

Right product, right place, right time

POP.AI

PERFECT
ORDER
PLANNING

SOLUTION FOR THE INDUSTRY

SOLUTION TO
AUTOMATE THE
DEMAND ESTIMATE
AND RESTOCKING OF
PRODUCTS IN STORES
STOCKED BY
THE INDUSTRY

SUMMARY

BENEFITS

- suggestion of optimized stocking
- accuracy in demand estimate
- chain risks warning
- monitoring interface

MORE IMPORTANT:

- optimization of the stock level, reduction of ruptures and improvement in all indicators of the supply chain.

Introduction

The perfect order is the one delivered in the right place, on the right date, with the mix and quantity of products to be bought by the consumers until the following restocking date, with the correct expiry date and in flawless conditions. Such concept seeks excellence of supplying processes, reducing losses and costs and generating the customer's full satisfaction.

However, it is not unusual to find companies that delegate the salesperson and/or sales promoter the task of deciding the items and quantities to be restocked in sales outlets. Based on historical data in addition to the assumptions and goals, the promoters perform the request for the previous link of the chain, whether a distribution center or a factory.

The chain moves in order to meet the requests in an efficient manner from the logistic point of view, making up the so called "pulled chain". The lack of systemic view of chain causes the whip effect and the resulting damage to the operations health, with excess stocks and orders service ruptures.

The demand estimate activity is extremely challenging. The quantity of information is wide – many products, sales multiples, marketing actions input, releases that cannibalized and replaced items, besides several external factors such as seasonality, holidays, weather that influence the behavior of the consumer in the sales outlet. In this scenario, it makes more sense that the demand estimate and the decision of restocking the sales outlet is delegated to a planning team supplied with the sophisticated mathematical models ensuring the estimates accuracy.

Tevec developed the first machine learning application platform intended to the acknowledgment of the demand behavior standard of the Brazilian market. The platform automates the whole demand estimate process and the calculation of the ideal products replacement batches in sales outlets, enabling the sales planning control, service levels and regulators stocks optimization. The tool's accuracy results are changing the level of expected results for mistakes in forecasts estimates, stock coverage indicators, losses for expiry date and product rupture in the sales outlet. The platform makes complex operation to work in an agile, automated and optimized manner.



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“Since Danone started using the Tevec platform, it significantly reduced the rupture in the clients, as well as the index of losses in stores. For perishable, short validity products, adjusting the stock balance if essential to minimize losses for expiry, without making the product be missed in the sales outlet.”

Mariana Albanez,
Customer Service of
the fresh dairy products
of Danone

TEVEC

The artificial intelligence (AI) is already inserted in several products we use daily. Humanity already benefits from computer learning models and algorithms without noticing their presence in products and services. However, it is also rare to see applications of this type of technology in decision making of business processes. It happens because deploying a AI model is more than simply performing the mathematical modeling work and is more than simply performing an A/B test with simulation date. In order to deploy a AI model in practice, it is necessary to draft the technology use process and it is necessary to map how the users and people involved in the operations shall receive the model responses.

This practical application concepts permeates the whole Tevec platform project and especially the POP.AI. Solution, the TEVEC platform solution specialized in the suggestion of products restocking quantity for each sales outlet, ensuring the customer service and the correct exposure of the planogram and the execution of the marketing trade strategy. Since its design, the system was thought to give the users a simple experience when using the complex machine learning models in the management of its supplying chain.

POP.AI (Perfect Order Planning)

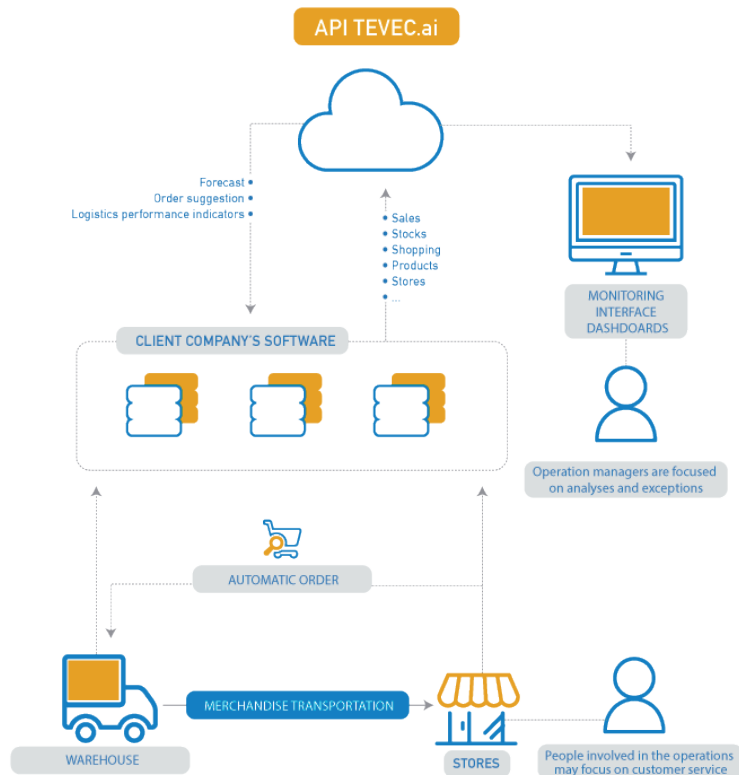
Specialist solution in mix optimization and products quantities in the sales outlets for each consumption cycle. Restocking quantities suggestion seek to maximize the relation between the revenue and the demand met, minimizing products loss for validity or obsolescence, excess stock and the lost sales by ruptures.

The POP.AI Solution is connected with the company’s softwares of our clients, catching the information of its logistic operation. Based on such information, the system generates the estimates and order suggestions that may be reintegrated in the client’s own systems or may be accessed by TEVECs dashboards.

Therefore, the people involved in the operation (stores managers and salespeople) may focus on customer service instead of performing demand and order analyses (which is not their specialty). With the deployed solution, the operation managers are focused on analyses and act only in the exceptions, making the chain management process simpler, faster and easier.

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MAIN FUNCTIONALITIES

Optimized Suggestions

The system makes the suggestion of the ideal restocking quantities for the stores and sales outlets.

Sugestão

De: Pequena Moda e Estilo e Pequena Moda e Estilo LTDA Para: Loja Ariclenes Rodrigues Dos Santos Código: 654123 Valor: R\$ 600,00 Itens: 326 Peso Total: 1101 Kg

Produto	Quantidade sugerida	Quantidade restockada	Preço Unit.	Preço Total	Preço Unit. 2º Item	Preço Total 2º Item	Unidade de embalagem	Preço Unit. 3º Item	Preço Total 3º Item	Unidade de embalagem	Preço Unit. 4º Item	Preço Total 4º Item
▶ Roupas Esportivas	---	---	---	---	---	---	---	---	---	---	---	---
◀ Moda Casual	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Short Militar (Cod: 3033)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Sapatos Social (Cod: 1318)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Chinelo Praia (Cod: 2020)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Calça Jean (Cod: 2020)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Short Militar (Cod: 3033)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Sapatos Social (Cod: 1318)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
• Chinelo Praia (Cod: 2020)	900.000,00	900.000,00	2.000.000,00	1.800.000,00	900.000,00	1.800.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00	900.000,00
▶ Moda Urbana (Cod: 2020)	---	---	---	---	---	---	---	---	---	---	---	---

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Automatic demand modeling.

Machine learning algorithms are constantly adjusted for the improvement of the estimates accuracy.

Monitoring Interface.

The operation results are presented in interactive dashboard for analyses deepening.



Warning Signals

The ones involved in the logistic chain management have a view of the potential destocking or excess risks for a proactive attitude in their mitigation.

TECHNICAL STRUCTURE

The POP.AI Solution uses the sales, stocks, prices data and other variables that influence the demand of the consumer looking at each product in each sales outlet or store. Such data undergo a series of computer cleanout processes and improvement of the data quality, such as virtual stocks identification, identification and removal of extreme observations (outliers), identification of special dates, inclusion of holidays signals, among others.

With the data handled by the platform applies its sophisticated machine learning models in order to identify demand standards. Several models are simul-



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taneously tested in a competition by the maximum accuracy. The model better adjusted, or which better explains a set of data is chosen in order to generate the sales estimates of each product in each store for each replacement cycle.

The chosen model of each product feeds stocks optimization routines that provide back for their suggestion purchase operation and restocking very close to the actual demand of the costumers. Therefore, the stores stock are much more suitable to enjoy all costumers sales opportunities without an excess stock and waste.

PLATFORM API

The solution installation is quite simple and quick. Simply connect your system to the platform's API (docs.tevec.com.br/sirius). Through this API, it is possible to send data to the platform, query enrollments and registrations and more importantly, capture the estimates and order suggestions to be reintegrated to its management and operation systems.





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By TEVEC API, the customers use the platform in a seamless manner, returning to their current processes the results of the machine learning models. Therefore, with the minimum alteration in the current processes it is possible to significantly improve the performance of the restocking processes.

The minimum information for the operation are the products and stores registration, and the sell history (sellout), receipts (sellin) and stock positions. With such information, the solution can execute its processes and deliver assertive order suggestions.

Additional marketing campaigns data, prices strategies and disclosure actions may also be included in the solution, improving even more the system performance.

SOLUTION RESULTS

The results of the POP.AI SOLUTION are translated in rupture reductions and stock reductions. The performance of the logistic chains using the solution is way higher than the chains performance working with conventional restocking processes. Cases of rupture cases around 50% and stock reduction of 30% are not rare.

Such results are obtained with the adjustment of mix and quantities that take place with the adhesion of stores restocking to the TEVEC platform suggestions.

Besides such results, the clients of the POP.AI Solution observe a reduction of the stock loss quantity due to expiry loss, more available space in its store stocks which facilitates the movement and internal management of the store. Last, the store teams may focus on sales and in the operation once the system look after all of the demand and necessary resupplying analyses.

Customer Success

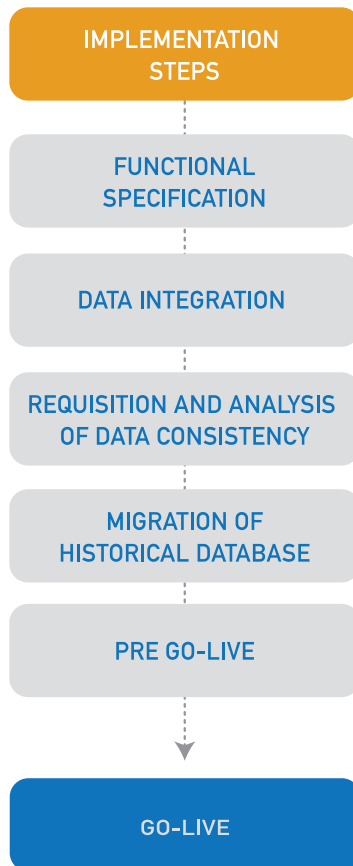
TEVEC has the commitment of helping its clients to generate results with the use of the platform. Therefore, we have a customer success process which follows our clients up throughout their journey with our technology, from the kickoff to the daily follow-up of results.

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In the kickoff, we make the whole project preparation for the deployment to take place in a more organized and fast manner, careful not to inform all the ones involved in their roles and responsibilities. For an efficient deployment, we recommend that our clients appoint a project leader in order to punctually act in decision making and two part-time analysts.

The deployment project counts on the support of our onboarding team which executes the following activities: functional specification, TEVEC API training, training of the ones involved, support in the construction of the connections in the API and rollout planning.



BASE PROJECT STATISTICS

TEVEC TEAM

TOTAL HOURS OF THE PROJECT 1,400 HOURS
TOTAL DAYS OF THE PROJECT 62 WORKING DAYS

YOUR TEAM

PROJECT LEADER 16hs PER WEEK
IT ANALYST / BUSINESS ANALYST 24hs PER WEEK

After the rollout, our clients count on a continuous follow-up of the customer success team which performs periodic performance analyses with our clients. It is made in order to ensure the continuity of the results of the platform and continuous system and associated processes improvement.



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About TEVEC

Tevec is the provider of artificial intelligence solutions applied to the logistic chains. Tevec Platform was the pioneer in the machine learning application for the acknowledgment of demand behavior standards, automating the whole estimate process and calculation of ideal products restocking batches in sales outlet and in the distribution centers, enabling the sales planning control, service level and regulatory stocks. The platform is changing the level is expected results for forecast estimate mistakes, stock level indicators, rupture losses or products without expiry date.

Tevec mission is to offer the artificial intelligence within the reach of all companies in a simple and accessible manner. In a world of logistic chains increasingly complex and with frequent behavior changes, the companies need precise and adaptable mathematical models in order to obtain results in its productivity indicators.