Digitization – Impacts on Management Control Practice

SAP Financial Excellence Forum 2016

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Philadelphia, October 11, 2016
Content

Horváth & Partners: Who we are
What does Digitization mean?
Digitization is a game changer!
Management Control is also changing radically
The Digitization Roadmap
Management Control 2025
Horváth & Partners: Who we are

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The Digitization Roadmap

Management Control 2025
Horváth & Partners is the leading consulting company in Germany for Controlling and Finance

Expertise in “Controlling and Finance”
TOP 5 Management Consultants as seen by clients

1. Horváth & Partners 419
2. KPMG 407
3. PwC 406
4. Ernst & Young 400
5. McKinsey & Company 390

Source: The Hidden Champions: Study by Prof. Dr. D. Fink (Institute of Management & Consulting Sciences, WGMB) based on survey responses from 469 top managers (500 points = outstanding expertise); published in: Capital 2015/10/22
Horváth & Partners: Steering Business Successfully

**Competence**
- Management Control (Controlling)
- Corporate Performance Management and Performance Optimization

**Employees**
Over 700

**Clients**
Large and medium-sized companies as well as public organizations

**Industries**
Automotive, Chemicals, Consumer Goods, Financial Industries, High Tech, Industrial Goods, Logistics, Media, Oil, Pharmaceuticals, Public Sector, Retail, Telecom, Transportation, Travel, Utilities

**Offices**
Abu Dhabi, Berlin, Budapest, Bucharest, Düsseldorf, Frankfurt, Hamburg, Jeddah, Munich, Riyadh, Stuttgart, Vienna, Zurich

**International alliance**
Global delivery competence in the Cordence Worldwide Alliance; in the US: North Highland, HQ Atlanta
Some of our clients

- SWAROVSKI Austria
- Lufthansa
- Bayer
- zumtobel group Austria
- BASF The Chemical Company
- Deutsche Bank
- B/S/H/
- Merck Switzerland
- Swiss Re
- MOL Hungary
- KSB
- DAIMLER
- BMW GROUP
- Audi
- PORSCHE
- KRONES Austria
- Red Bull MEDIA HOUSE Austria
- Ministry of Labor Saudi Arabia
- BOSCH
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KSB Sonolyzer: Suppose you could hear efficiency

- KSB Technology enables mobile devices to appraise the pump and motor load situation by listening for 20 seconds
- KSB Sonolyzer is available via App Store (iOS) and Google Play

Initial screen

- Quick entry of type plate data, no specific data sheet, curve etc. needed
- Analysis within seconds
- World wide direct contact to KSB
- No acquisition of personal data of users

Source: KBS Sonolyzer
Conversion of analog information in any form (text, photographs, voice, etc.) to digital form with suitable electronic devices (such as sensors, scanners, etc.), so that the information can be processed, stored, and transmitted through digital circuits, equipment, and networks.

www.businessdictionary.com
Digitization and Friends
Horváth & Partners: Who we are

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Management Control 2025
Digitization is a game changer: Impact on the core dimensions of enterprises

**Business models**
- Evolution and revolution of business models
- New digital businesses, competitors and industries
- Changing core competencies
- Fundamental changes in society

**Functions**
- Increasing integration of internal functions
- End to end processes
- Functions intertwine company-wide
- Higher effectiveness and efficiency

**Systems/ Applications**
- Optimization of existing technologies and applications
- Utterly new technologies are mushrooming
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Impact of Digitization on Strategy: Daimler AG

C onnected cars
A utonomous driving
S hared mobility
E lectric power

Source: Frankfurter Allgemeine Zeitung [renowned German daily newspaper]. September 8, 2016
## Lighting Industry: Light as a service – Zumtobel Group Austria

### Three core application areas for smart, connected lighting

<table>
<thead>
<tr>
<th>Connected Commerce</th>
<th>Connected Building</th>
<th>Connected City</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indoor navigation</strong></td>
<td><strong>Remote Monitoring</strong></td>
<td><strong>Dynamic lighting</strong></td>
</tr>
<tr>
<td>Easy guide user to selected area via the user's mobile device</td>
<td>Monitor the performance of the lighting infrastructure</td>
<td>Optimized street lighting in line with traffic and weather conditions</td>
</tr>
<tr>
<td><strong>People Tracking</strong></td>
<td><strong>Space Management</strong></td>
<td><strong>Advanced Parking</strong></td>
</tr>
<tr>
<td>Track customer shopping and behavior and presence in-store</td>
<td>Track building user behavior and presence in building</td>
<td>Lighting infrastructure used to guide drivers to free parking spaces</td>
</tr>
</tbody>
</table>

Power Industry: Smart metering

Old World: Ferraris meter
Measuring of power consumption

New World: “Smart Metering System” (meter + gateway)

Source: Roß: Digitization in the power industry; in: P. Horváth et al: Digital Controlling & Simple Finance, 2016; p. 115
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Management Control 2025
Management Control is ...

... the process by which managers at all level ensure that the people they supervise implement their intended strategy

Anthony; Govindarajan; 2006, p. 4
Horváth & Partners Steering Lab:
Digital forecast of order entry in an engineering company

Task
Test predictive algorithms with three objectives:
- Improvement of operational sales control
- Better decision support for building up/reducing resources
- Scheduling of predicted proposals in engineering, production, and procurement long before incoming orders

Approach
Forecast based on internal data:
- Evaluation of the proposal pipeline, data cleansing, and modeling of an efficient forecasting model
- Adoption of calculated probabilities into the CRM system

Extended forecast based on external data:
- Market trends, crises, product launches, and recent developments of competitors
- Operational sales control and Sales & Operations planning improved: data-based prioritization of proposals
- Market forecasts based on external data prepared in scenarios
- Scenario trends incorporated in the operational forecast model

Results
- Operational sales control and Sales & Operations planning improved
- Market forecasts based on external data prepared in scenarios
- Scenario trends incorporated in the operational forecast model
- Data-based prioritization of proposals
Horváth & Partners Steering Lab: Digital forecast of Overall Equipment Effectiveness (OEE)

Task
- Establishing of an integrated Manufacturing Execution System (MES)
- Using the data of the MES to forecast OEE for a relevant timeframe

Approach
- Building an interface to the ERP
- Collecting data from machines and production devices to see errors, downtimes etc. in the control panel
- Building a model to detect patterns in behavior of machines and workers to check OEE-prediction
- Interface to SAP-ERP, and interface to machines and worker devices using a standard Manufacturing Execution Solution (SAP-MPDV)
- Developed algorithm recognizes standard patterns in behavior and predicts downtimes, waste etc. better than in the past; prediction OEE for three weeks

Results
- Interface to SAP-ERP and interfaces to machines and worker devices using a standard Manufacturing Execution Solution (SAP-MPDV)
- Developed algorithm recognizes standard patterns in behavior and predicts downtimes, waste etc. better than in the past; prediction OEE for three weeks
- Next steps:
  - The MES will be rolled out worldwide together with SAP S/4
  - Integration of investment planning and product launches with the forecast model
Horváth & Partners Steering Lab: Digital platform to optimize mass processes in Retail Banking

**Task**
- Significant increase in the efficiency of order processing
- Enabling the integration of all customer channels
- Cost reduction in case of developing new workflows with the help of reusability of already developed business services
- Significant decrease of time-to-market of new products and services
- Convincing all countries to use the same digital platform

**Approach**
- Combining all input and output channels and integrate the relevant front-end and back-end systems
- Paper-based business processes digitalized to obtain structured data then routed to the adequate process support team based on Service Level Agreements (SLA)
- Using real-time monitoring and powerful decision support, to enhance process efficiency, optimize resource utilization and reduce quality deficits
- A large number of previously paper-based or manual processes could be transformed to semi- or fully automated processing
- The platform currently processes up to 200,000 orders per day (for example, new client onboarding, credit card lock, security orders) with an approximately 50% reduction in processing time, 20% reduction of manpower
- Next steps: test predictive models to improve process control, sending alerts and SMS automatically, if problems are detected

**Results**
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or
Open poll in your web browser
The target image shall be described via methods, systems, processes and organization

Digital Controlling & Simple Finance

Methods

Systems

Processes

Organization
Target image: Methods

- Big Data
- Probabilistic Data
- Business Analytics
- Predictive Analytics
- Learning Algorithms
- Scenarios
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Target image: Systems

- High degree of integration
- One integrated data pool, direct access to data
- Single source of truth
- Multi-user access
- New IT architecture models and processes
Target image: Processes

- Automation
- Velocity
- Real-time
- Elimination of interfaces
- Elimination of manual processes
- Self-service
- New processes
Target image: Organization

- Elimination of operational tasks/jobs, lean organization
- Further integration of Finance & Controlling
- Efficiency enhancement
- User convenience
- New skills/tasks/organization units
Content

Horváth & Partners: Who we are

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The Digitization Roadmap

Management Control 2025
The digitization roadmap can be combined, depending on your individual objectives

<table>
<thead>
<tr>
<th>Digital Readiness Assessment</th>
<th>Digital Strategy &amp; Roadmap</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Were does your company come from?</td>
<td>- Which potentials can/ should be used for steering of your company digitally?</td>
</tr>
<tr>
<td>- How is your company prepared in terms of systems, processes, technologies, skills for the challenges of the future?</td>
<td>- What should a master plan for achieving this look like?</td>
</tr>
<tr>
<td>- Which measures should be executed directly?</td>
<td>- In case of defined SAP ERP strategies: how is the current degree of standardization and need for action in harmonizing systems?</td>
</tr>
<tr>
<td>- Do you have specific needs for actions in functions, business units …?</td>
<td>- Do you see any concrete potentials?</td>
</tr>
<tr>
<td>- What should a master plan for achieving this look like?</td>
<td>- Digitization by SAP S/4 HANA</td>
</tr>
<tr>
<td>- Which potentials can/ should be used for steering of your company digitally?</td>
<td>- Pilot Applications</td>
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Digital Finance Transformation at a multi-national Pharmaceuticals & Chemicals Group (EUR 13 bn sales)

1) Digital vision & use cases
- Envision a validated scope and idea “where to be” – and approach “how to get there”
- Set the frame how to proceed with “DIGITAL FINANCE” use cases (projects & staffing)

2) Prototyping & sandboxing
- Seed powerful prototypes (incl. modeling, data preparation, proof of concept)
- Establish a “sandbox to play” – showcases for pilot areas within a standalone system

3) Enabling & promoting
- Validate show cases with business experts
- Initial Go-Live as “Lab Solution”
- “First digital finance products” – initially used by finance/b business

4) Up-scaling & integration
- Enhance and extend digital solutions (e.g. automation)
- Drive integration into corporate performance management
- Make Digital solutions” as part of the Finance service portfolio
Identified “Digital Solutions” rated in terms of benefit/innovation by Finance Executive Committee

- Sales
- FX exposure
- Hedging
- Headcount
- Client value
- Robotic process automation
- Finance eAcademy
- Digital business interface
- Digitization Network (not rated)
Phase “Prototyping & Sandboxing”: 6 work-streams installed to develop Digital Finance solutions

<table>
<thead>
<tr>
<th>Work stream</th>
<th>Predictive analytics &amp; forecasting</th>
<th>#5 Digitization core &amp; empowerment</th>
<th>#6 Digitization network</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1 Sales</td>
<td>Digital Sales analysis &amp; forecast in relevant markets (e.g. China)</td>
<td>Digital Client Value added strategy (for each division)</td>
<td>Empower digital co-operations (e.g. start-ups in Silicon Valley)</td>
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<tr>
<td>#2 FX</td>
<td>Digital FX exposure management &amp; Hedging</td>
<td>Digital solutions in Headcount planning and forecasting (leave rates, satisfaction, …)</td>
<td>Innovation partners</td>
</tr>
<tr>
<td>#3 Headcount</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>#4 Client value</td>
<td></td>
<td></td>
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**Topics**

- **Digital Sales analysis & forecast in relevant markets (e.g. China)**
- **Digital FX exposure management & Hedging**
- **Digital solutions in Headcount planning and forecasting (leave rates, satisfaction, …)**
- **Digital Client Value added strategy (for each division)**
  - Robotic process automation
  - eAcademy
  - Digital Business Interface
- **Empower digital co-operations (e.g. start-ups in Silicon Valley)**
- **Innovation partners**
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Management Control 2025
Management Control: Role and organization are changing, leading to change in controller’s profiles

Roles and Requirements in Controlling

<table>
<thead>
<tr>
<th>2015</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Supplier</td>
<td>Navigator</td>
</tr>
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</table>

Digitization
- Bridge from business know-how to data science; optimization of results
- Support for strategic and operative decisions
- Planning, reporting, analytics, policy
- Creation of reports

Expanded Methodology Skills

- **Regression**
  - Quantification of correlations between parameters
- **Correlation/Association Analysis**
  - Analysis of correlations between parameters
- **Classification**
  - Allocation of data to specific classes
- **Clustering**
  - Grouping of data into non-specific clusters
- **Predictive Methods**

Effects

- **Reduction of controlling workload through automation and standardization (reduction in staff)**
- **Data scientist brings mathematical and analytical skills to the mix**
- **From business partner to business driver: The controller drives the optimization of operative processes based on analytical findings**
- **Factory approaches are expanded, analytical skills provided centrally**
- **Data science center as core element in the value chain**

Benefits

- **Reduced staffing requirements in controlling**
- **Anchoring of performance optimization**
- **Centralization of important skills**
Management Control 2025: Expansion of automated decisions

- **Global-Longitudinal complexity**
  - **Singular decisions**
  - **Human Real-Time**

- **Local speed-precision**
  - **Mass decisions**

2015 **Machine Real-Time**

- **Operational**
- **Transactional (IoT, IoP)**
- **Tactical**
  - Risk-Management; Sales & Marketing Campaigns; R&D; Asset & Supply-Net Mgmt.; Production & Service Mgmt.
- **Strategic**
  - B-Model / Op Model; Brand / Markets / Portfolio

2025

- **Operational** (IoT Level; Security & Quality Management)
Steering Business Successfully
Contact details

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