Deloitte Analytics
Smarter insights.
Stronger outcomes.

Center of Process Bionics
Herausforderung an Prozesse und Technologie im Bereich AFC

November 2018
Transparency required to manage risk – As-Is Situation

Fragmentation across all layers of the organization prevents risk transparency

Functional Silos – no information flow across departments or external stakeholders

Non-integrated legacy IT with disrupted interfaces

Reporting not MECE - mutually exclusive and collectively exhaustive - to give full view on risk level

Processes not aligned internally and externally. Many breaks prevent full view on risk sinkholes

Risk management processes - with high manual efforts, costly in execution and in fines incurred – do not contribute to companies’ core value creation.
Transparency required to manage risk – Process Mining technology creates full transparency required for effective risk management.

1. **IT-based process**: Processes and workflows are supported by IT systems.
2. **Digital footprints**: Deloitte’s smart process mining algorithms reconstruct digital workflows.
3. **Full transparency**: Actual processes are visualised on transactional level and deliver fully fact-based insights for process analysis.

**Value-add of Process Mining**
- Single source of truth with fully fact-based insights
- Cross-functional interface
- End-to-end evaluation of processes across system boundaries
- Automated process check for policy/procedure adherence
- Company-wide internal benchmarking based on comparable process KPIs
- Multi-dimensional advanced drill-down for root-cause analyses

**Risk management processes can be optimized for more efficiency while simultaneously becoming more effective. Risk is reduced while risk management costs go down**
Challenging Processes
Live Demo
Consistent reporting across all processes
Risk reporting adjusted to recipient requirements

Assessing the complete operational risk management structure, implementation and process
Example: Monitoring **efficiency** and **quality** of risk mitigation for all core processes with underlying action items for alerts (*traffic light*).

Overview of all Processes

Monitoring and management of the proper execution of the operational risk actions on the first lines
Example: Overview and development of the **underlying KPIs** for each risk category (conduct, fraud, etc.), for every core process in 1st line.

KPI monitoring per process

Example: **Full transparency** of the core process accompanied by **deep dive** and automated **root cause analysis**.

Full process transparency
Deloitte Center of Process Bionics – Front End
Our own App Store allows for efficient reuse of previously created analysis
Process Bionics in Risk Management
Use Case - Conduct Risk: Identification and prevention of Maverick Buying

Situation and challenges

- Purchasers operate under time pressure due to a high volume of incoming purchase requests
- Insufficient transparency of purchasing guidelines and contract conditions within the organization
- Common control mechanisms provide insufficient insights about violating cases

Insights

- **74.6k** suspicious maverick buying cases
- Overall net value of all orders amount to **224 Mio. €** with maverick buying

Optimization and control levers

- Real-time monitoring of incoming invoice without purchase order (proactive alerts)

Analysis results & potential impact

<table>
<thead>
<tr>
<th># Purchase Order Items</th>
<th>Net Order Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>74.6k</strong></td>
<td><strong>224M</strong></td>
</tr>
</tbody>
</table>

**Identification:**
- Process starts with incoming invoices
- Purchase orders were entered into systems after invoice was received

**Root causes & Result:**
- Purchases weren’t conducted via Purchasing department; purchasing guideline was ignored
- Existing contracts were not used, therefore higher purchasing costs and fraud investigation

**Case for Process Mining**

**Assumption:**
In 0.5% of all cases potential fraudulent behavior associated

**Potential impact:**

\[
0.5\% \times 74.6k = 373 \text{ potential frauds} \\
0.5\% \times 224\text{Mio€} = 1.12\text{€M impacted}
\]
Process Bionics in Risk Management
Use Case – Regulatory Compliance: Late submission of suspect notification in AML

Situation and challenges

• AML investigations under pressure from high number of false positives which clog investigation pipeline
• For true positives tight deadlines for submission of suspect notification
• Risk departments dependent on cooperation of business departments and adherence to deadlines to meet regulatory requirements

Insights

• 1937 document requests (38%) were not processed in time and extended the throughput time by an additional 3 days
• External quality checks show incomplete documentation with additional 2 days to clarify
• Out of the 15 days deadline 5 days were lost to internal processing with 362 cases missing the deadline (7% of true positives) and fines were incurred

Optimization and control levers

• Real-time monitoring of case flows and additional trainings within branches which were continuously missing internal compliance deadlines

Analysis results & potential impact

Identification:

• Documentation submission only with additional follow-up
• Quality checks leading to further queries

Root causes & Result:

• Additional follow-ups could be narrowed down to 2 branches
• Internal awareness trainings for dedicated branches and branch leadership meetings with internal audit

Case for Process Mining

Fines of up to 1 Mio€ per case if repeatedly and consistently delayed submission of true positives

Max potential fines for this client

362 cases times 1 Mio. € (max.)
= 362,000,000 € (max.)
ORX* Operational Loss numbers (in m€)
Total loss submitted in each business line and event type between 2012 and 2017

Source: ORX*, Annual Banking Loss Report, June 2018 (extract)

* = Operational Riskdata eXchange Association (ORX)
### Process Bionics in Risk Management

Sample of applicable use cases in risk management

<table>
<thead>
<tr>
<th>Sample of Risk Management relevant processes</th>
<th>Support Center of Process Bionics</th>
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</thead>
<tbody>
<tr>
<td>• AML suspect notification submission</td>
<td>• Daily overview of notifications with danger of being delayed and insight what actions to take</td>
</tr>
<tr>
<td>• Credit worthiness review documentation</td>
<td>• Root-Cause identification for not meeting submission deadlines</td>
</tr>
<tr>
<td>• Product Approval Process</td>
<td>• Identify steps to apply automated production of suspect notification / credit review using Natural Language Generation</td>
</tr>
<tr>
<td>• IT release supervision</td>
<td>• Automatic detection of compliance violation or violation of policies / procedures</td>
</tr>
<tr>
<td>• KYC-process</td>
<td>• Adherence to quality gates and approval requirements</td>
</tr>
<tr>
<td>• Processing of GDPR (DSGVO) relevant data</td>
<td>• Bottleneck identification to accelerate throughput time</td>
</tr>
<tr>
<td>• Segregation of duties (especially in Aladdin environments)</td>
<td>• Data quality monitoring</td>
</tr>
<tr>
<td>• Modification of trades after trade confirmation</td>
<td>• Supervision of transaction integrity</td>
</tr>
<tr>
<td>• Conspiratorial actions for market manipulation</td>
<td>• Fraud identification</td>
</tr>
<tr>
<td>• Intelligent sample selection for external/internal audits</td>
<td>• Identify steps to apply natural language recognition for automatic detection of suspicious speech patterns</td>
</tr>
<tr>
<td>• Internal Audit planning (Prüfungsfahrplan)</td>
<td>• Audit planning and effort estimation (external pricing points)</td>
</tr>
<tr>
<td></td>
<td>• Direct support in “real-time” operations monitoring in 1st line</td>
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</table>
Process Bionics Framework
DNA

RPA, IoT, AI

Visualization

App Store

Application

Bionics Platform

Data Source
Deloitte Center of Process Bionics – New Process Operating System
Interface to connect Business with IT
Deloitte Center of Process Bionics
Global center of excellence with more than 50 trained practitioners and experience with Process Mining of more than 7 years

Cross functional
Leveraging cross-functional expertise, we tailor and facilitate the utilization of Process Mining in a variety of application areas

Global Centre of Excellence
Process Mining hubs with local teams and ambassadors in GER, UK, CH, RU, US, JP, CZ, FR, etc. with more than 50 trained Process Mining practitioners

Proven Methodology
Our Process Mining methodology has proven to deliver cost savings, increase transparency, reduce lead time and much more.

Innovation
Dedicated Research towards integrating new technology in order to enhance Process Mining capabilities (e.g. simulation and deep learning)

Infrastructure
CPB is hosting more than 10 Celonis instances globally in order to train and work with the tool on a daily basis. These instances host up to 200 million process instances and 100 concurrent users.

Team Experience
- More than 7 years Process Mining experience
- Global Process Mining Roll-out projects
- Financial Services and Production Industry knowledge
- Business Process Know-how

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Analytics
Smarter Insights. Stronger Outcomes.
Thank you

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