Leveraging information

BIG DATA ANALYTICS IN THE RETAIL INDUSTRY

zeenea

Introduction

At Zeenea, the hot button issue of Big Data analytics in the retail sector has come up in spades over the years. Indeed, we have been chosen on numerous occasions by Data analytics and Business Intelligence teams from companies in a variety of segments within the retail industry (luxury products, global supermarket chains, online flash sales and smart B2C retail apps, etc.) to help their data and business teams see more clearly through the oceans of data they amass from the many different sources they depend on (data lakes, data warehouses, ETL platforms, BI tools, etc.).

This white paper covers:

- **The impact of Big Data** in today's retail landscape and the associated challenges of Big Data analytics for (mostly online) retailers
- And how we at Zeenea suggest **those challenges be met through the adoption of a Data Catalog** (with a recent use case to demonstrate how we can help).

Should you wish to know more about where Zeenea stands in the data cataloging market, please read our paper, "**The 7 lies of Data Catalogs Providers**".

What has Big Data meant for the retail industry?

Before delving into the informational challenges retailers face today, let's do a quick dive into the benefits Big Data actually brings to this highly information-dependent activity.

Analyzing vast volumes of structured and unstructured data coming in every second from a plethora of different sources is crucial to improving:

Customer service and satisfaction

ADOPTING THE RIGHT PRICING, FOR THE RIGHT PRODUCT, AT THE RIGHT TIME (PRICING ANALYTICS)

Improving the level of customer service is perhaps the most obvious and simplest way to put Big Data to good use. The sources for improving customer service are well known:

RECORDING CUSTOMER CALLS

Probably less relevant to retailers today if one takes Amazon as an example.

IN-STORE VIDEO FOOTAGE ANALYSIS

Granted not an easy task since the beginning of the Covid pandemic. This last source of information actually predates big data and has been used for years to monitor which area in a store customers gravitate towards and subsequently arrange their stock accordingly.

VERIFIED PRODUCT FEEDBACK

The technique of sentiment analysis from both oral and written product feedback is also increasingly used by Data Scientists to gauge the popularity of any given product or label and enables business people to make better informed decisions. This relatively new method of analyzing customer satisfaction relies entirely on both Machine Learning and Big Data.

ENSURING A LEVEL OF SATISFACTION FROM A LOGISTICS PERSPECTIVE

Delivery, returns, shipping process, etc.

Any successful retailer today will have harnessed and leveraged the actions above in order to keep its customers and figure out new ways of **improving their buying experience.**

You can measure the importance of leveraging the wealth of available digital data when you consider the agonizing demise of Toys'R'Us. For 70 years, this retail giant was the unmistakable brand for children toys the world over. Its failure to adopt modern technologies, analyze its customer data and adapt the user experience to the digital age was one of the reasons its customer base slowly slipped away to new market players.

Big Data also provides **an enormous advantage for businesses when selecting and pricing their products**. Consumer based pricing (also known as demand-based pricing) has been the overwhelming success factor for many online retail groups. Indeed, it has enabled them to master the art of pricing elasticity in order to maximize their profit margins. In order for this strategy to pay off however, the data needing to be handled is…enormous.

This is where Big Data (along with AI) comes in. Big Data provides retailers with crucial information on pretty much everything that is relevant to their business:

- How much a client is willing to pay
- How much the competition charges for a similar product
- Promotions currently on offer, and where, etc.

In order to decipher these hind-sights, data collection is obviously key and should be started as soon as possible in order to work on its quality, its storage and its long-term organization. Pricing optimization software, now a common feature of retail analytics, uses this data to calculate the most pertinent price for any given product. It's still the responsibility of business managers to call the prices but these new AI powered pricing products provide a previously nonexistent advantage for maximizing revenue. Demand-based pricing works best with Big Data and AI power software.

So where does a Data Catalog fit into this?

The simplest way to demonstrate how the Zeenea platform can help retailers manage their data is to describe a use case a customer of ours went through recently:

The customer, let's call him V to protect his anonymity, is a **100% web orientated, fully digital, international organization**. The group recently invested in a modern cloud-based architecture in order to scale in a simple manner. Its chosen technical stack is Google Cloud Platform at its heart along with other solutions such as DBT and Microstrategy (the latter being historically hugely popular in the retail sector because of the enormous query volumes it can handle).

The key data stakeholders in the company were very keen on fostering greater autonomy within the various data teams (both from IT and analytics).

They wanted to enable some measure of what they describe as **«self» business intelligence, to obtain greater visibility from their data landscape** and ensure a better time-to-value for their data assets...amongst other things.

Like most retailers, the group has **a Big Data Architecture, with zillions of raw data needing to be processed, cleaned, exploited**, etc...so that this data can then be properly analysed and exploited by business users. Indeed the business users, all with strong analytics backgrounds were also in need of much clearer documentation of the perimeters they depend on and better fulfill their requirements (dashboarding, analysis, etc).

A **cataloging solution** was also of interest to this client to help the IT teams get **better visibility on the different processing layers** in order to ensure long term control of their data and make informed decisions.

Zeenea was the perfect fit for them.

Our metadata management platform (Zeenea Studio) **can connect to any data source on the market** (in this case, GCP, DBT and Microstrategy) and **empower the data stewards to harvest, curate and document the data sets at will**. Our scanners can update information from all data sources as frequently as is needed to ensure the information being shared with the IT and analytics teams is reliable.

Information accessibility for the analytics teams is hugely improved as a result. Indeed, our customer simply has to **connect to our knowledge graph powered search engine** (Zeenea Explorer) to access the information they need.

With the data assets properly managed, documented and tagged, they have a much more accurate and accessible view of the data assets.

It was important for the client to **be able to limit access permissions for the analytics and BI teams**. Indeed, giving full access to everyone would not have been useful and would have caused confusion. Here again, our platform is ideal for **setting, changing and adding permissions seamlessly**.

The size and implications of the project from an organizational point of view was such that the customer needed a cataloging solution that, once deployed enterprise-wide, could **handle dozens upon dozens of data stewards and thousands of users the world over**. In the short term, however, it was crucial to start with a modest scope and deploy the catalog bit by bit.

And here again, the match was perfect. **Zeenea has a scale-up-fast model that is agile, contractually very straight forward and with no real technical limitations**.

To find out more about what Zeenea does (and what it doesn't do), please, read our paper:
> The 7 lies of Data Catalog Providers.

More information on our Data Catalog?

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