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PittaRosso: Artificial Intelligence-Driven Pricing and Promotion

In May 2019, Marcello Pace, the CEO of PittaRosso, was discussing the final details of implementing a new Artificial Intelligence (AI) based system for marketing decisions with Valentina Labate, the head of Merchandise planning and Allocation. Since Pace took over as CEO of the 50 years old Italian shoe retailer in September, he implemented many changes. These included financial restructuring, closing down operations in France and closing nine stores in Italy, changing the marketing messaging, implementing new processes for product planning and ordering, and redesigning retail stores. Labate was put in charge of the most recent change – a new AI system to help with pricing and promotions.

Previously, advertising focused solely on the PittaRosso brand. Up to 6 million members of the loyalty club would receive discounts and exclusive promotions by email or text message. Prices were set by the buying department based on its knowledge and expertise, which included inventory-based rules, as well as frequent store wide discounting (e.g., ‘30% off on one item of your choice’ or ‘Buy one get one free’). However, pricing was hard to manage with 200 stores and thousands of stock keeping units (SKUs), as an average store carried 39,000 pairs of shoes. These ordering and discounting processes led to excess inventory of older collections. Pace believed that it was time to implement an automated system that could make the pricing and discounting decisions for individual SKUs.

The initial recommendations of the AI system created angst within the buying department, as the recommendations were at odds with their traditional practices. The finance department was also concerned, since the predicted outcomes didn’t look as good as they had hoped. Labate together with Fabrizio Fantini (HBS MBA 2009), the CEO of the company that created PittaRosso’s AI system, wanted to take the time to calibrate and test the system before starting to use its recommendations. Because the summer season was about to begin, Pace decided they should implement the system right away and learn as they go. He believed that their refinancing goals could become achievable with AI.

Labate examined the system. She was able to implement changes that would affect both the top of funnel and bottom of funnel marketing activities for PittaRosso. Once the objective function was defined, she could plan the summer season and choose which products to markdown and by how much, which additional promotions to apply and when, and how much to spend on online marketing. But what was the right objective function? Should it focus on revenues, margins, or the sell-through of older inventory? Each department had different views, but ultimately it was up to Pace to decide.

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Company Overview

Founded in the Venetian markets of the 1920s, Pittarello was a family footwear store. In the early 1970s they opened two stores in Padua and has been growing ever since. In 2011, a private equity firm acquired the majority of the company and hired a new CEO. In 2013, the family split the company, and PittaRosso was born. In December 2014, Lion Capital, an investment fund, acquired the company and adopted an aggressive growth strategy, growing the number of stores from 163 to 234, while expanding operations to France, Slovenia, and Croatia. By that time, PittaRosso was a well-known Italian shoe retailer, selling both international and local brands of sports and casual shoes (see **Exhibit 1** for a list of sample brands). Pace, a shoe retail industry veteran, was hired as the new CEO of PittaRosso in September 2018. What seemed at first like a development position became a turnaround position after Pace realized the company was too leveraged and had to start financial restructuring and store closures.

Pace as CEO: Communication, merchandising, and retail

"Shoes are not fine Italian wine, older is not better"

— Marcello Pace, PittaRosso CEO

Pace focused on improving three areas: communications, merchandising, and retail. Marketing surveys (see **Exhibit 2** for survey detail and **Exhibit 3** for a perceptual map of the competitors in the space) demonstrated that despite the new name the company had high aided awareness (90%). However, it lagged in terms of being top of mind for consumers. Surveys and focus groups led Pace to the conclusion that PittaRosso had a product problem and had to improve its assortment. Previously, PittaRosso used agents to buy shoes from manufacturers, and lacked the knowhow on the buying process. This led to sub optimal assortment of shoes for which PittaRosso was overpaying and eventually offering deep discounts. These deep discounts were particularly problematic, as consumers perceived PittaRosso as a discounter, and had learned to wait for better prices. Pace revamped the buying process and ensured that stores carry shoes in line with the current trends. He also improved the retail store experience (see **Exhibit 4** for images of the redesigned stores). Accordingly, Pace changed the marketing messaging to focus on the shoes themselves, rather than the PittaRosso brand which was already well known among Italian customers. Within six months of these product and retail changes, there was a complete transformation in customers' perceptions as well as competitors who started sending employees to PittaRosso's stores to measure the competition.

Pace also noticed that the merchandising was lacking. PittaRosso had a traditional practice in which the warehouse would be completely cleared, followed by distributing identical assortment to all stores. Regardless of location, every store started each season with identical assortment, despite the differences in fashion and in climate across different areas in Italy. Only then would supply be moved between stores based on demand. Due to the growth aspirations, PittaRosso bought high levels of stock with the hopes it would sell – 160 million Euros in cost for a business of roughly 300 million Euros in revenue. To address the large stock, PittaRosso offered storewide or pick-your-own-item discounts. But these led to aging of the inventory because consumers tend to pick newer collections. The problem was exacerbated by the fact that similar discounts applied to products of the same type (e.g., boots) regardless of the product age (though older products were marked down compared to new products from the same season). The average inventory age was higher than one year, with some stock going back 10 years. While the sell-through rate of inventory was less than 75%, Pace believed that it should be at least 85%. To improve merchandising, Pace recruited Labate, his former colleague from the global shoe retailer Bata, to head merchandising and planning at PittaRosso.

Given all of these issues, Pace thought that PittaRosso was ripe for AI adoption. Among the company's staff, many believed they can make better decisions than machines, given their expertise and experience, and were resistant to change. To ease the transition and avoid internal conflict, he hired a consulting firm that came to similar conclusions. Eventually, after researching different software options, Fantini's firm, Evo Pricing, was hired to implement PittaRosso's AI system.

Implementing the AI system

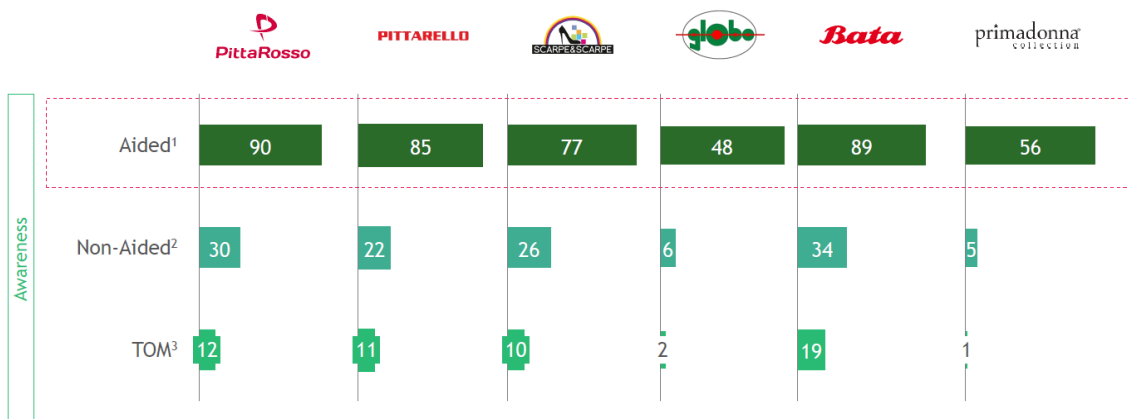
Labate and Fantini worked together to collect inputs for the AI system. In addition to collecting information about each SKU, they used historical data on sales, discount events, and inventory to help the system learn about price sensitivity and market trends and used inputs from previous campaigns to train the system on expected conversion rates. Using this information, the system made recommendations on future pricing, discounts, and promotions. Then, the system uses new data to update its predictions and recommendations. The spreadsheet supplement for this case (**HBS No. 522-710**) contains a simplified version of the system.

The 2019 summer season was planned to be the first test of the system. Initially, Pace asked the team to set the system to an 85% sell-through target. It was decided to have the same prices and discounts online and in physical stores, but to allow different prices and discounts for different SKUs. The initial recommendations suggested that the markdowns (permanent discounts) should be higher for summer shoes compared to the spring shoes. Everyone was shocked; this was exactly the opposite of their old habits: markdown according to age. In addition, the average markdowns were higher than they used to be, causing additional concerns and resistance toward the tool. The finance team was mostly concerned with cash flow and wanted PittaRosso to achieve the highest revenues possible, while also maintaining a certain level of margin. The buying team felt that their old ways of doing things can achieve better outcomes than the AI recommendations. Nevertheless, Pace was poised to implement the system and start seeing results. All that was left to decide was which objective functions to focus on. Consequently, Labate can generate recommendations about markdowns, additional discounts, and online marketing expenditures.

Exhibit 1 Brands available at PittaRosso (sample)

Casual Brands	Sport Brands
CARRERA JEANS	ADIDAS
CATERPILLAR	ASICS
CIAC RONCATO	AUSTRALIAN/DUCATI
DEBBY	CHAMPION EUROPE
DELSEY	CMP
DIADORA	CONVERSE
DISNEY	DIADORA
DUCATI	DISNEY
EL CHARRO	DOLOMITE
ELISON	GARTNER SPORTS
FARMAMED	JOMA
FILA	KAPPA
GEOX	LOTTO SPORT
JACK&JONES	LYTOS
LAURA BIAGIOTTI	NIKE
LEVI'S	ORIGINAL MARINES
LONSDALE	PUMA
LUMBERJACK	REEBOK
NERO GIARDINI	SAFETY JOGGER
PERLETTI	SALOMON
POMPEA	SKECHERS
PUMA	UNDER ARMOUR
ROMEO GIGLI	VANS
SKECHERS	
STONEFLY	
T2B	
THINK PINK	

Source: Casewriter, based on company documents.

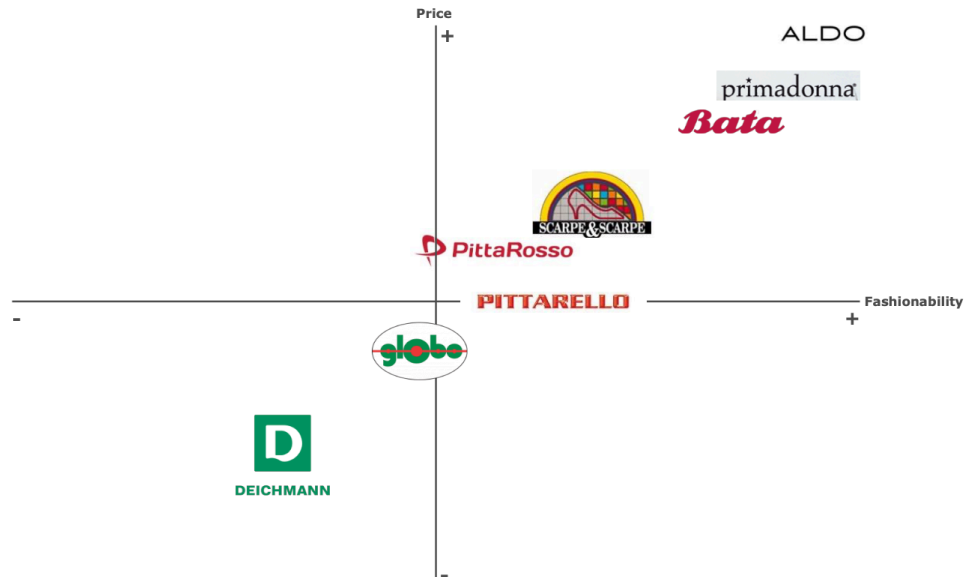
Exhibit 2 Awareness survey, 2018

Source: Company documents.

- Note:
1. Aided: Knowledge of brand expressed when promoted;
 2. Non-Aided: Brand recalled without promoting;
 3. Top of mind: Brand comes first in customer's mind when thinking about an industry

Exhibit 3 Perceptual Map of Italy's Shoe Market

- The market is **concentrated** with **PittaRosso, Pittarello and Scarpe & Scarpe** offering very similar products in terms of price and fashionability. At the same time, Globo is more value oriented but the assortment does not differ much in terms of trends.
- **Bata** is a **more upscale** player, **more stylish** and with **up-to-date products** and **higher prices**. **Primadonna** and **Aldo** are other specialists with **overlapping prices** with **PittaRosso's** top assortment.



Source: "Price positioning and price architecture in the Italian footwear market" Beragua 2020 case study, <https://beragua.com/cms/wp-content/uploads/2020/11/price-positioning-and-price-architecture-in-the-italian-footwear-market.pdf>, accessed 3/3/2022.

Exhibit 4 Retail Experience



Source: Company documents.