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In-Store promotional customer insights justified double-digit price increase

Benefits of the real-time A/B testing and demographic profiling of your brick and mortar retail promotion

Ultinous Video Analysis Platform

CASE STUDY

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Using Ultinous' intelligent video analytics platform, a leading European retailer has been piloting a real time promotional analysis system in 5 selected stores to offer added value to their suppliers and to better price their own promotional service offered to them.

Using an already existing CCTV network, cameras near promotional locations and cashier areas have been set to capture live feed of bypassing visitors and customers. This will detect those who interact with a promotion and measure the conversion rates. To do this, we have defined regions of interests (ROI) for each promotional spot and the cashier areas.

By re-identifying customers at the cashier who has been detected within a promotions ROI, it becomes possible to use the POS data, creating exact conversion rates and valuable customer insights including behavioral and demographic information.

After a 3-month pilot period, the retailer gathered enough hard data to redefine its promotional service offered to its suppliers , including a customer profile based A/B testing for increased promotional results, that generated significant increase of income on both sides of their cooperation.

The challenge

Short term promotion of brands in a retail store is part of the daily business for decades. Placement techniques and displays went through an evolution over the years, but what about campaign analysis and evaluation? Not much. Till now, using promotional coupon codes on promoted items and human (hostess, promoter) data gathering was the only solution that meant extra financial investment either on the production side or in the human cost of a promotion. Even in these cases the most important information was getting lost: who buys the promotional products? What are their demographics? Are we communicating to those who finally purchase? Does one promotional in-store setup perform better than another?

More than these, retailers cannot be sure they charge the right amount for their best performing placement opportunities in a store.

Having an automatic solution to answer these questions using hard POS data can result in significant increase in both retailers and promoters income and customer satisfaction improvement at the same time.

The solution

One of the key parts of our promotion analysis solution is to accurately detect and track store visitors who have interacted with a monitored promotional installation. Unlike most vision-based retail analytics systems, we don't use cameras facing down vertically. Instead, we use a camera that watches a certain store area from a horizontal plane of 10-30 degrees. This setup allows us to use the video stream for demographic analysis including gender, age, person re-identification and anonymized face recognition. Using this information, we are able to follow a store visitor from the promotional area all the way to the cash desk even in cases when a store does not have a full camera coverage. This makes the whole system time and cost efficient.

As a starting point, we count and identify all people entering the store, including their demographic profiling. As a next step, we monitor all predefined promotional spots aka region of interest (ROI) areas using our line-crossing solution to see who is interacting with the promotion. We also measure the time visitors spend to get to the promotional area, the time they spend interacting with the promotion and the time they take to get to the cashier to make a purchase. Our re-identification module is able to recognize the same person throughout the store even if facial recognition is not possible by using full body features (hairstyle, clothing, etc.). We do this with real-time anonymization, meaning that no sensitive personal data is stored. By re-identifying those customers at the cashier who have interacted with a promotion and matching the time codes of the POS terminal, we are able to analyse a wide range of promotional and customer insights.

These include:

Customer insights:
- Age ranges of those who have interacted with a promotion and those who have finally bought the product
- Gender of those who have interacted with a promotion and those who have finally bought the product
- Which product variation (value packs, feature variations) performs better in the promotion by which demographic group (by age and gender)

Promotion efficiency
- Busiest period of a promotion within a day or a week (e.g. to set when human support - hostess/promoter - can add the highest added value to reduce cost and maximize income)
- Which hostess/promoter perform better and how much actual sales they generate
- Which promotional display setup performed better (even by demographic segments)
- Which are the best performing promotional spots (even by demographic segments)

Ratios:
- Nr of people interacting with a promotion/ Nr of people entering the store
- Nr of people buying the promotional product/ Nr of people interacting with a promotion
- All conversion rates vs gender and age groups
- All POS data vs gender and age groups

Person re-identification applied in a store. The algorithm can match the person based on his full body features like hairstyle or clothing.*

Results

As a result of the pilot project, the Retailer has revamped its promotional concept offered to its promotional brand partners. Using the added value of the promotional analysis profiles and measured value of its in-store promotional spots, they were able to **justify a 11 % price increase on promotional services**

with even increased satisfaction on the supplier side thanks to the valuable customer insight they are able to provide.

About Ultinous

At Ultinous, we provide intelligent video analytics technology to improve your products and services or build great new things. Our image and video recognition technology is made easily accessible by a clean API, empowering developers all over the world to build a new generation of intelligent applications.

About Ultinous Retail

The Ultinous Retail Platform leverages cutting edge Artificial Intelligence and Deep Learning, which means shopper patterns can be assessed in real time. Alerting methods depend on the individual store requirements. Ultinous Alert Platform can be implemented easily and cost effectively using the existing CCTV infrastructure into several to thousands stores. Ultinous Alert data can be easily combined with existing analytic information.

Contact

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As of confidentiality reason pictures used in this business case has not been taken on the Partner's premises.