



Michel's Boutique

Tomato Cans sales Analysis

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Course

Business Intelligence

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Michel's Boutique

Tomato Cans sales Analysis

CONTEXT

A boutique store sells various products, including household items and food. The owner of the boutique realizes that there is a problem regarding one of his products: The tomato can. He usually sells 3 brands of tomato can, but recently he had to throw out some of the can that he brought. Concerns about this he asks his son if he should continue or stop selling the tomato can. His son contacted us for more insight on this problem.

Our task is to find solutions to the problem encounters by Michel in his store.

Recognize the business problem

As previously stated, Michel the boutique owner has been throwing out many can of tomato at the end of the last three month. That situation suggest that the tomato can are not selling as predicted and therefore creates a waste of product and a loss of money. Michel as a problem deciding to stop or continue selling this product.

The main objective of a store is to sell goods that allow his owner to make profit. Michel's boutique encounters a problem that affects his profit and possibly the owner ability to satisfy his customers. By throwing away the can, the profits that could be done on those are lost. Moreover, the customers may be unable to find the products that they need.

Research the organization

Michel's boutique is a family business selling various product such as household items, food. Customer's satisfaction is a key concern for the boutique. To assure that every client is satisfied, the boutique has to create and maintain good relationship with his suppliers. While customer satisfaction is at the center of the boutique policy, making profits and avoiding lost is essential to ensure the success and perpetuation of the boutique.

Client

Michel's son is looking to give his father the best advice that could help his business stay afloat. In order to do that he contacted us to provide a solution that could reduce or avoid the waste of tomato can.

Relevant stakeholders

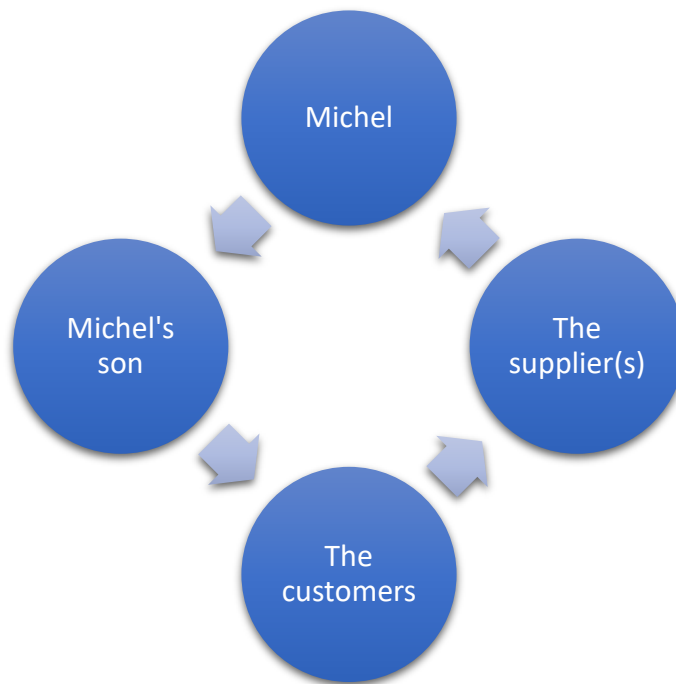


Figure 1.Stakeholders

The supplier (s) are the organization or company from which Michel buys the tomato cans. They influence the price of the tomato can at Michel's boutique since they fix the price at which Michel purchases the cans. The problem that Michel is confronting can affect the sales of those suppliers if he decides to stop selling.

Michel is the owner of the boutique and he takes important decisions about this organization. He defines what, when, where, how of purchases and sales. As the boutique owner and CEO, he is the first concern about the profits and losses of his company. The cumulative losses of a company can led to bankruptcy, noticing a problem Michel acted quickly and search for advice from his son.

His son also participates to the store management by offering his advice to his father. He is also concern by the product losses and the effect it could have on his family.

The customers are those who buy in Michel store. The actual situation can create a shortage of tomato can in the store and thereby live the customer unsatisfied.

SWOT Methodology

Strength

Registry

Each sells of the boutique his register in a file. It would allow us to do the necessary analysis to define the problem and find a solution to it.

Regularity of the purchase

Knowing that the purchase happens on a regular basis, it is easier to evaluate the purchases and maintain a regular basis if it can be part of the solution.

Diversity in the brand purchase

The diversity of brand sold allows the boutique to satisfy more customer and therefore sell his stock quicker.

Customer proximity

The boutique is a small business thereby it is easier to create proximity and maintain fidelity of the customers. This fidelity can be maintained by knowing our customers needs and responding to them in the best way possible.

Weakness

Absence of regular stock inventory

Considering how the purchase are done we may hypothesize that there is not regular stock inventory. This is a serious weakness of the store; it affects their profit.

Small number of clients

The initial analysis suggests that the number of clients buying from the store is a small.

Opportunities

Offer delivery near the store

The Covid if forcing people to stay home, it could be a great opportunity to propose delivery services.

Online command

More than ever, people are buying products and services online. Creating a site or an app that allows online command could increase the range of people touched by the store.

Modernize the inventory system

The 21th century offers a lot of free option to manage inventories. Those programs simplify many tedious processes and allow for best outcomes.

Threats

Fluctuation in products price

Small businesses are particularly susceptible to market changes, in addition to that the covid situation is causing great variation in prices.

Covid-19 Pandemic

The Pandemic are changing the way people are buying. Most transaction are done online and with delivery services. The boutique is actually lacking the necessary technology and background necessary for taking profit of those opportunities

Methodology

To complete this project, we use data collected from Michel's boutique registry and some information concerning the purchase process for the tomato cans. The datasets contain the following variables:

- Date
- Quantity of cans for each brand
- Price (selling) for each brand
- Sales for each brand

The dataset was imported in MS Excel 2019 where the necessary analysis and graphs were created. We evaluated the quantity of can sold, the sales, the profits and losses by day and month.

Results

Each 2 weeks, the owner buys a cargo of the three brands compose of 840 cans of brand A, 960 cans of brand B, 720 cans of brand C. The daily product sold is highly fluctuated and varied from 3 to 55 cans of each brand, with a mean of 26,76 cans per day. As the price of each Brand was different, the mean sales for each brand were as follow: 669.17; 642.4; 695.93.

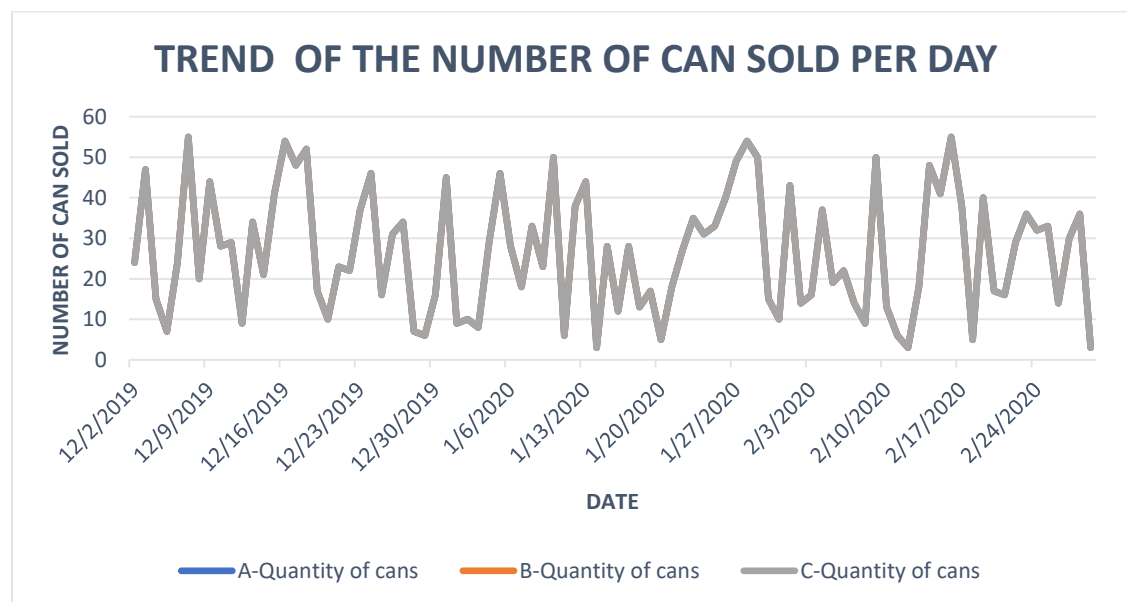


Figure 2. Trend of the number of can sold per day

The number of can sold for each month were the same throughout the three different brands. However, we notice a decrease of the number of can sold from one month to another. From December to January, the number of can decreased by -6.03% and by -9.01% from January to February.

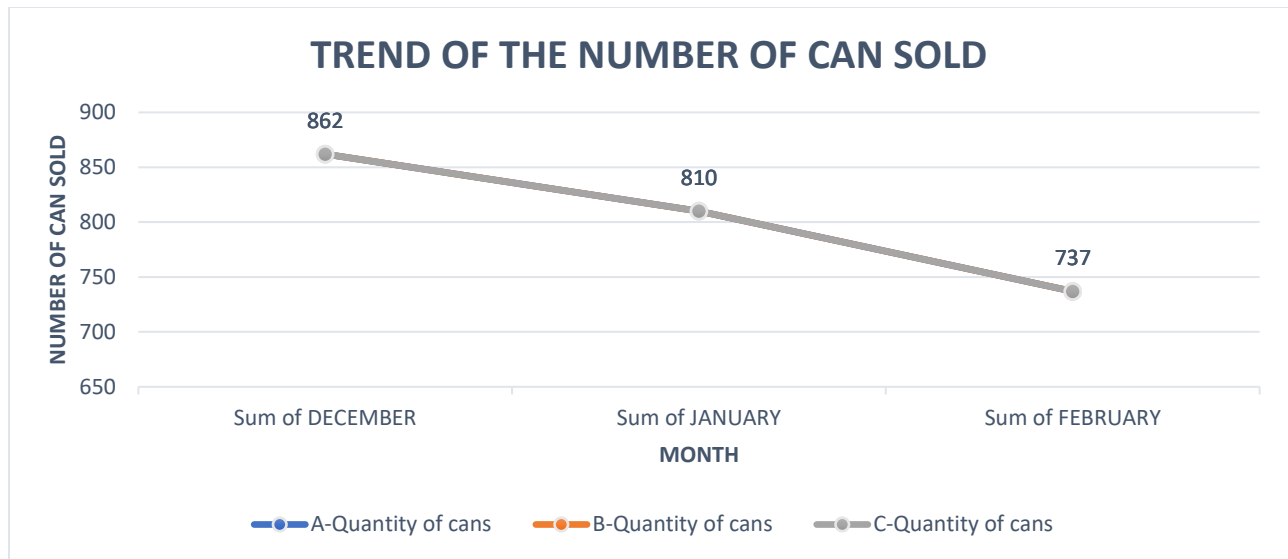


Figure 3. Trend of the number of can sold per month

For the three months period, among the three brands, the B was purchased by the owner in greatest quantity but also was the one with the greatest number of expired cans, 41.51% of the purchase brand B tomato can reached their expiratory date and therefore were thrown out.

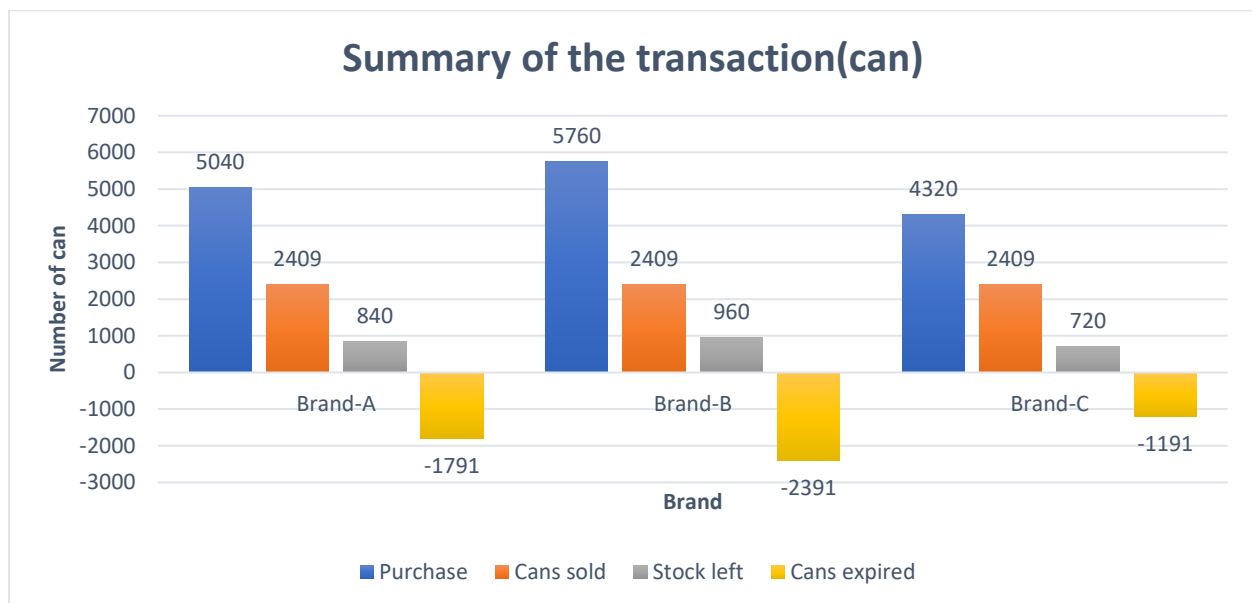


Figure 4. Summary of the transaction(can)

The number of can purchased by the owner didn't vary by month. Considering that amount, the purchase cost and the selling cost, the brand A was predicted to have the highest sales and therefore the highest profit margins.

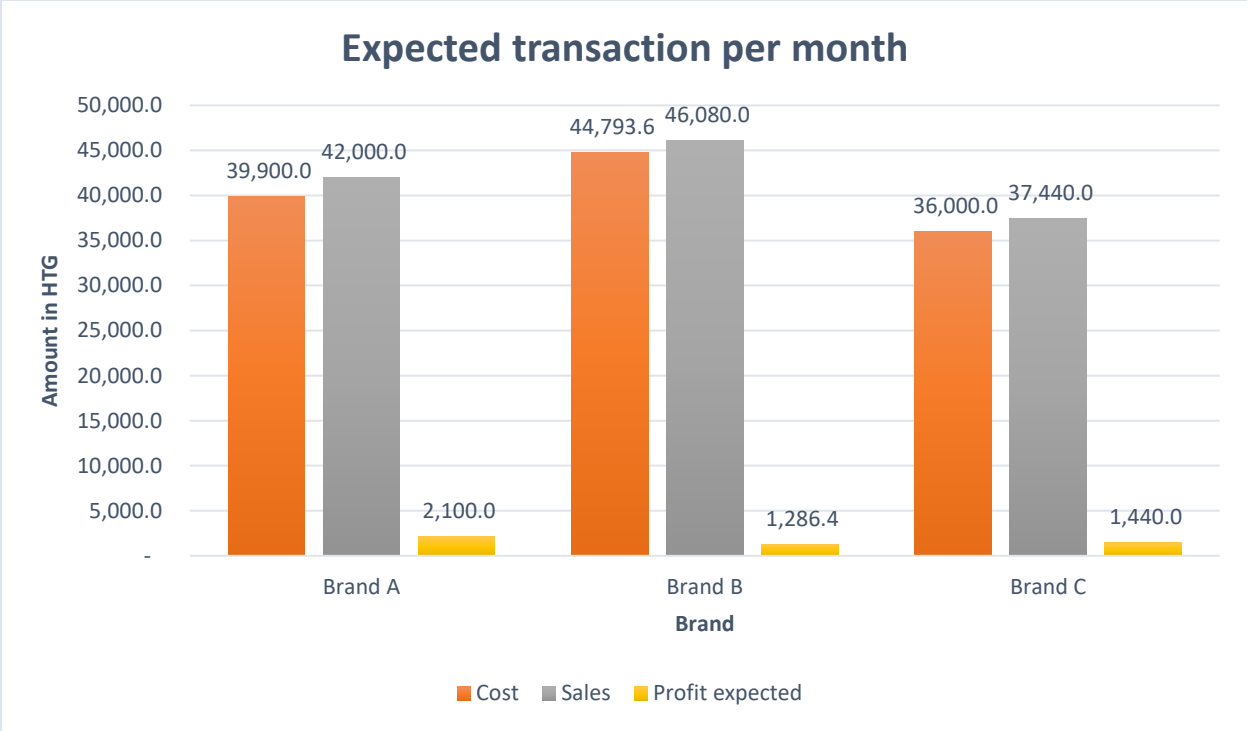


Figure 5.Expected transaction per month

However, considering the products that were lost due to expiration date, the brand C was the one with the most sale throughout the three months.

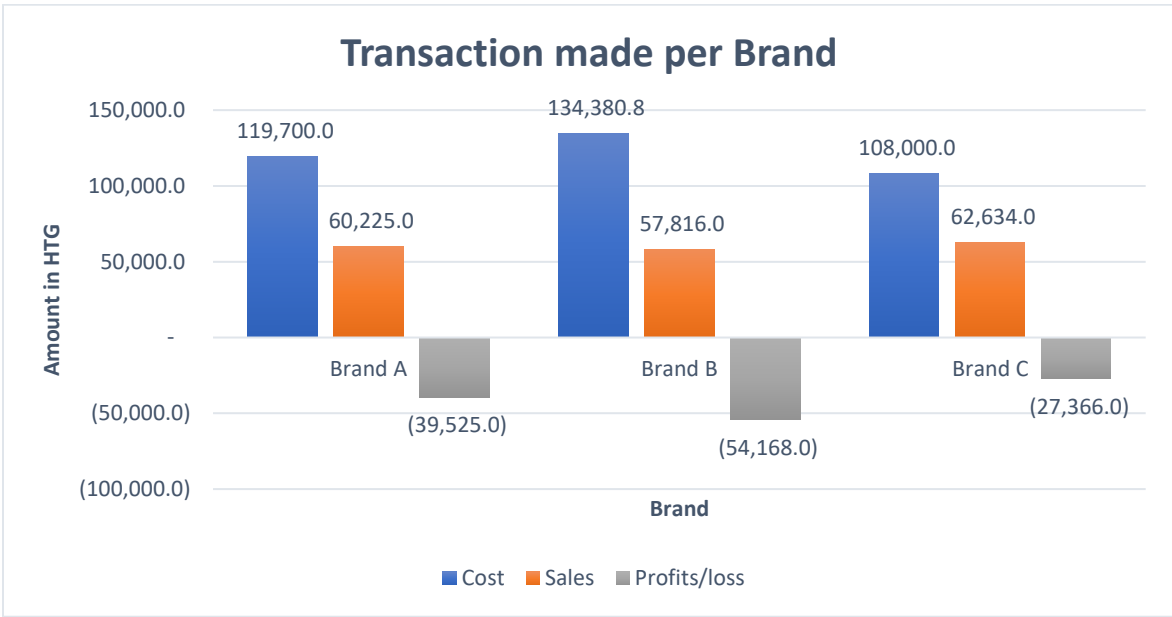


Figure 6. Répartition of Sales per month

We have noticed a steady increase of the losses, a small decrease in sales, but the cost didn't vary from one month to another since the number of product brought was the same.

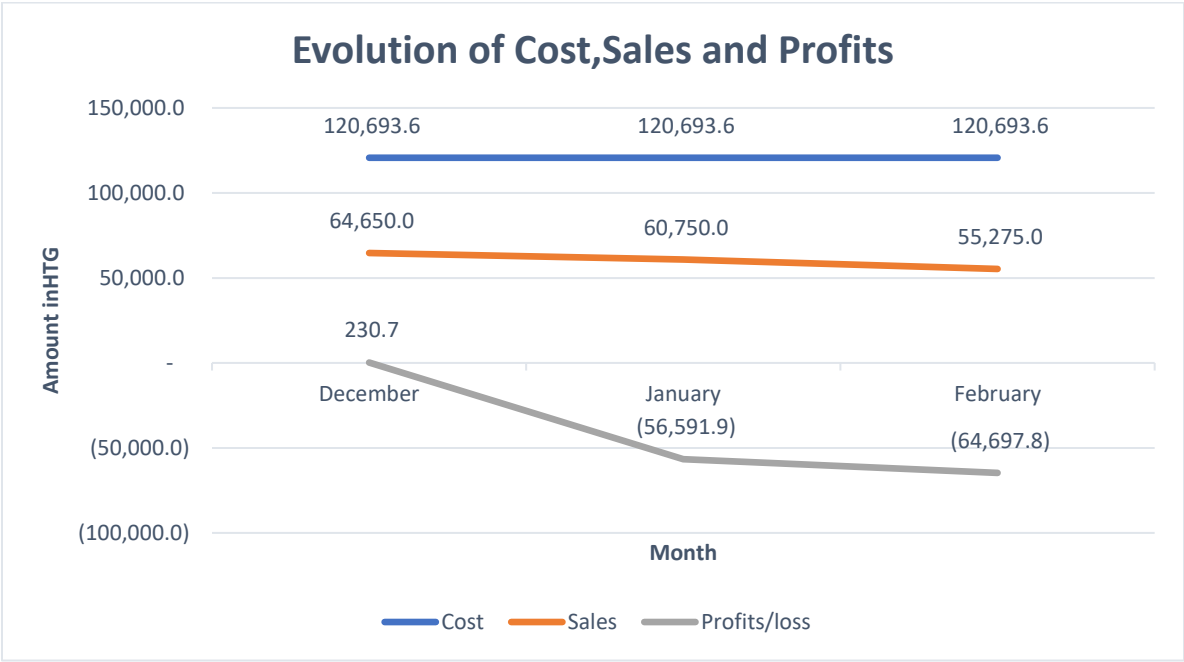


Figure 7. Evolution of Cost, Sales and Profits

We concluded that in December, the A and C brands B were profitable but since January all three brands became non-profitable.

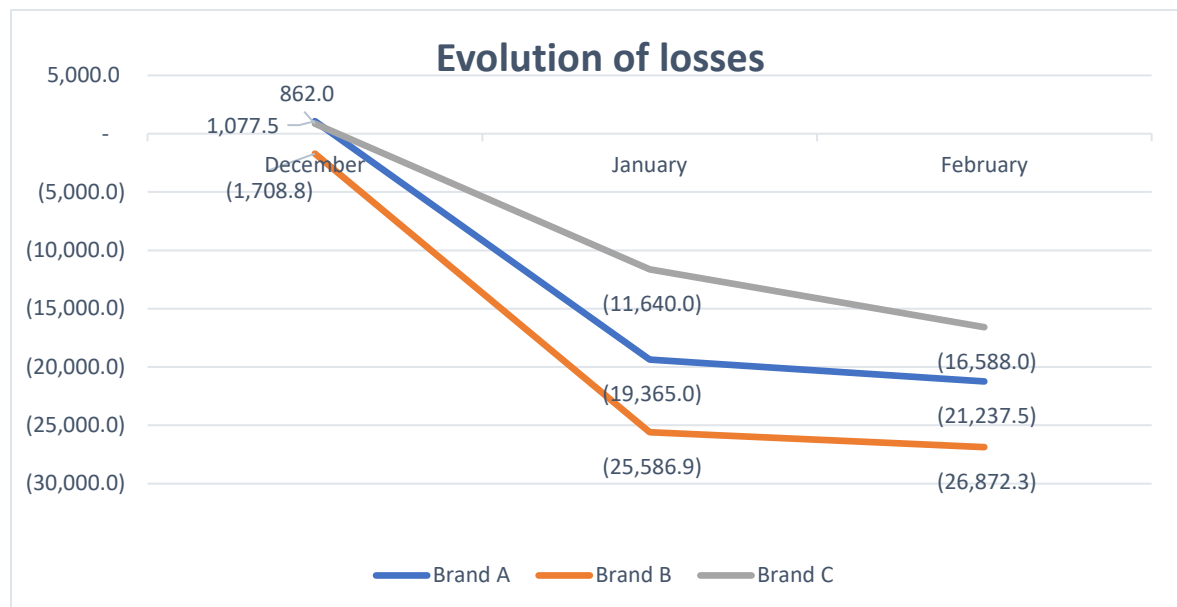


Figure 8. Evolution of losses

Solutions and Recommendations

Main

Following our analysis of the sales data, some measures were required to offer a viable solution to the boutique problem. Those measures mainly centered around product purchase of the tomato can and can be describe as follows:

1-Reduce the amount and the frequency of tomato brand purchased while purchasing the same amount of each brand

Our analysis showed that the percentage of can sold from the amount purchased for Brand A, B, C were respectively 48%, 42%, and 56%. Considering that fact it was clear that the owner purchase too much of each the brand.

Our analysis also suggested that there is a consistent decrease in the amount of can sold each month. This decrease was of 6.03% between December and January, and of 9.01% between January and February. Considering this progressing decrease and that the amount of can sold was the same between the different brand, we can predict that the decrease factor for the month of mars will be ~12% and therefore the amount of product sale for this month will be: 648 cans for each brand.

Instead of purchasing a new cargo every two weeks, we suggest that he purchases one every month while considering the predicted can sales for the upcoming month.

2-Create and implement an inventory management system

The analysis show that the owner kept on buying new can even when he had a lot in the boutique that were neither expired nor sold. We hypothesize that it is not an intended event and it is only due to a lack

of management of stocks. Therefore, having an inventory management system is one of the essential elements to solve the actual problem.

3- Revise up the percentage of profits on products (Optional)

Our analysis shows that the percentage of profit on each brand was inferior to 6% (A: 5%, B: 3%, C: 4%). We hypothesize that his profit percentage is quite low compared to profit of his competitors. A market study evaluating the potential demands and the offer of his competitors would allow him to adjust his prices.

This solution can be implemented with a very low cost and keep some of the feature identified as the boutique strengths like the regularity of the sales and the diversity of the can stole. Reducing the amount and the frequency of the boutique purchase will not require any other spending. However, it is worth mentioning that as of 29th of February 2020 the boutique still has 840 brand A can, 960 brand B can, and 720 brand C can. Those will expire the 15th of march. Considering the estimated amount of can that will be sold for march is 648 cans, there will still be a waste of 192 brand A, 312 brand B, 72 brand C.

In addition to the loss, there would be the cost of the market study that would vary depending on the firm doing it. The implementation of that solution would vary from one week to a month considering the necessary time for the study to take place.

It is also important to highlight that this solution can have many risks such as:

- The failed to implement the inventory management system due to the persistence of prior inventory habits of the boutique
- Insufficient amount of product to satisfy the customers due to sales spike
- Deterioration of the relationship between the supplier and the owner of the boutique (loss of eventual discount since there is a reduction of the purchase)
- Loss of customer due to the increase of the prices. (Rising the price in the objective to make more profit can push away client that were used to the old prices.)

Alternative

Modernize the boutique

One of the plausible causes of the progressive decrease in sales during the three-month period is the covid pandemic forcing people to stay home. Considering that fact and the current e-commerce expansion trend, modernizing the boutique by offering online service and delivery could create a sale bust that allow the surplus of can to be sold. In addition to that it is likely that the e-commerce trend last for a long time, in that case it would allow other to profit of that trend. (OECD Policy reponce to Covid-19, 2021)

This solution requires:

- The Creating a payment grid based on the delivery area
- The creation of an app or a web site with online payment for the boutique
- The employment of staff for the delivery or the signing of a contract with a delivery company
- The creation and deployment of an advertising campaign to publicize the store and its online ordering service

Team Members

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