



SAP HANA Data Management

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PUBLIC

SAP HANA Data Management Suite

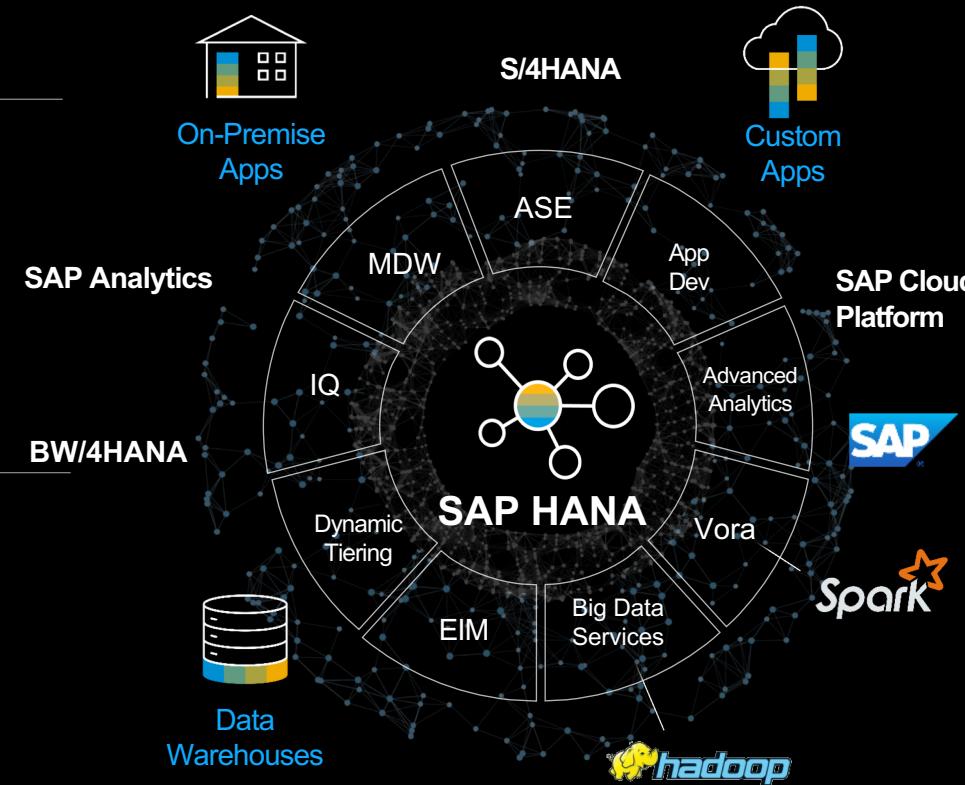
Secure, governed, enterprise-class applications and analytics from a trusted, unified view

Transactional Systems

- Structured Data
- OLTP
- ACID
- 3NF
- Process integration

Data Warehousing

- SQL | Schema First
- OLAP & BI
- EDW / Data Marts
- Hierarchies
- Star Schemas
- Terabyte-scale



Intelligent Engagements

- Modern UI
- Machine Learning / PA
- IoT / Connected Devices
- Advanced analytics (text, spatial, graph, streaming)

Data Lakes

- Unstructured / Semi-structured
- NoSQL | Schema on Read
- Logs, Clickstreams, Sensor Readings
- Petabyte-scale

ML for High Volume Trading Reconsolidation

Customer Intensive

Leading Hedge Fund Manager

8,000 Employees

Executive Sponsors

- CIO
- MD of Trading Clearing

ART –
Automated
Reconsolidation
Tracking

SAP PA

Perfect Match

Partial
Matches

Not
Matched

Non-Critical
Path

Critical
Path

Yellow indicated where customer wants to leverage SAP Machine Learning

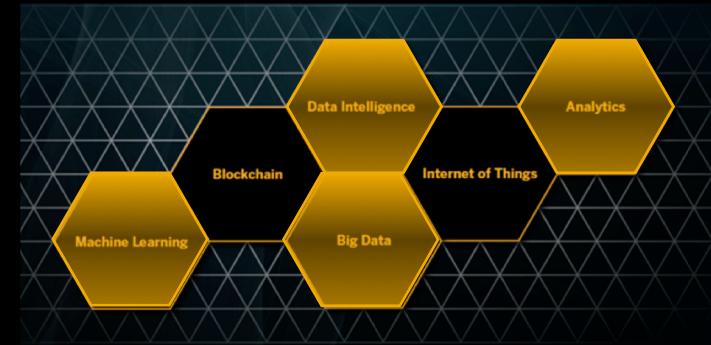
Business Challenges and scope of collaborative prototype

The customer is a leader for financial services for institutional funds as well as large wealth (hedge, private equity and real-estate). The efficient execution of their changing investment strategies requires a complex reconsolidation platform. Despite their automated platform customer still requires about 1000 people to manage transactions that are not executed automated.

The customer wants to leverage the SAP Machine Learning to help automate reconciliations their current core platform can't. SAP's solution is differentiated in 2 key areas: The powerful and self-adaptable Machine Learning capabilities as well as the ability to 'reverse engineer' the machine learning logic to have full transparency upon the logic and principles on how the system decides and operates – a requirement both by internal stakeholders and trade regulations.

Key Technologies leveraged:

- HANA Platform
- Predictive Analytics
- SAP Cloud Platform



Results / outcomes / next steps:

Delivered content and demos that

- ✓ Showcased the machine learning (ML) capabilities
- ✓ Showcased the traceability of the utilized ML logic
- ✓ Technology scale and security matching customer needs
- ✓ Solid project plan

Next: Ensure first ML models are developed, tested and adopted

Shrink Cause Analysis from Administrative Data

\$100 bn
Annual Revenue

500,000
employees

Executive Sponsors

- Director Finance IT
- Sr. Manager Data Analytics

Business Challenges and scope of collaborative prototype

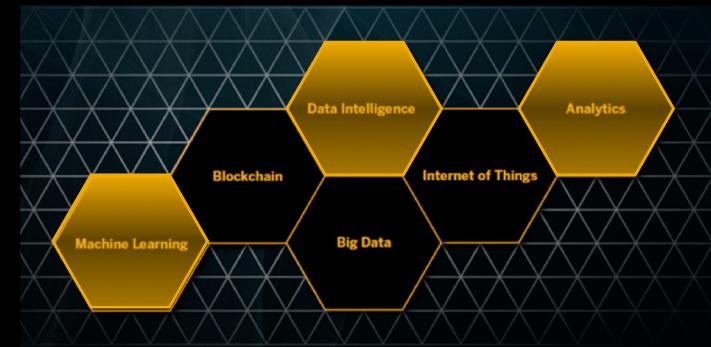
Shrink increased from \$2B in 2016 to \$2.2B in 2017 totaling 2% of revenue from 2016 to 2017. The customer is trying to understand the causes of increase by considering supply chain, ordering channels, and location data.

During the PoC, SAP enhanced the data with crime data from the FBI database and built a predictive model to detect the causes of shrink from provided administrative data. The factors considered affect only 12% of shrink causes, and not the remaining 88%.



Key Technologies leveraged:

- HANA Platform (Spatial, APL, ETL)
- SAP Business Objects Data Services



Results / outcomes / next steps:

Developed models that

- ✓ Identified support variables and shrink drivers that can lead to actionable insights focused on shrink reduction
- ✓ Discovered shrink cause due to RDC supply chain activity specifically sending DCs 2777 and 2837
- ✓ Criminal activity specifically violent crimes, and property crimes can be an indicator of shrink increase

Next: second phase Poc proposal will be suggested to dig deeper into identifying what can be enhanced to decrease shrink