Post Sale Optimization

Executive Summary

The concept of post sale optimization is becoming a common model for enhancing airline revenues. LATAM, one of the world's largest airline groups, initiated a model for programmatically solving the challenge of spilled consumer demand in collaboration with Caravelo, a travel tech company in Barcelona.

Exchange Rewards, launched in December 2017, was the resultant product that now generates x5 in revenue from the incremental inventory generated.

> **❝ Since launching, Exchange Rewards has grown to become a core driver of revenue optimization within the LATAM group.**

Its iterations into multiple customer products and utilization across the network has inspired usage across the industry with more and more airlines looking at post-sale optimization as a future driver of revenue.

In this paper we provide in-depth analysis of Exchange Rewards, from concept and creation through to results and future iterative usages of the technology.

The LATAM operating environment is broad and challenging, with geopolitical, financial and competitive concerns. Carvelo's decade long history has provided a wealth of experience in revenue generating solutions to these challenges.

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LATAM is the 11th biggest airline in the world. A merger of TAM of Brazil and LAN of Chile, the combined airline carries over 70 million annual passengers with a fleet of 300. The LATAM operating environment is broad and challenging, with geopolitical, financial and competitive concerns all requiring a granular approach to aviation management including multi-hub, broad distribution and low cost and full service models.

" Caravelo is a travel tech company based in Barcelona, Spain

Caravelo is a travel tech company based in Barcelona, Spain. In 4 years their technology has powered many innovative, industry leading solutions in post-sale optimization and customer facing channel development.

Concept Introduction

Managing this risk, reducing the opportunity cost of maintaining volume sales through selling lower cost airfares provides for a challenge that traditional revenue management thinking and systems doesn't cover.

As with any perishable product, ensuring that airlines operate their inventory (seats) with the greatest optimization of volume and price has, since deregulation, become the core driver (other than cost) behind profitability.

> **"RM strategy mostly determines how best to pull those value levers to drive initial purchase, but do not consider how those levers can be used again to improve optimization and profitability.**

This challenge has spurred the development of airline pricing and revenue management thinking and systems which have focused on optimizing the sales cycle. RM strategy has taken into account multiple factors including customers willingness to pay and the value drivers behind that. But they haven't taken into consideration customers values post sale.

RM strategy mostly determines how best to pull those value levers to drive initial purchase, but do not consider how those levers can be used again to improve optimization and profitability. In general, RM strategies focus on ensuring that customers with a higher capacity to pay (often corporate travellers) have enough access to inventory at the right time for that customer to purchase.

The risk inherent with this strategy is losing other customers whose willingness to pay may not have been as high, to competitors, who are willing to accept them at that time and the demand for close to departure sales not to materialize (this risk has exacerbated over the last decade with the associated value of ancillary services to all customers).

> **" Managing this risk, reducing the opportunity cost of maintaining volume sales through selling lower cost airfares provides for a challenge that traditional revenue management thinking and systems doesn't cover.**

LATAM, faced with an ever increasingly competitive environment where their operating strategies had to cover multiple models, realized that they would have to think differently. In recognizing that, their positioning of an empowered 'SWAT' team encompassing leadership and analytics experts was the first important step.

What we will look at in the following pages is how LATAM identified and quantified the opportunity before establishing that the solution would work in their markets and then their partnering with Caravelo to bring an automated approach to the solution.

Proof of Concept

If passengers were willing to be flexible, potentially for a small reward, could LATAM continue to take traffic in advance at competitive prices and then utilize that flexibility to generate incremental capacity for later stage, higher value demand?

Identification and quantification

LATAM operates across a broad and diverse marketplace, which often requires operating multiple frequencies to provide a competitive offering. These deep schedules on domestic and regional flights were identified as often having an imbalance in their load factor performance. These imbalances came from demand outstripping inventory too early in the booking curve on certain frequencies.

> **One option to** reduce potentially spilled, later booking, high value traffic is to **restrict** the **access to capacity** for low fare customers. **That strategy carries a** risk **that the** revenue loss **from restricting low-fare customers is not always mitigated by the** higher value **later** demand**.**

Analysts forecast the potential upside, but the detrimental effects of events (randomness, weather, aircraft inoperability) and errors (competitor behavior, economy, human) mostly negated the value.

> **The question was posed '**what if passengers agreed to be re-accommodated in advance?**' and the potential values of a positive outcome began to be understood.**

If passengers were willing to be flexible, potentially for a small reward, could LATAM continue to take traffic in advance at competitive prices and then utilize that flexibility to generate incremental capacity for later stage, higher value demand?

Before moving to understand how that potential passenger flexibility could be utilized, LATAM sought to quantify the value that this dynamic might generate.

> **"The data showed that 11% of services had a moment (sustained or otherwise) where the maximum load factor was reached (including overbooking).**

What was also demonstrated by the data was the yield differential between the average fare and the fares paid in the final stage of the demand curve.

What was unknown at this stage was what volume of passengers might be willing to be flexible and the value of any potential reward that might be required.

That initial data showed that a solution to capture it should be conceptualized and begin to understand customer willingness to move and the value of any required reward.

Initial proof of concept

Considering that approaching customers proactively to change their plans for a reward might seem at first an un-intuitive proposition, the LATAM team considered a series of contained trials to test passenger reaction, revenue uplift and mode.

In both trials, the concept was implemented using a fully manual approach: with the LATAM customer care team making outbound telephone calls and manually re-validating tickets and issuing reward vouchers.

The 'SWAT' team approach that LATAM had created to test and create new products meant that initiating a pilot to prove or disprove the concept was bureaucracy free and that their empowerment could deliver quickly.

LATAM went on to undertake 2 distinctive and completely manual concept trials: both with further A/B testing exploring the model further, with the code name 'Mr. Propre' (after a brand of cleaning products).

The A/B test variances

In discussing the mechanics behind creating offers around capacity generation or customer flexibility, two distinct models were understood. The aims of both were to generate incremental capacity through utilizing customer flexibility, but had different approaches to the launch and value of the offers.

Variance A: conservative

Step 1

Flight A   Flight B

Step 2

Flight B   Flight A
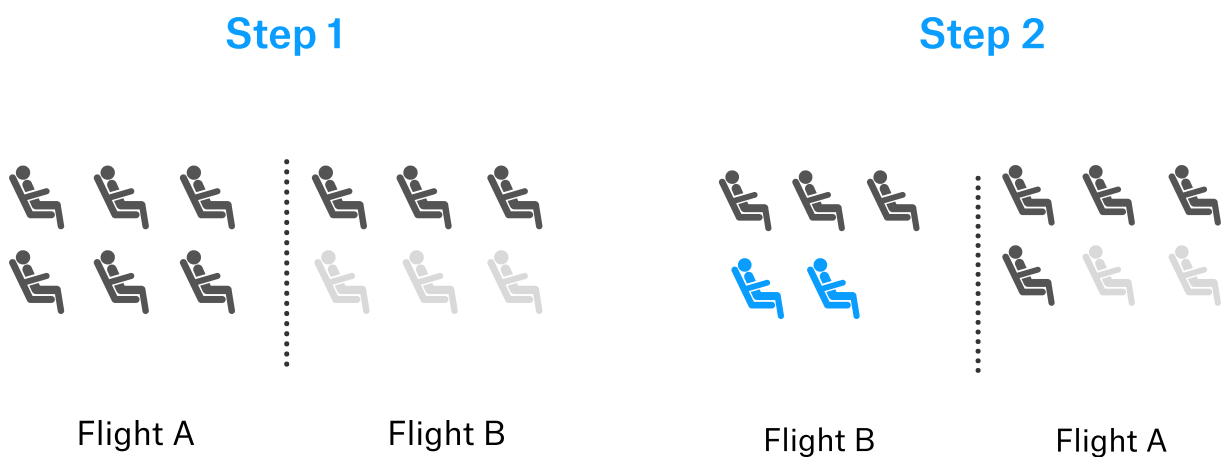
The initially understood approach was to identify over-performing flights based on their seat load factor and then proactively move passengers to associated, lower performing frequencies. The liberated seats would then be on the open market for sale.

Variance B: aggressive

Step 1

Flight A   Flight B

Step 2

Flight B   Flight A

Rather than liberating a seat for it to then be resold when demand arises, LATAM saw the opportunity to better manage its overbooking profile, extending the capacity available per frequency and liberate capacity with the certainty that the incremental demand had been filled.

Trial 1

A particular international market was chosen for the first trial based on:

- Existing early demand and corresponding spilled demand on core frequencies
- 6x variance in average fare vs. late stage fare
- Multiple frequencies

Target flights were identified based on segment performance at different stages based on the model variance:

A: at 100% SLF, 30 - 2 days prior to departure
B: at 107% SLF, 30 - 2 days prior to departure

Customers were targeted based purely on:

- Direct sales
- Low fare / family fare classes
- Number of passengers (max. 5)
- 2 day minimum stay at destination

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Trial 2

Seeing positive customer engagement measurable revenue uplift, LATAM moved to utilize the trial on a broader marketplace using the same A/B testing variables. Applied to domestic Chile, where frequencies were greater, offering more potential options for alternative flights.

- High number of alternative flights to the target
- Core 'problem' target flights were easily identifiable
- High number of repeat customers

What both trials illustrated was that acceptance of the concept was high:

- There was a 30% acceptance rate from contacted customers
- Many customers were appreciative of the opportunity

And that there was a real revenue upside:

- A 3x fare increase in trial 2
- A 6.5x increase in trial 1

The understanding shared with and agreed across the LATAM leadership was that the 'Mr. Propre' concept could be both an industry first and provide a vehicle for revenue growth at a potential value of 1 to 2 USD per network customer.

What was agreed was that the concept could not be scaled into a usable product without it being completely programmatic and ready to deal with all the complexity of a legacy carrier like LATAM.

The process of flight identification, passenger profiling, communication, ticket re-booking and reward issuance as individual elements were equally important and ideally required automation across them with control in one central console for any useful service to be rendered. It was also agreed that a simplistic approach would not be possible: the solution had to address all scenarios, at all levels of complexity, or not at all.

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Consultation with Caravelo

The challenge of taking the concept from proven trial to an automated service embedded in the LATAM commercial proposition was significant. The concept itself was nothing new and doing the manual trial was fairly straight forward. The real challenge was building a fully-automated commercial solution. That has always been the real challenge that the industry had failed to solve.

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LATAM quickly discounted the possibility of building the technology in-house in favor of working with a partner to deliver on the technical expertise. Internal assessment had provided for up to 6 months of multiple resources to complete the project. Rather than absorb the cost of a long project, the LATAM SWAT team decided on outsourcing the project and searched for a vendor whose approach mirrored their own and with whom they could share a vision:

- Experienced ticket / PNR manipulation/re-issuance across multiple PSS
- Agile approach to evolvement of products
- Understanding of the challenge and demonstrated experience in addressing it
- Proven in exceptional deliveries / industry firsts

The LATAM team had met Caravelo before and understood their capabilities to deliver on a complex product involving multiple flows. Caravelo had implemented alternative versions of the technology required by LATAM for many years using other PSS and approaches in multiple airlines.

Immediately a shared vision was established: the requirement to keep moving forward with dynamism.

The evolution into Exchange Rewards

Caravelo's existing products provided a base for the development of the LATAM solution. Throughout the consultation process, revisiting the data garnered from the initial trials and evaluating further the particularities of the LATAM network and its competitive environment, it became clear that the more aggressive, proactive approach would prove most effective:

- Low/no risk from not re-utilizing the liberated inventory
- Highly forecastable periods of over-demand in certain seasons / periods
- A clear understanding of the proposition and a willingness to participate from the LATAM customer base

The challenge was then set: to turn the manual POC 'Mr Propre' into the fully automated and intelligent Exchange Rewards.

Overcoming challenges

Working in consultation with multiple stakeholder groups across LATAM, Caravelo were able to overcome broad challenges, effectively scaling for future use.

Systems

Implementing solutions dependent on multiple legacy systems required both a deep understanding of the connectivity available and deploying an agile approach from both tech vendor and airline.

Bringing Exchange Rewards to life at LATAM required integrating with multiple legacy systems. Aside from the PSS (Sabre), Caravelo connected with the client database, email provider and loyalty programs.

Internal challenges

Exchange Rewards touched multiple groups across the airline. IT, distribution, customer care, commercial, RM, pricing, systems, marketing were all stakeholders in the initial concept, consultation and ongoing project management. The empowered LATAM 'SWAT' team were able to bring about cohesion and through well structured communications by both the project team and Caravelo, the broad stakeholder group was able to confidently understand the project development and were engaged with results throughout.

Identifying and aligning users, incentives and markets

LATAM operate with a complex, multi-hub/market model with a broad customer demographic. From the outset it was understood that the relevancy of Exchange Rewards would vary based on the route, market and customer demographic.

By being able to differentiate at a market level enabled LATAM to structure campaigns that target groups of flights based on characteristics beyond simply geographical settings.

From the outset LATAM challenged Caravelo to provide a way to manage Exchange Rewards at a granular level, as independently as they utilized existing systems such as PROS OnD, Sabre Sonic Inventory or Airvision. Delivering on this meant that LATAM could scale campaigns quickly, creating specific targeting and incentive models that reflected the complexity of its network and the difference of willingness to move in its customer demographic.

Through the use of the Caravelo's Columbus console, LATAM were able to further test specific campaigns and better gauge certain demographics and understand which customers have the highest willingness to move. This helped to prove and disprove certain preconceptions around customer behavior:

"Customers traveling for business would be unwilling

❌ Frequent travelers and those identified as 'business travelers' understood the concept the fastest and have consistently shown a high willingness to move

"Larger groups would be unwilling

✅ The willingness to move factor decreases as the number of customers in a PNR increases

"The incentive value has to be high

❌ What has been proven is that the reward is required to be relevant to the alternative that is being proposed and the original fare paid

The Columbus console also meant that Exchange Rewards required little in the way of maintenance, instead allowing analysts to focus on advanced use-cases instead of daily execution. Its targeting capabilities can now be used to identify further post sale and up-sale opportunities outside of Exchange Rewards.

Breaking Conceptions

With Exchange Rewards having been automated by Caravelo for 18 months, the results have proven the initial expectations in both incremental capacity created and the revenue return per exchanged customer.

Aside from the commercial gains, Exchange Rewards has also turned some preconceptions of the concept around:

"It will negatively affect future forecasting

✗ Using the right deployment method has proven that ex-ante forecasting is not impacted

"It's only possible on a point-to-point basis

✗ The implementation took into account true OD, with modeling ensuring that the right segment with

"Customers will not 'get' the concept

✗ LATAM were initially concerned that customers might have a mis-perception of the offers. Caravelo worked with the LATAM marketing leadership to ensure that offer communication was clearly identifiable as LATAM and that the tone of the offers were in line with the LATAM brand

"There will be customer care issues

✗ Whilst LATAM briefed customer care teams, there have been no recorded incidents where either expectations have been unmet or customers have required re-assurance

The evolution of the solution: ongoing collaboration

The ongoing collaborative engagement between the LATAM team and Caravelo identified clear opportunities for the evolution of Exchange Rewards

Exchange Rewards proved that a complex airline like LATAM could successfully change the way that it approached an industry-wide challenge: spilled revenue. What became clear as the integration completed was that the underlying technology could be adapted to other customer-centric, revenue generating products.

The ongoing collaborative engagement between the LATAM team and Caravelo identified clear opportunities for the evolution of Exchange Rewards:

Up-selling direct

LATAM, like many global carriers, offer customers multiple options for connecting across its network either independently or with JV partners. Identifying over-performing segments and customers booked on indirect connections including said segment where direct alternatives exist presents an opportunity to up-sell close to departure

Preventing denied boarding

Whilst Exchange Rewards provided an immediate impact in reducing the instances of denied bookings, the use of the technology to target specific customers whose willingness to accept alternatives in exchange for a reward was forecast high when denied boarding was inevitable has also proven successful.

Conclusions

The ongoing collaborative engagement between the LATAM team and Caravelo identified clear opportunities for the evolution of Exchange Rewards.

Two-speed Revenue Management

Traditional RM teams mostly work with geographical responsibility, forecasting demand ex ante and applying pricing and availability taking into account customers willingness to pay and competitive environments.

What Exchange Rewards has shown is that airline inventory while still perishable, is not always finite. By continuing to forecast demand ex post taking into account customers willing to move and the competitive environment provides for ongoing opportunities for re-selling the same inventory.

Collaboration between airlines and small businesses vs. established, big vendors

LATAM, like many established global airlines work with multiple vendors that because of ongoing system bias, have high barriers to exit and theoretical scale advantages. In selecting a smaller vendor (<40 people) to create and power Exchange Rewards, LATAM were able to go from concept to MVP, to established service in record time.

Team empowerment

The driving force behind the Mr. Propre POC and the automation with Caravelo was a dedicated team of empowered leaders within the LATAM business. By providing a mandate to execute to a group with a natural bias towards action, LATAM were able to bypass a lot of the bureaucracy and hesitancy that often stymies innovation development within airlines. This 'SWAT' team took a 'done is better than perfect' approach to launch quickly, iterate and improve.

Final conclusion: The Ex Post Marketplace

Exchange Rewards cemented that the concept of an ex-post marketplace for airline inventory was not just viable, but presents an opportunity for airlines to maximize returns by negating the effects of events (randomness, weather, aircraft inoperability) and errors (competitor behavior, economy, human).

What has become clear in 18 months of operation is that making the best use of the ex-post marketplace requires tooling distinct from an airlines business as usual commercial / RM set up:

Multiple product concepts

Exchange Rewards, as a buy-back tool operates to liberate capacity for a reward with the aim of capturing otherwise spilled high yield demand. Looking at the opportunity holistically however, its understood that offers should be broad and encompass further customer-centric products that can offset spoiled inventory as much as spilled opportunity.

Embracing it requires action

The immediate advantages of negating errors and events, through conservative programs applied across an airlines network can be implemented as a digital 'safety net'. This approach, running on autopilot, has already been shown successful in other airlines. The LATAM approach, proactively generating incremental revenue through sophisticated campaign management, requires a commitment and resource dedication: parameter management, marketable product and reporting.

About LATAM airlines

Founded in 1929, LATAM Airlines is Latin America's largest airline serving more than 140 destinations in 26 countries. With domestic operations in six countries and reaching all five continents with its long-haul flights, LATAM has successfully implemented a diversified business model adapted to domestic and international needs and are at the forefront of digital innovation.

About (caravelo (

Caravelo is a leading technology provider for the travel industry. Their platforms make it easy for travel brands to realize ambitions in digital distribution, post-sale optimization and next generation products. Caravelo deliver innovative omni-channel solutions for airlines and travel companies around the globe.

Contact us to find out how caravelo can bring your ambitions to life:

📞   +34 810 10 10 13

✉️   info@caravelo.com

🖱️   caravelo.com