flow pilot.

This diagram, is represented for a week, however, the goal is to achieve it every week and we have in the end every week that have been under quota. Thus, we can see when the volume has not been taken in its entirety but also when the volume has been taken or exceeded.



This KPI will also be taken over by brand so that each brand can follow its evolution through the weeks.

The KPI of production monitoring and evolution of the promo check.

In order to be able to evaluate if the productions have increased or decreased between two weeks, we compare the data of the production documents provided by the factories between s-1 and s.

This will take the form of:

Product	Increase or decrease of the production	Percentage of lost or gain of production
S1	-1000	-50%
S2	+500	+20%

Through this table, we can see the number of pallets that will be produced more and how much it represents in percentage per week. This allows customer managers to have a better view of what a production problem represents and the impact that occurs.



The evolution chart of the check promo will take the same form to be able to know if a sign to change significantly or not its check promo.

### 3.3.3 New communication process

After reviewing the tables and thinking about KPIs. It seemed important to review the method of communication with the different services. In fact, some information is important to know for us but not necessarily for all sales managers of Danone Eaux France. Several of them have sought to cast doubts on the reliability of others. Many people thought they were the only ones to shift, so we wanted to make global KPIs and KPIs by brand.

Each table and KPIs per sign are sent to the responsible sign. They will then be able to take the information and make the necessary order modifications.

As for the global KPIs, they are analysed by the flow drivers and sent to quota coordinators. These quota coordinators have the role of guaranteeing the correct shift of orders from its customer panel. Thus, we can send him the global KPIs so that he can answer the questions of the different customer managers.



## Conclusion

In order for the company to spend less money and everyone to understand what is happening in a plant and within the service, it was important to optimize the quota process. Through the analysis of the different inputs and the setting up of a built process, everyone could understand and move forward.

This project was a way to look for solutions while we were in crisis.

The possibility of adapting the supply chain and of being able to set up a new process is endless. Every day we can evolve these processes and the way of seeing things.

I would have learned through this experience much more than I hoped and hope that all these elements continue to be useful to Danone Eaux France.





## Glossary:

CSL: customer service level

PAL : Pallet

BU : Business Unit

KPI's : Key Performance Indicators

EDI: Electronic Data Interchange

GPA: Gestion des approvisionnement partagées – Shared Supply Management

KPI: Key Performance Indicators

OCS: Softare

SAP: ERP Software

