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BDVA 2020,
28 May 2020

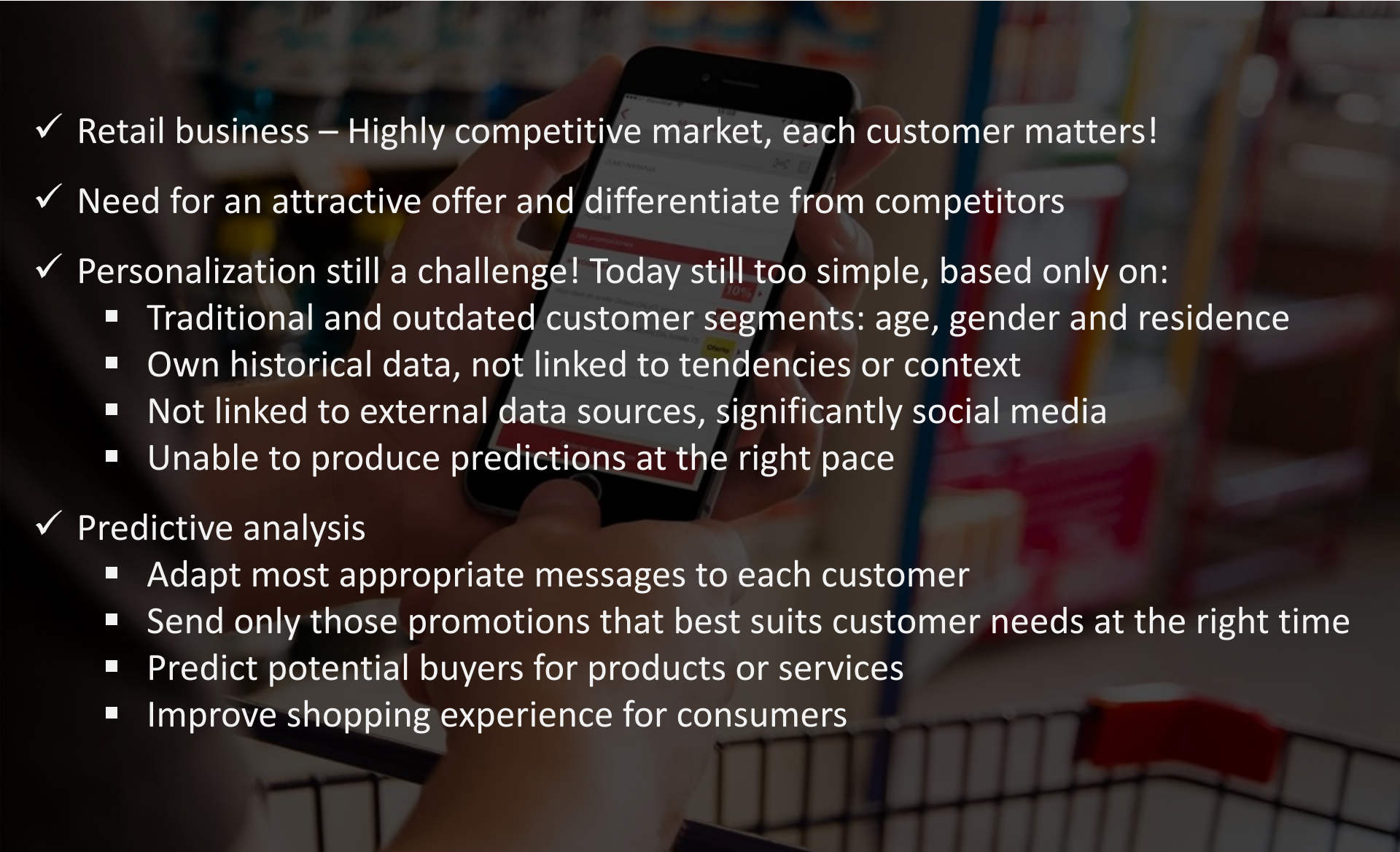
Connected Consumer

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1. Business context and opportunities

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- ✓ Retail business – Highly competitive market, each customer matters!
 - ✓ Need for an attractive offer and differentiate from competitors
 - ✓ Personalization still a challenge! Today still too simple, based only on:
 - Traditional and outdated customer segments: age, gender and residence
 - Own historical data, not linked to tendencies or context
 - Not linked to external data sources, significantly social media
 - Unable to produce predictions at the right pace
 - ✓ Predictive analysis
 - Adapt most appropriate messages to each customer
 - Send only those promotions that best suits customer needs at the right time
 - Predict potential buyers for products or services
 - Improve shopping experience for consumers

2. Use case – Application Context

Worldline is collaborating along with **one of the largest Spanish grocery distribution companies.**

More than 3000 physical stores
1.2 million products
1 million customers
3000 million ticket items (2 years history)

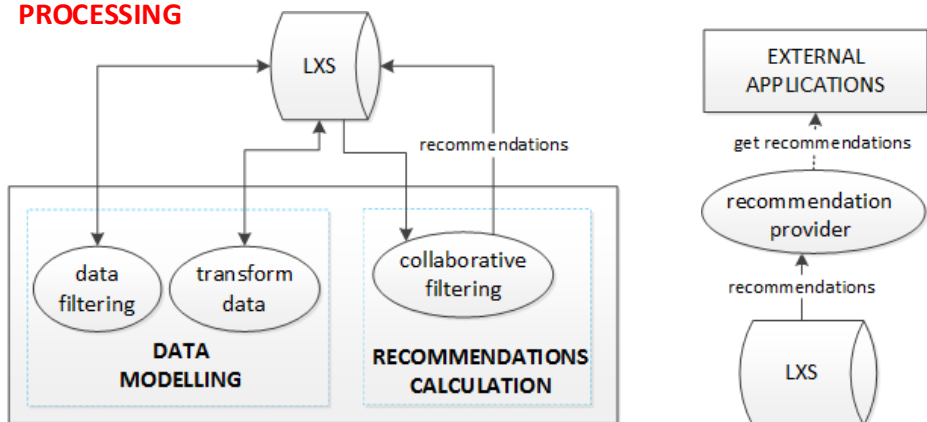
Altogether 1TByte of data

The **challenge** is to **build a collaborative-filtering recommender system over BigDataStack** that helped our partner to personalize product predictions to their customers. Thus, increasing customer satisfaction and loyalty.



3. Application Architecture

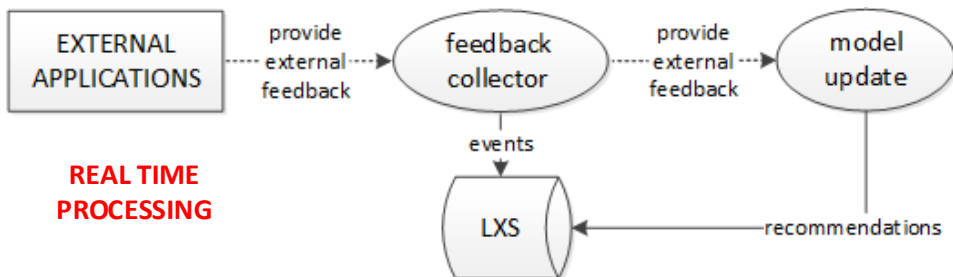
BATCH PROCESSING



KPIs definition

recommendation provider	Time response. <200ms x request	REST Web Service
data filtering	Throughput. Number of customers/second	Python application
transform data	Number of customers/second	Python application
collaborative filtering	Number of recommendations / minute	Python application + Apache Spark
feedback collector	Time response. <200ms x request	REST Web Service
model update	Number of events / second	Scala Process

REAL TIME PROCESSING



4. Solutions provided by BigDS

**Required
resources**

**Provisioning of
resources**

**Run-time
adaptations**

**End Users
tools**

