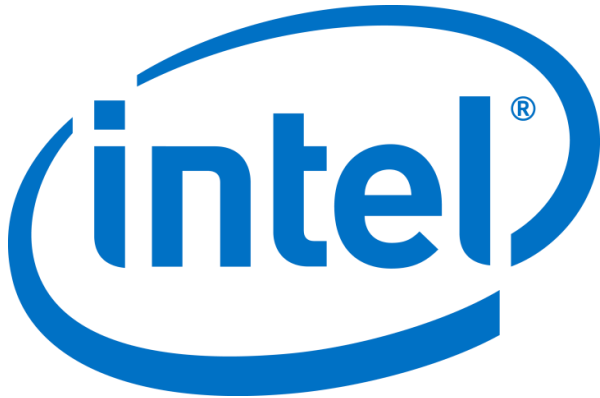


New Approaches for Fast Decision-Making with Analytics: 5 tips you should know

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September 29, 2015

Sponsors



Speakers



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Agenda

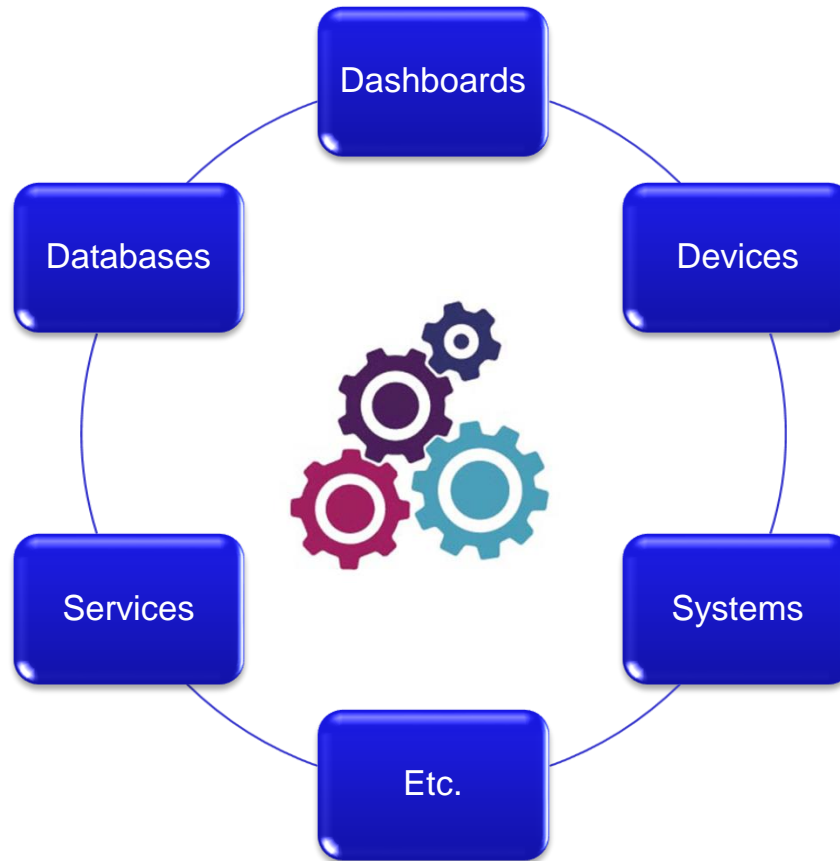
- Operationalizing analytics- overview
- 5 tips
- Lufthansa case study
- Round table discussion
- Audience Q&A

What is operationalizing analytics?

Integrating actionable insights into systems and business processes used to make decisions. These systems might be automated or provide manual, actionable insights



Many forms of operationalized analytics



A Framework for Operationalized Analytics

Interactive

Standardized
Approach

Can be
embedded

Integrated

Part of an
application

Seamless

Automated

Action
focused

Can change
behavior



Pervasive
True real time

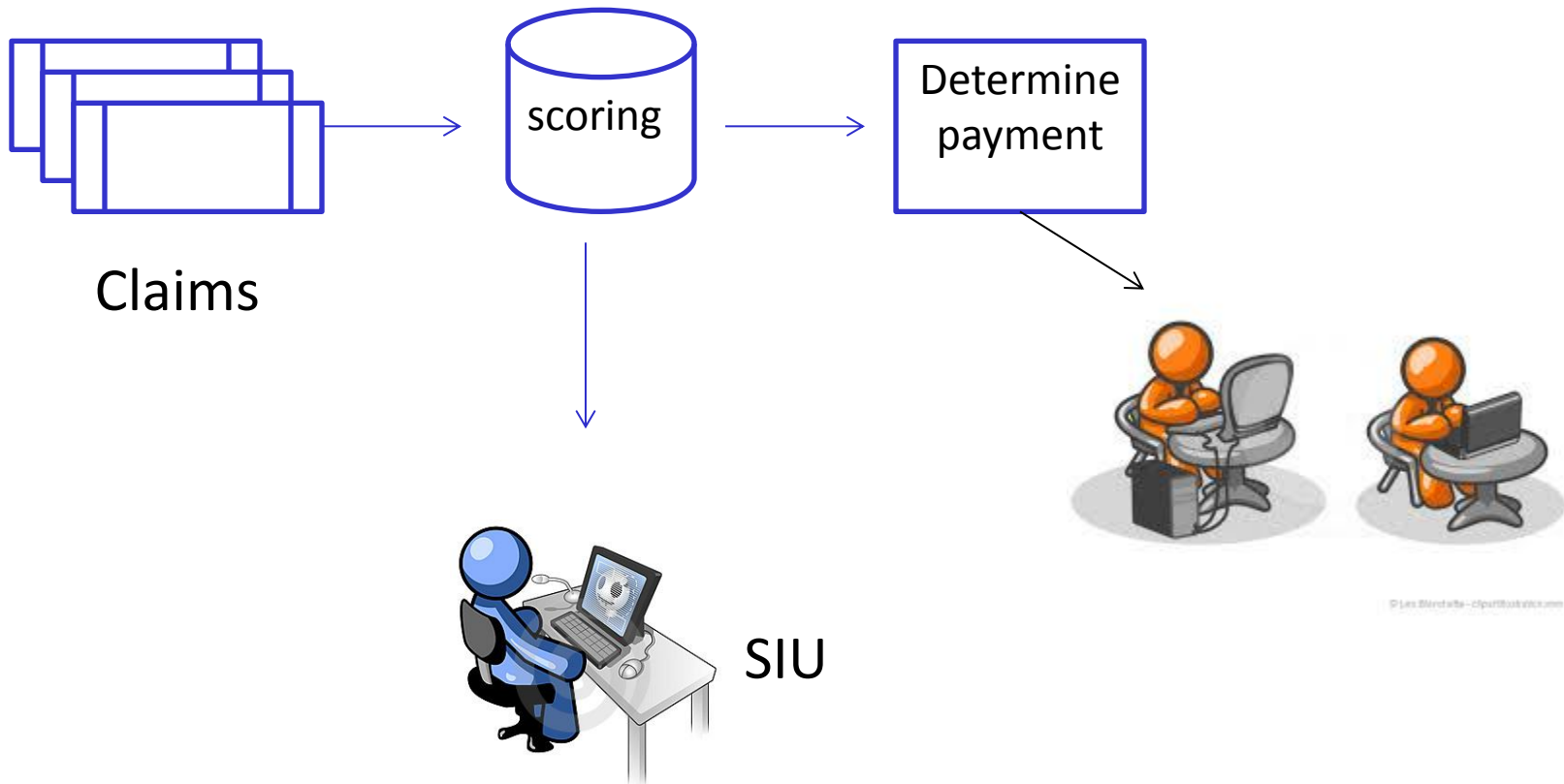
Interactive

- Interactive dashboards
 - *Call center*
 - *Warranty repairs*
 - *And much more*
- Can be manual but standardized



Integrated

Example: Claims processing



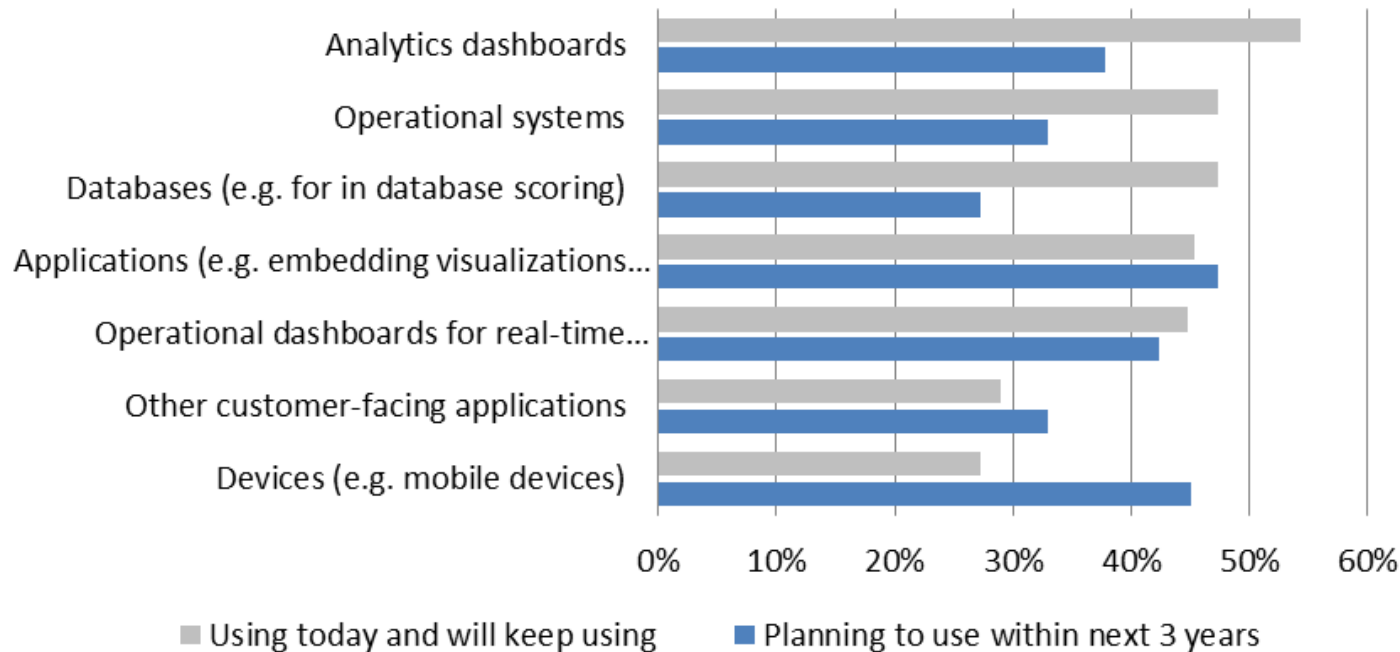
Automated

- Energy
 - *Environmental sensors*
 - Preventive maintenance or automated action



Status of embedded analytics

Where does your company embed analytics now? 3 years from now?



(source: TDWI 2015 upcoming BPR, n=304)

Tips- making better and/or faster decisions

1. Make analytics actionable
2. Use multiple kinds of data
3. Think about the broad analytics picture
4. Consider in-memory technologies
5. Develop an innovation strategy

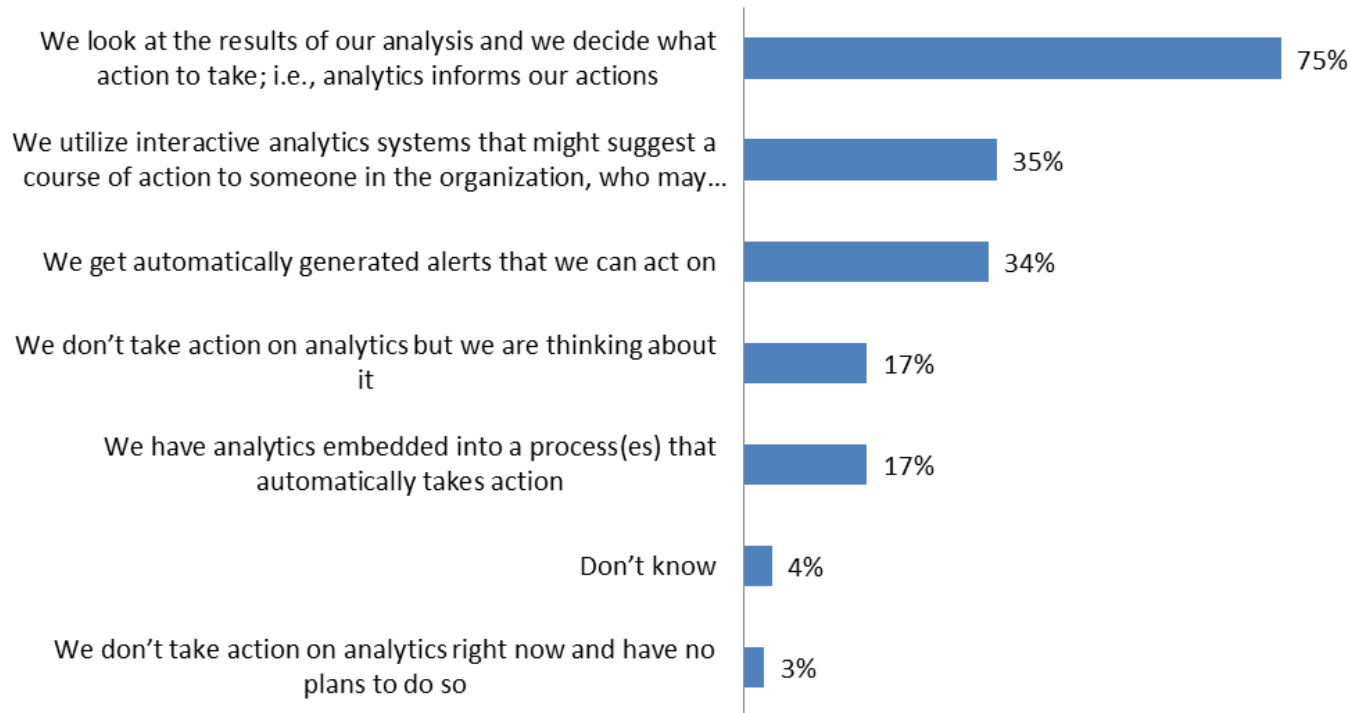
1. Make it actionable

- In a process
- In an application
- Automated
- Real-time

Action drives value, tie it to revenue

Many ways to take action

How do you take action on analytics?

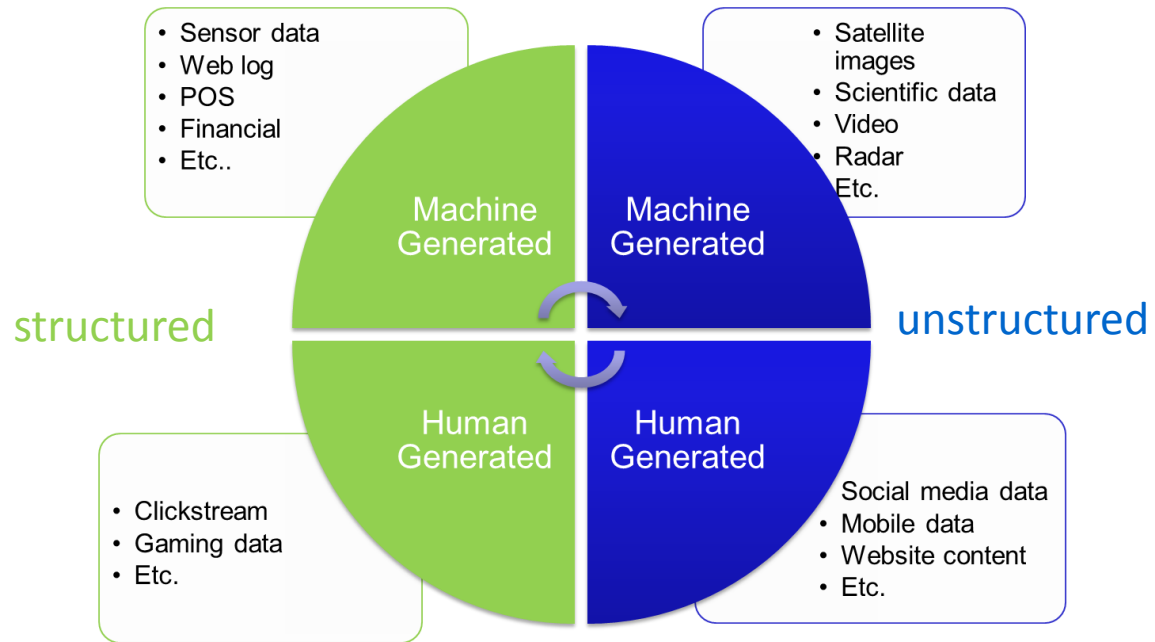


(source: TDWI 2015 upcoming BPR, n=304)

2. Use Multiple Data Sources

- Structured
- Semi-structured
- Geospatial
- Text

Integration is key



Plans are developing around data types

What kind of data do you use for analytics now? Three years from now?

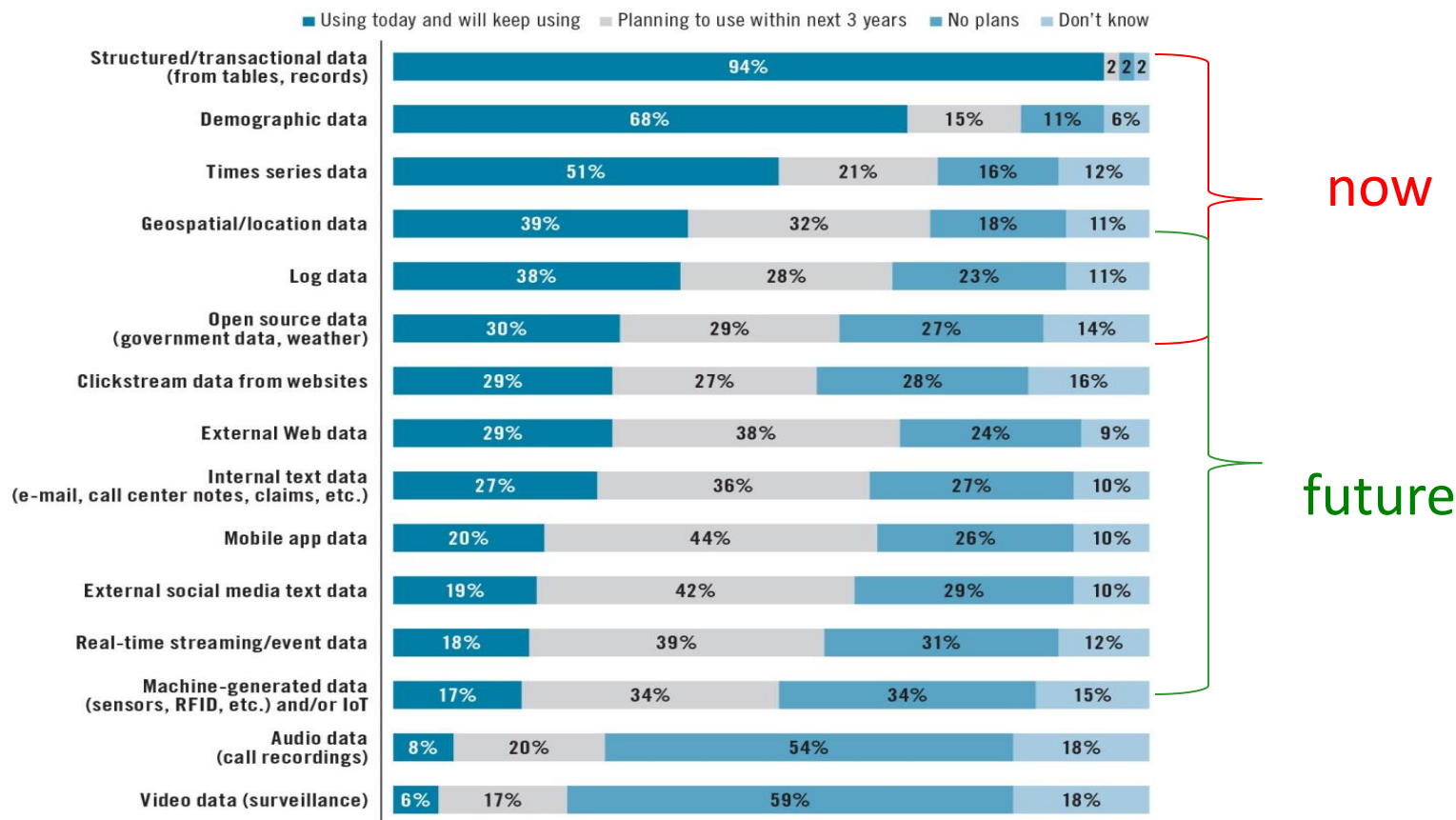
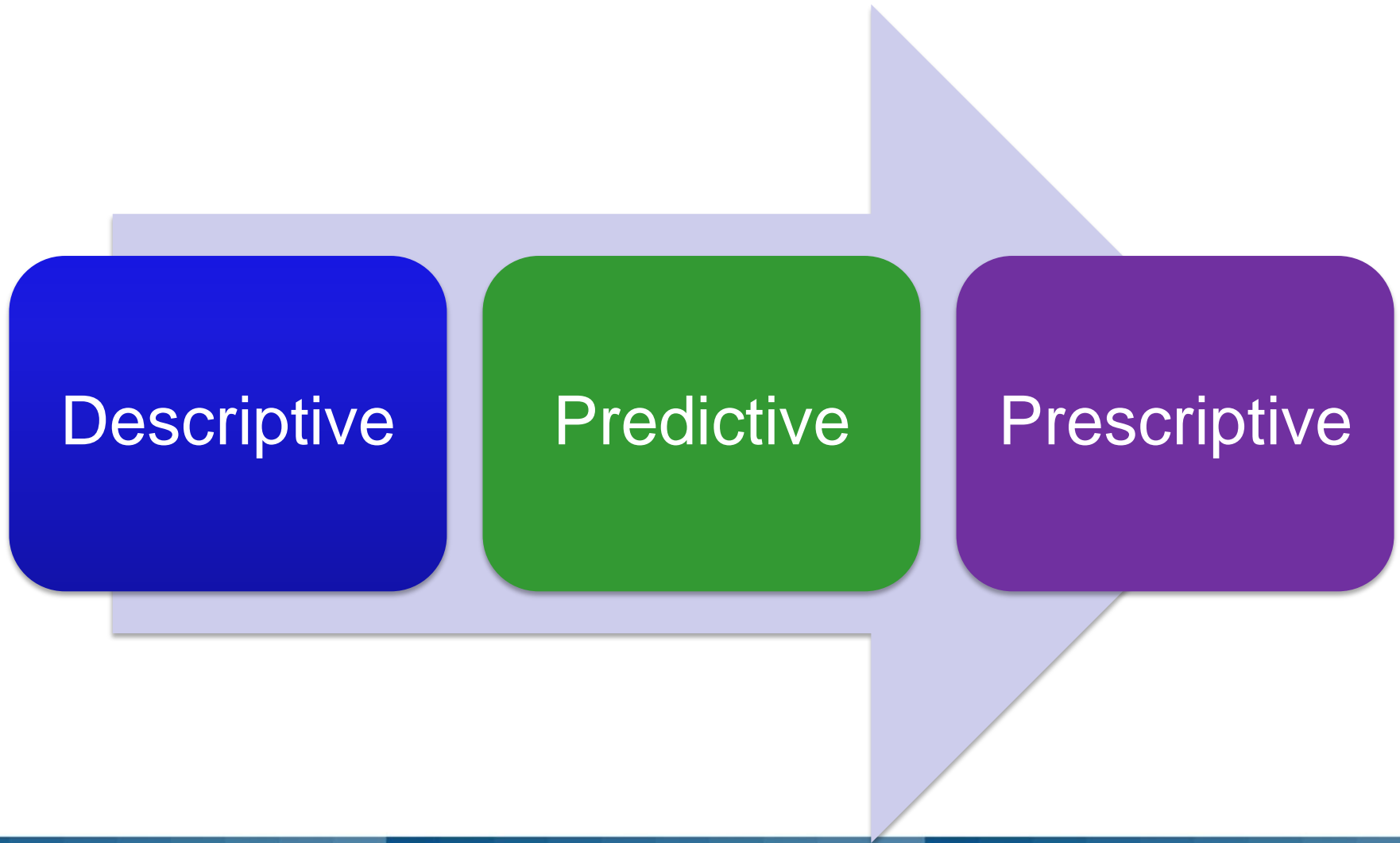


Figure 3. Data types being used for analytics. Based on 328 respondents.

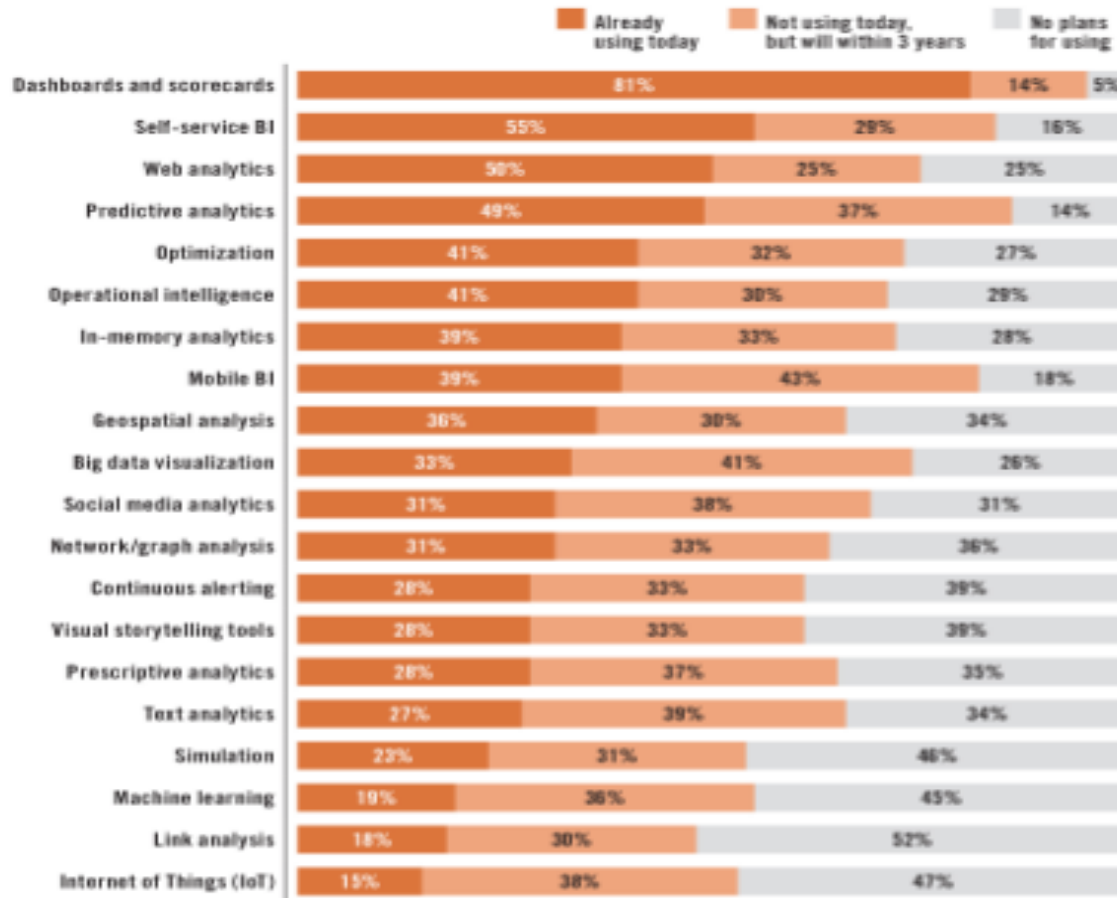
From TDWI BPR on Next Generation Analytics, 2014)

3. Consider a range of analytics



Organizations plans for analytics

Which of the following ETMs is your organization using for BI and analytics? Select one answer for each row.



now

future

(source: TDWI upcoming BPR on Emerging Technologies, 2015; n=344)

4. Consider in-memory

- Falling cost of memory
- Accessing memory is faster than accessing disk
- Multiple options

The need for speed!!



5. Develop an innovation strategy

- Tie analytics to revenue goals
- Organizational infrastructure
- Data infrastructure
- Analytics infrastructure
- Agile development



Lufthansa Systems Gets Instant Insights and Runs What-If-Scenarios in Split Seconds with SAP HANA



Company or Organization

Lufthansa Systems GmbH & Co KG

Headquarters or Location

Rauenheim, Germany

Industry

Aviation

Products and Services

Consultancy and IT-Service

Employees

3,000

Revenue or Budget

€640M

Web Site

www.lhsystems.com

Partner

HANA Spatial Dev team



Business challenges

- Airlines need real-time insights into normal flight operations of several thousands of flights per day
- Airlines are exposed to meteorological conditions which can result in cancellation or delay of flights
- Unplanned events lead to bad customer experience and high costs

Technical implementation

- Existing solution is not real-time and relies heavily on experts to make decisions
- Architecture is fragmented consisting of disparate products

Key benefits

- Provide decision-support to flight dispatchers and pilots to find alternate trajectories while minimizing costs
- Ability to track its global flight operations including thousands of flights per day on a rich visual interface (map & 3D)
- New innovative technology for dispatching, monitoring, simulating and visualizing air traffic in real time

“Together with SAP, we built a prototype of a future operational database for commercial flight support. The SAP HANA spatial engine has given us the ability to track thousands of flights per day on a rich 3D mapping interface which includes both spatial and temporal co-ordinates. At the same time, we were able to uncover breakthrough application scenarios that would not have been possible without the SAP HANA platform.”

Christoph Krüger, Lead Architect, Lufthansa Systems



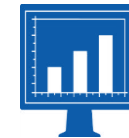
> 1k flights daily

Each flight will be simulated multiple times



> 10x faster

Performance increased by order of magnitude



> 1k events daily

Decision in multi-dimensional dynamic environment

Lufthansa Systems SAP HANA® Technical Implementation

Key features deployed

- Spatial Processing with SAP HANA
- Luciad lightspeed for visualization

Technical key performance indicators

- Reduced latency by 10x
- Improved query performance while analyzing more than 1K events & 1K flights
- Consolidated the IT landscape (applications, database, servers)
- Reduced data footprint
- Simplified setup, administration, data processing, application development

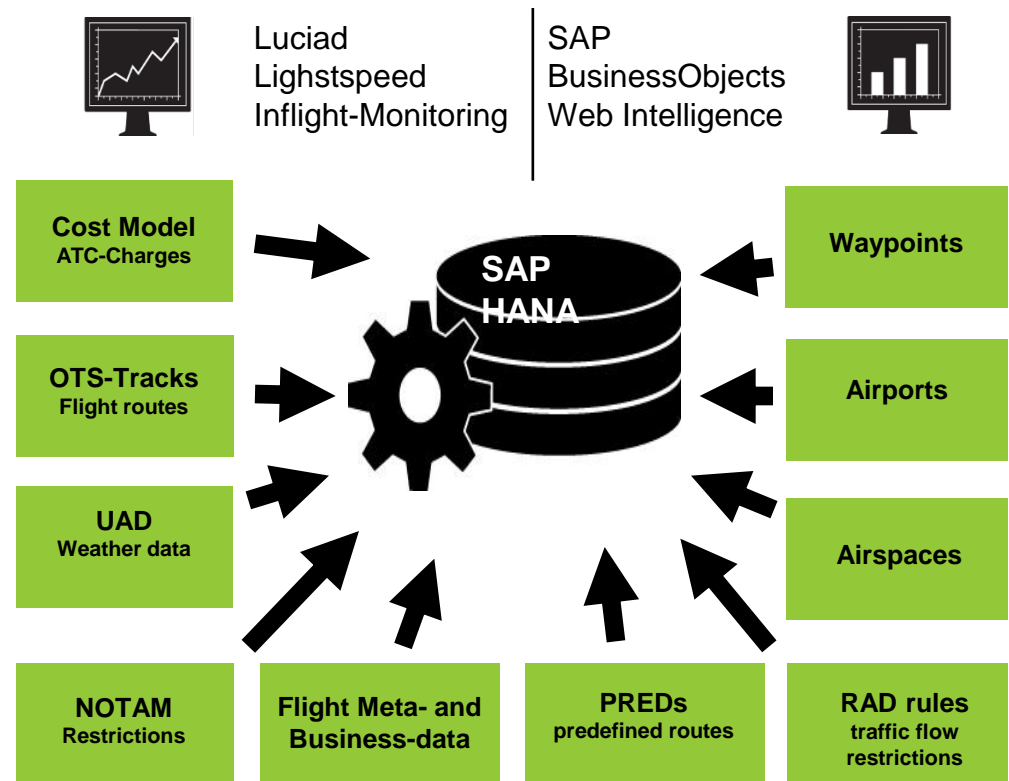
Partner involvement

- Implementation by HANA Spatial in just 3 months as a PoC

Future plans

- Leveraging HANA graph engine in combination with spatial processing
- Using the PoC prototype to create a new product version and going live
- Centralized HANA server for multiple airlines
- Global flight dispatching by considering current and future flight traffic

Lufthansa Systems SAP HANA® platform architecture



Roundtable Discussion

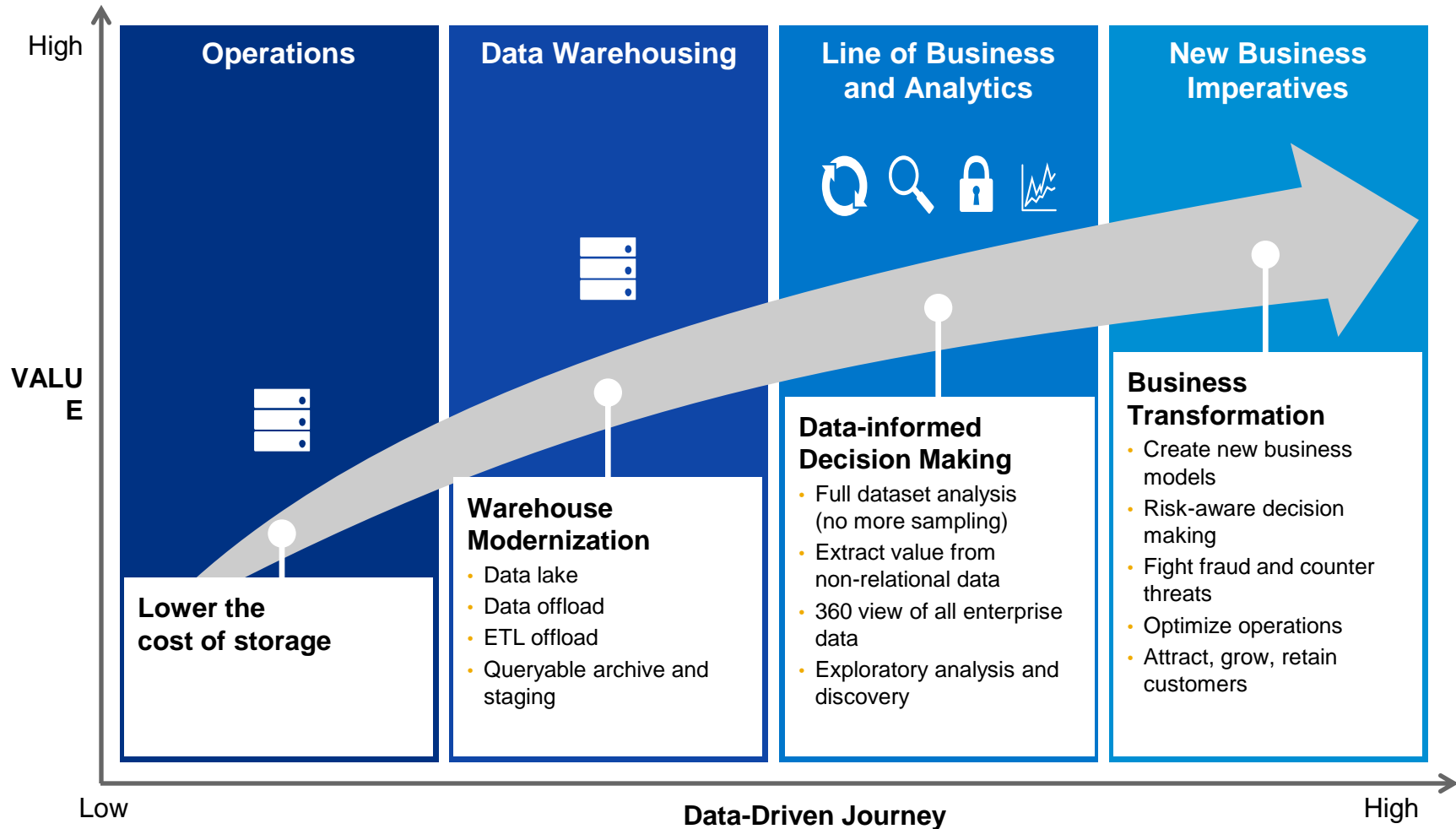


Question 1

- What role does data and analytics play in faster decision making?

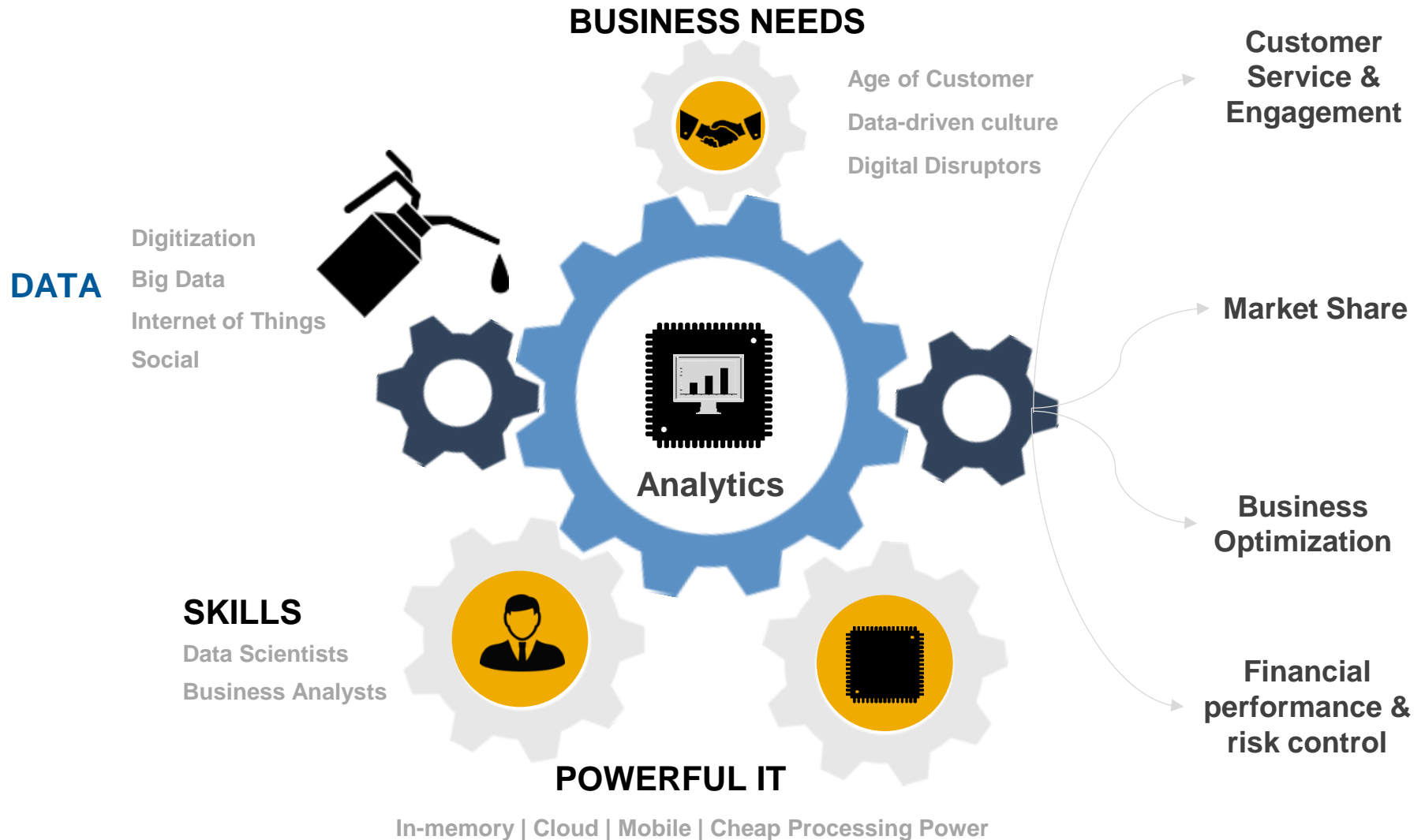


Digitization is Transforming Customers Approach to Data



What if you could...

Use data analytics to increase agility of your business



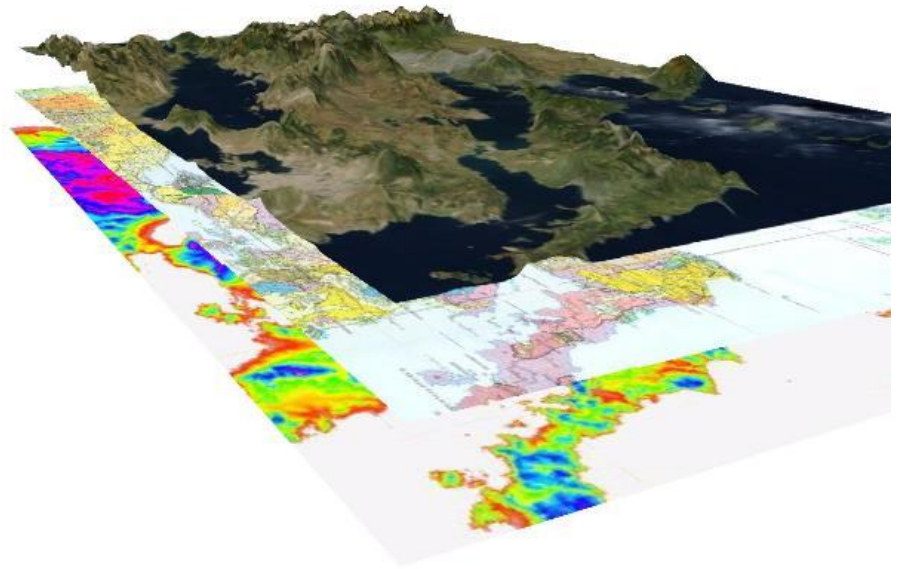
Question 2

What are the business drivers for operationalizing analytics?



Question 3

What is the value in combining multi-structured data like geospatial data with other data for Lufthansa? How is this done?



Question 4

How easy is it to incorporate geospatial data in business processes? How long did it take Lufthansa to implement their solution? What training was involved from the flight dispatch perspective?



Question 5

What are different kinds of (Big Data) Advanced Analytics? How does HANA help bridge Big Data and BI worlds?



SAP PA + SAP HANA : Best Engineered Fit Solution

Accelerate, Innovate & Simplify

CONSUME

BI | Reporting | Ad-hoc Analysis | OLAP | Planning | Unstructured Data Discovery | Predictive | Apps

Multiple Access Methods

COMPUTE

Enhanced Data / Derived Data



Stream
Processing



Analytics
Engine



Predictive
Engine



Text
Engine



Spatial
Processing



Graph
Engine



Time
Series

STORE

Raw Data



Event Stream



In-memory



Dynamic Tier

Multiple Ingest Methods (DB Services)



ERP



OLTP



Geo



Logs



Text



Social



Machine



Sensor

SOURCES

1. Operational:
OLTP systems
(Transaction)
2. Analytic:
OLAP
systems
(Query)
3. Scientific:
Computational
systems
(Computation)

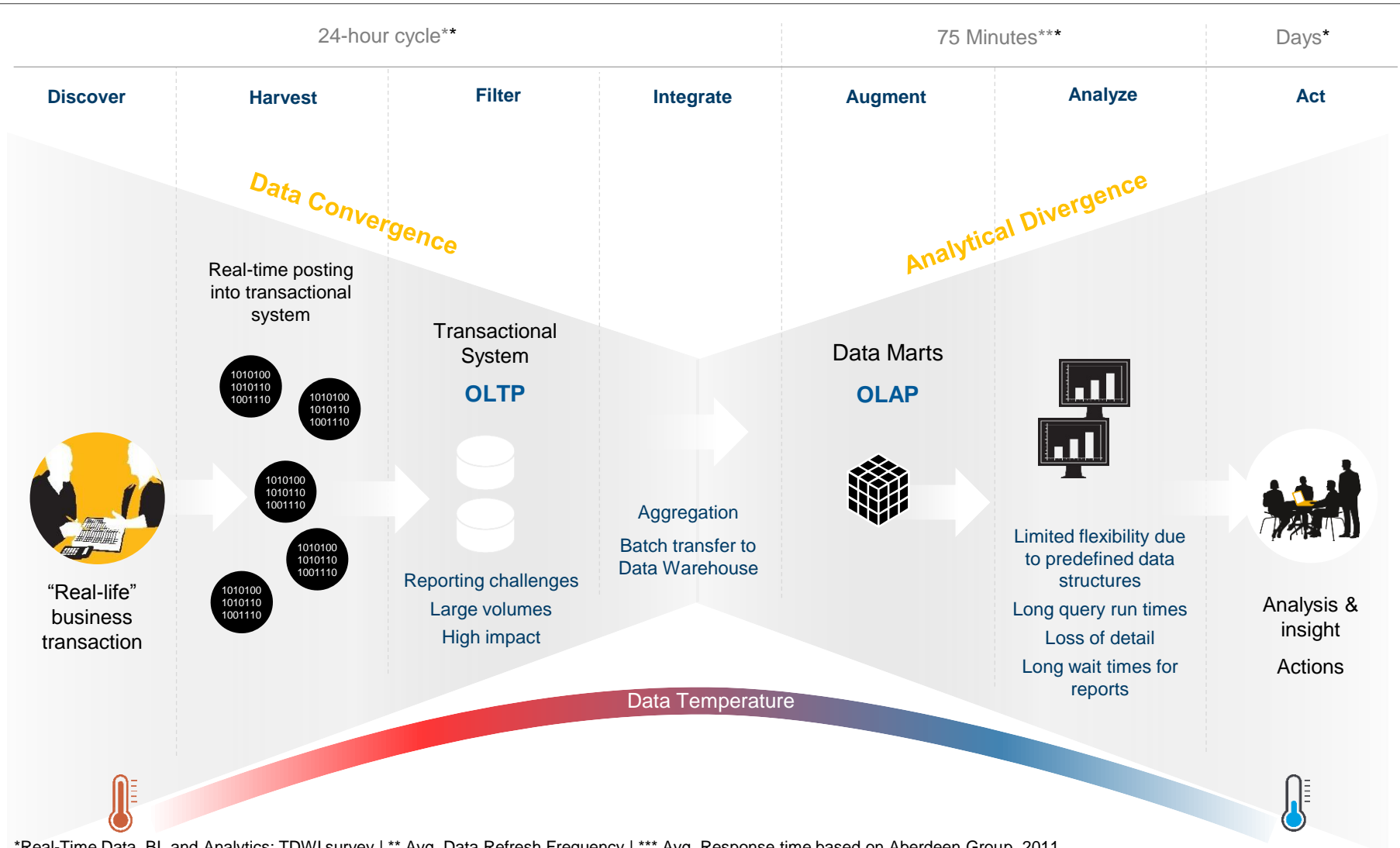
Question 6

How do businesses organize for speed? (How did Lufthansa do that?) What are other best practices businesses are using to speed up decision making?



Reality of today's analytics landscape

Rear-view mirror, fragmented, slow, complex and expensive



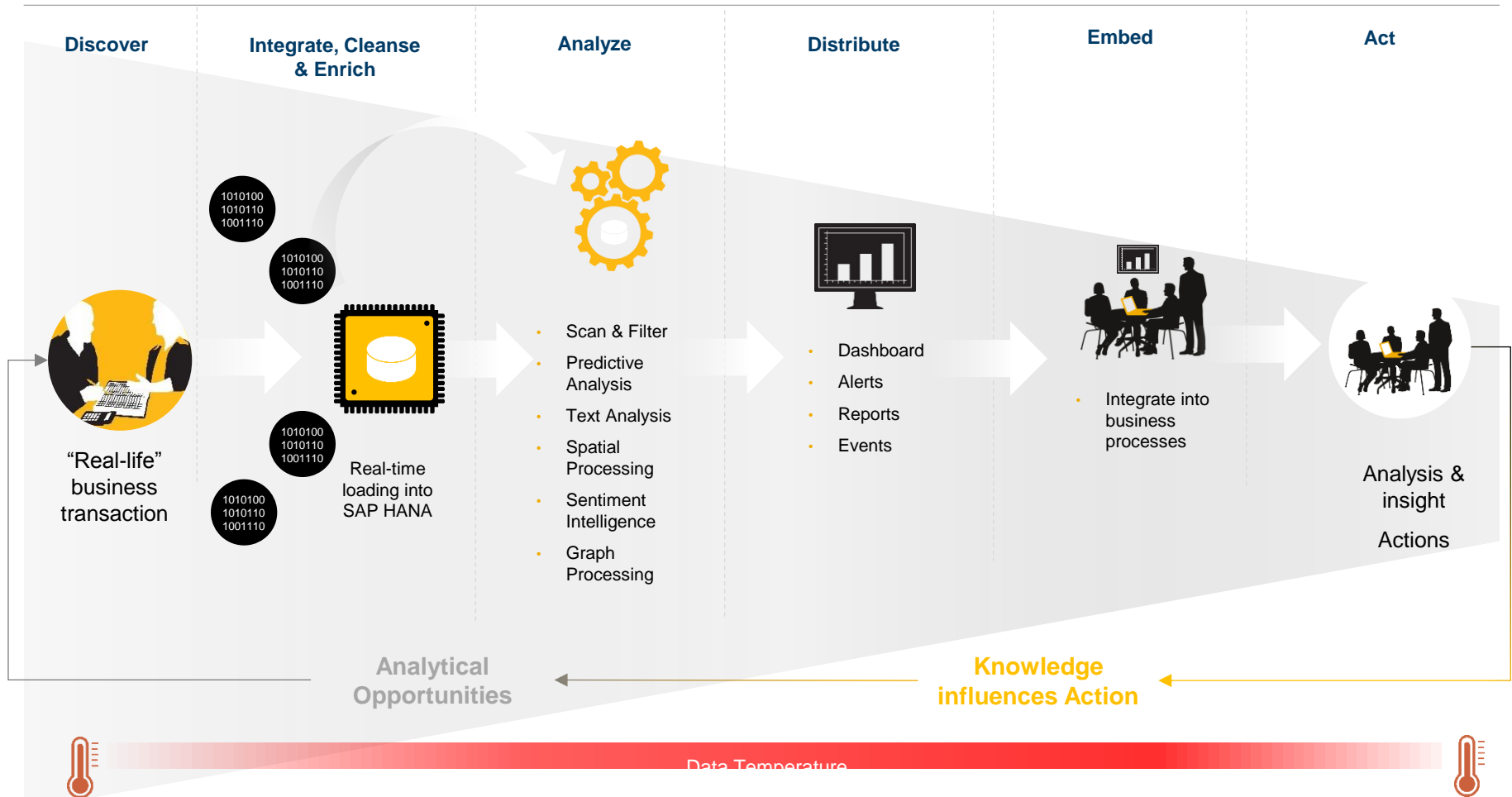
*Real-Time Data, BI, and Analytics: TDWI survey | ** Avg. Data Refresh Frequency | *** Avg. Response time based on Aberdeen Group, 2011

Agile Insights.....Beyond the Warehouse

Real-time technologies making BI and analytics more actionable

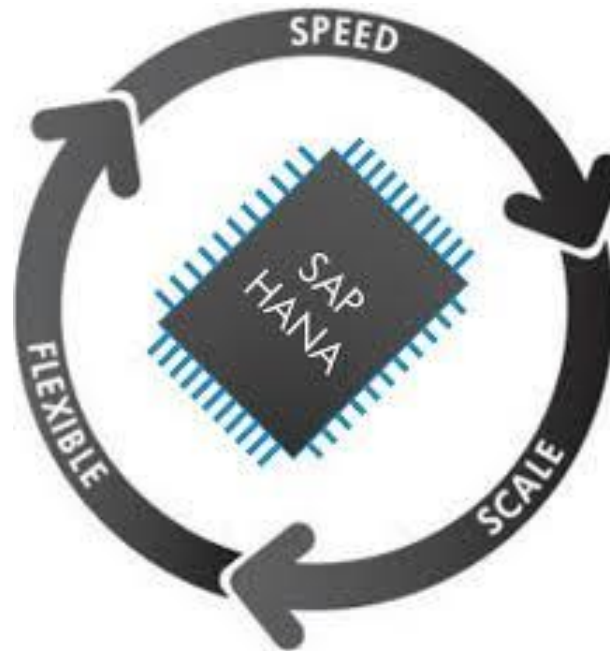
Real-Time Agile Insights

No Aggregation / No Data Staging



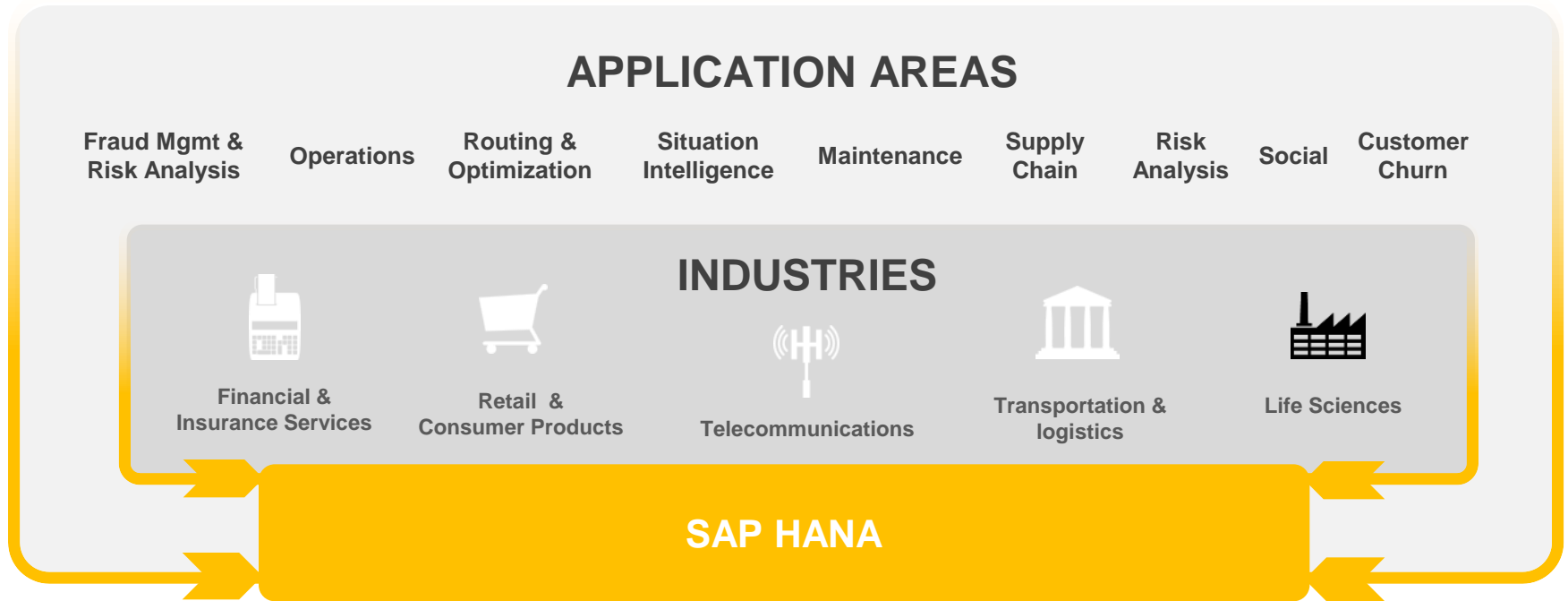
Question 7

How does Hana help to operationalize analytics?



SAP HANA-powered Agile BI & Advanced Analytics

A game changer for every industry and application area



Operationalize Data Pipeline

Capturing data as it is created or updated

Get Instant Insights

Perform fast, interactive queries

Make *Agile BI* Real

Bring simple, instant access to business users

Run Deeper Analytics

Perform advanced analytics to uncover nonobvious insights or predict future outcomes

Audience Questions?



Contact Information

If you have further questions or comments:

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