Unleashing the Power of Collective Insight
Predictive Analytics from SAP

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Sales Director – MEE, Predictive Analytics
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Analytics solutions from SAP
The Reality of the Internet of Everything

1 billion
Facebook users

Data doubles
every 18 months

5 billion
in emerging middle class

4 billion
YouTube views per day

15 billion
web-enabled devices
Unlocking the value of “Dark Data”

- Use Analytics Today: 10%
- Need Analytics by 2020: 75%

- Missing new insights
- Not utilizing all the information out there
- IT is not agile enough and the business wants to get involved
- Ability to manage and consume all data is getting harder

= Not leveraging the power of collective insight
Sense and respond are no longer enough

Severe analytics skills shortage

Challenging to detect meaningful signals in big data

Difficult to apply predictive algorithms to anticipate business trends

50-60% shortfall for experienced data analysts

Dun & Bradstreet and McKinsey Global Institute analysis

68% of organizations that used predictive algorithms realized a competitive advantage
Advanced Analytics – SAP Vision

Embed Smart, Agile Analytics into Decision Processes to Deliver Business Impact

- Bringing Predictive Analytics to a broad spectrum of users
- Reduce Decision Latency with Advanced Analytics
- Operationalize predictive & optimization models across the enterprise

Easy
Fast
Efficient
Predictive Analytics at SAP

- Technical Script-based
- HANA In-memory Script-based
- Predictive Analysis Semi-Technical Modeling/Viz UI-based
- InfiniteInsight Functional Automated Modeling UI-based
Predictive Analytics Solutions from SAP

SAP Predictive Analytics

SAP InfinitelInsight + SAP Predictive Analysis + Lumira

PAL/AFL/R Integration

SAP HANA

Search, Rules Engine, Text Mining, Predictive Analysis Library, Business Function Library, Spatial
Predictive Analytics – The concept

Use Historical DATA to detect behaviors

Predict using current DATA

Control & Maintain
What are we talking about?

**Classification**
- **Who** will (buy | fraud | churn …) next (week | month | year…)?

**Regression**
- **How** will the (revenue | # churners) be next (week | month..)?

**Forecasting**
- **How** will the (revenue | # churners…) be over next year on a monthly basis?

**Recommendation engines**
- **Provides** recommendations on websites or to retailers

**Segmentation**
- **What are the groups** of customers with similar (behavior | profile …)?

**Link Analysis**
- **Analyze interactions** to identify (communities | influencers…).
Model Industrialization
Each step of the process has been automated

In-database Automated Dataset Production
Automated model creation Classification Regression Clustering Forecasts
In-database Deployment Deployment in other apps
Model productionization Control Recalibration Batch production

“We’re doing more models, in less time and getting better results.”
SAP InfiniteInsight
Link analysis & Recommendations

- There is unused useful information in links
- Analysis of people-to-people links
  - Telecom: improved churn detection, churn and MultiSIM detection
  - Public Security
- Analysis of people-to-product links
  - Recommendation engines with enhanced market basket analysis
- Analyse automatically, produce new data to improve quality of any other predictive analytics application
SAP Predictive Analysis

Provide Data Scientist and Business Analysts with sophisticated algorithms to take the next step in understanding their business and modeling outcomes

Perform statistical analysis on your data to understand trends and detect outliers in your business

Build models and apply to scenarios to forecast potential future outcomes

Breadth of connectivity to access almost any data

Optimized for SAP HANA to support huge data volumes and in-memory processing
R Integration

Adoption by the market

- R - Integration with SAP Predictive Analysis
  - Drag and Drop – No Coding
  - Custom R Algorithms – Programming
- Access to over 5000+ algorithms and packages
- More algorithms and packages than SAS + SPSS + Statsoft
- Embedding R scripts within the SAP HANA database execution
# Run, Grow and Transform the Business – Industry Use Cases

<table>
<thead>
<tr>
<th>Telecom</th>
<th>Retail</th>
<th>E-Business</th>
<th>CPG</th>
<th>Financial Services</th>
<th>Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Next Best Activity</td>
<td>• Customer Loyalty Analysis</td>
<td>• Product Launch Success</td>
<td>• Regional Forecasting</td>
<td>• Next Best Activity</td>
<td>• Brand Sentiment &amp; Sales Analytics</td>
</tr>
<tr>
<td>• Cross Sell/UpSell</td>
<td>• Pricing Optimization</td>
<td>• Brand Sentiment &amp; Sales Analytics</td>
<td>• Churn Reduction</td>
<td>• Cross Sell/UpSell</td>
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</tbody>
</table>

## CRM

- • Credit Scoring
- • Compliance

## Risk

- • Fraud Management & Prevention
- • Optimizing Product Quality

## Fraud

- • KPI Forecasting
- • Anomaly detection
- • Usage forecasting
- • Credit Scoring
- • Compliance
- • Predictive Asset Maintenance

## Operational

- • Predictive Commodity Management
- • Improving Demand Planning and Inventory Management
- • Inventory and Logistics Planning
- • Out of Stock Prediction
- • Store Segmentation
- • Size and Zone Optimization
- • Market Share Prediction

## Supply Chain

- • Out of Stock Prediction
- • Inventory and Logistics Planning
- • Out of Stock Prediction
- • Inventory and Logistics Planning
- • Out of Stock Prediction
- • Inventory and Logistics Planning

## Financial Services

- • Brand Sentiment & Sales Analytics
- • Credit Scoring
- • Compliance
- • Fraud Management & Prevention
- • Optimizing Product Quality

## Manufacturing

- • Predictive Asset Maintenance
- • Master Data Quality
- • Tax Fraud
- • Credit Card Fraud
- • Insurance Fraud
- • Fraud Management & Prevention
- • Optimizing Product Quality
- • Yield Management
- • Equipment Effectiveness
- • Predictive Commodity Management
- • Improving Demand Planning and Inventory Management
Selected Customer Cases
Success With Over 500 Leaders Around the World

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<th>Telecom</th>
<th>Finance</th>
<th>Retail</th>
<th>e-Business</th>
<th>MSP</th>
<th>Media</th>
<th>Public Sector</th>
<th>Energy &amp; Mfg</th>
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<tbody>
<tr>
<td>SFR, Orange</td>
<td>WELLS FARGO</td>
<td>Walmart</td>
<td>allegro</td>
<td>Experian</td>
<td>hibu</td>
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<td>vodafone, Cox</td>
<td>DISCOVER</td>
<td>macys</td>
<td>shutterfly</td>
<td>nielsen</td>
<td>meredith</td>
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<td>BT, Mobilink</td>
<td>BARCLAYS</td>
<td>Sears</td>
<td>Rhapsody</td>
<td>nielsen</td>
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<td>Mcdonald's</td>
<td>hmv</td>
<td>outsell</td>
<td>legislatives</td>
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<td>U.S. Cellular</td>
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<td>Coca-Cola</td>
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<td>axial</td>
<td>CBS</td>
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<td>BT, Vodafone</td>
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<td>MFG</td>
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<td>Prudential</td>
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<td>Experian</td>
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<td>Experian</td>
<td>wunderman</td>
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<td>enova</td>
<td>Yves Rocher</td>
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<td>CAPITAL CAR SERVICE</td>
<td>WESTERN UNION</td>
<td>Pola</td>
<td>Tiptop1</td>
<td>Experian</td>
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<td>FINANSBANK</td>
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<td>Company</td>
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<tr>
<td>CIR food</td>
<td>300% ROI the 1st year, 30% turnover by reducing waste</td>
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<td>Xel</td>
<td>20% reduction in churn w/ Social Intelligence</td>
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<tr>
<td>belgacom</td>
<td>400% increase in campaign response rates</td>
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<td>Tipp24com</td>
<td>300% uplift in targeting accuracy</td>
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<td>allegro</td>
<td>500% increase in click through rate</td>
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<td>BARCLAYS</td>
<td>30x lift in campaign response rates</td>
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<td>COX</td>
<td>260% increase in campaign conversion</td>
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<td>UniCredit Group</td>
<td>Increased revenue 50 € million a one quarter</td>
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<td>СЭЛЬДОПАДО</td>
<td>10 % improvement in forecast accuracy</td>
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<td>Finansbank</td>
<td>Activated 50% of inactive accounts in 4 months</td>
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<td>EU</td>
<td>85% of fraud identified with 30% consignments</td>
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Aircraft Manufacturer Improves Engine Reliability

Predicting unplanned future maintenance

- Multiple sensor readings 4X per second
- Terabytes of data per flight
- Telematics data in overlapping time windows.
- Multiple data formats (maintenance logs, in-flight sensors, squawks)
SAP Predictive Maintenance and Service
Efficient maintenance and service offerings
Allegro – Poland - Auction Website Leader

100M+ daily personalized product recommendations:
  • Response time < 200ms

Boosted e-Commerce KPI’s:
  • Page views per visit up 30%
  • Click-through rates up 500%
  • Conversion rates up 40x compared to “bestseller” rules

Build social graphs from:
  • 20M+ unique website visitors
  • 15M listed products, but no catalog
  • 500M daily page views
Belgacom Makes The Call With Prospects

- Modeling time reduced from months to days
- Up to 4x increase in campaign response rates
- Allowed shift to customer-centric vs. product-centric marketing

“With InfiniteInsight, we can deliver the right offer, to the right customer at the right time.”

- Dr. Jacky Huyghebaert
  Customer Intelligence Expert
Cut Churn 25% of High Risk Customers with Retention Offers

- 10,000+ calls a day
- 300% uplift on all offers
- 14% of all offers accepted
Improve Fraud Detection

**Who?**
- Fraud Manager
- Risk Manager

**To do what?**
- Improves fraud detection rates and reduces number of false positives
- Reduce huge fraud cost

**Benefits**
- Improve detection of credit card fraud and fraudulent applications
- Discover unknown fraud patterns
- Less false positives, causing less customer distress and improved productivity
- Meet ROI goals quickly
- Mitigate risks and loss
- Anti money laundering compliance
- Focuses manpower on significant problem areas

Reduce e-fraud over 1 B$ annual transactions

DIŞBANK
92% of fraud cases identified
Thank you!