IT Controlling

Vorlesung IT-Unternehmensarchitektur

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Attention: Germanism!

• Search for the term “Controlling” in various US MBA Books yields “zero hits”
• Controlling is a “Germanism”
• The proper English / US term is Management Accounting
## Management Account vs. Financial Accounting

<table>
<thead>
<tr>
<th>Kind of Accounting</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial Accounting</td>
<td>Profit Loss Calculation</td>
</tr>
<tr>
<td></td>
<td>Basis for Taxation</td>
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<tr>
<td>Management Accounting</td>
<td>Decision Making</td>
</tr>
<tr>
<td>Operational Management</td>
<td>Mostly: Know Unit Costs and Optimize them</td>
</tr>
<tr>
<td>Accounting</td>
<td>Track Execution of a Strategy</td>
</tr>
<tr>
<td>Strategic Management Accounting</td>
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Your Learning Targets for …

• Know the content of a Management Accounting System
• Know that IT Management Accounting is just Management Accounting applied to IT
• Learn basics of some special tools like Balanced Scorecard
Contents (1)

- Management Accounting
- Management Accounting applied to IT
- M/C/R Organizations and how to Monitor the Big IT Cost Blocks
  - IT Fitness Programs
  - Managing Run Cost
  - Managing Change Costs
    - Managed Evolution, Function Points and Technical Debt
Contents (2)

• Some Tools for Strategic IT Management Accounting
  • Managed Evolution
  • Technical Debts
  • Function Points
  • Balanced Score Cards
  • TCO Models
What is Management Accounting anyway? TOC of a typical book on Management Accounting

<table>
<thead>
<tr>
<th>Anglo Saxon terms</th>
<th>German Terms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kinds of costs: Direct, indirect, fixed, variable</td>
<td>Kostenartenrechnung</td>
</tr>
<tr>
<td>Cost Centers Departmental cost determination</td>
<td>Kostenstellenrechnung</td>
</tr>
<tr>
<td>Unit Costing</td>
<td>Kostenträgerrechnung</td>
</tr>
<tr>
<td>Budgeting</td>
<td>Budgetierung</td>
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<tr>
<td>Control Dealing with budget deviations of all kinds</td>
<td>Abweichungsrechnungen</td>
</tr>
<tr>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Investment Decisions</td>
<td>Investitionsrechnung</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Strategic Management Accounting e.g. Balanced Scorecard</td>
<td>Strategisches Controlling z.B. Balanced Scorecard</td>
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<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Performance Working Capital Analysis EVA</td>
<td>Betrachtung von Geschäftseinheiten Kapitalbedarf EVA (Economic Value Added)</td>
</tr>
<tr>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
(1) Kinds of Costs

<table>
<thead>
<tr>
<th>Fixed</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct</td>
<td></td>
</tr>
<tr>
<td>Indirect</td>
<td></td>
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</table>

All costs
(2) Cost Centers

Cost Center 1

Cost Center 2

Cost Center n

Product 1

Product n
(2) And in each cost center you have ..

<table>
<thead>
<tr>
<th></th>
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all costs
(3) Unit Costing  
Typical Questions answered …  

• What are the cost of a unit  
  • At full costs  
  • At marginal costs (German: Grenzkosten)  
  • What does a product contribute to recover overhead costs (German: Deckungsbeitrag)  
  • ….  

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(4) Budgeting

Cost Center 1

Planned Volume of Units to be produced

Planned costs

fixed

variable
(5) Control – Deals with Budget Deviations

- Why is a unit price lower or higher?
- Does a cost center produce higher or lower costs than planned / budgeted?
(5) Control: Typical Deviations that need to be explained

Typical question to be answered: Who’s responsible for a cost deviation

- Purchase prices for input factors deviate (higher / lower)
  - Use “plan costs” instead
- Quantities produced (output) deviate from planned output
  - Hence fixed costs per unit deviate – full costs per unit deviate
- Materials consumption per unit higher than planned

- Cost center manager not responsible
- Cost center manager not responsible
- Cost Center manager responsible!
(6) Investment Decisions

Typical questions to be answered:

Does it pay to invest in a certain machine, in some new technology, some reorganization, …
Typical questions to be answered:

Would a certain decision result in a contribution to strategic goals – yes or no?
(7) Strategic Management Accounting
Some of the (many many) Tools

- Competitor Analysis
- Product Lifecycle Analysis (Boston Squares)
- Technology Lifecycle Analysis
- Customer Profitability
  - Customer Segmentation
- Target Costing
- Balanced Scorecards
(7) Strategic Management Accounting
Some tools especially used in IT

- Function Points
- Managed Evolution
- Technical Debts
- Application Portfolio Management
- Balanced Scorecards
## (3) More Areas of Strategic Management

### Accounting

- Performance Management
- Working Capital Analysis
- “Economic Value Added” (EVA) Analysis

### Manage Contribution of Business Units

- Optimize Use of Capital Inputs

### Check Decisions, Products, Customers, whether

- * they add EVA
- * they burn EVA
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IT Management Accounting

• Is more or less applying the above to IT Services as Units of Costs
  • E.g. “What are the full costs of supplying a laptop to an employee, containing all software, support, network costs etc.?"
• Plus a few methods specific for strategic IT Management Accounting
Relevance of Monitoring IT Costs

IT Cost Quotas

0.5 – 10+%

3% typical value
Controlling IT Costs is nice …

• But it is far more important to have an IT that contributes to containing the business’ process costs

• bean counting the costs for IT services is OK but the lever can be found elsewhere
Important in any Case: DO THE RIGHT THING!

Possible IT cost savings in % of IT budget:

- Setting the right priorities in application development (5-10%)
- Managing maintenance cost (5%)
- Optimizing IT infrastructure (5%)
- Optimizing the development process (5-10%)
- Consolidating data centres (5-10%)

Preconditions:
- Items strongly related to IT Enterprise Architecture
- Items also linked to IT Enterprise Architecture

Time span needed for full effect:
- < 1 year
- >= 3 years
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M/C/R Organizations and how to Monitor the Big IT Cost Blocks

- **Customer Companies**
  - Customers for IT services

- **IT Management**
  - Key account management
  - Strategy
  - Project portfolio management
  - Architecture
  - IT controlling
  - IT security
  - Software product management

- **Development**
  - Change the Business
  - Projects, Studies, Integration, COTS

- **IT Operations**
  - Run the Business
  - Operations for applications, platforms, hardware, comm. networks

- **Orders, SLAs**
Why M/C/R

• Changing the Business has other KPI than “Running the Business”
• Change “guy” paid e.g. by
  • the decrease of costs per new function point
  • Decrease in software maintenance costs per FP
• Run “guy” paid e.g. by
  • Availability
  • Decrease in operations costs
What is a typical Cost Distribution between Change and Run?

- 60-70% Run
- 30-40% Change
- Change also contains a lot of “non discretionary stuff” => optimizing the software development process is not really the big lever for cost savings
Managing Run Costs

- Limiting Heterogeneity
- Economies of Scale
- Sourcing
- Procurement
Managing Change Costs

• And again: 70% might be “non discretionary” Software Maintenance Costs
  • Managed Evolution
  • Maintainable Software
  • Sourcing Maintenance to 3rd parties
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Managed Evolution

- System state at starting point of a period
- Modifications to the system during a period
- System state at end point of a period

Business Value

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Managed Evolution

Diagram showing the relationship between Agility and Business Value over time, with system evolution and managed evolution channel.
Technical Debt: Amount of Money Needed to bring system back into desired system state
Technical Debt: Some Examples

- Bad abstractions
- Missing architecture documentation
- Big Ball of Mud (cyclic dependencies)
- All flavors of bad code
- Copy & paste reuse
- Missing safety net
- Design deficits in Unit Tests
- All flavors of bad maintainability
- ….
Function Points

• “A software size measure. They measure the amount of information processing functionality contained within a software product. They are derived early in the software life cycle from requirements or design specifications, and are applied across diverse application domains and technology platforms.”

• For more see “Using Function Point Metrics For Software Economic Studies” on you USB Stick
Relevant Books …
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Balanced Scorecards

See slide deck by the inventor Robert S. Kaplan

The BALANCED SCORECARD

Robert S. Kaplan
Harvard Business School
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TCO (Total Cost of Ownership) Models
Idea is straightforward

Which lighter serves you better?
Which one is cheaper

Cost per Unit – cost per Lighting – cost of disposal

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WHICH CAR SERVES YOU BEST?
DEPENDS!
In IT you have additional stuff to take into you cost model – a few examples

- License costs
- Installation costs
- Support & Maintenance Costs
- Training costs
- Costs of unwanted downtime
- Supporting infrastructure cost (data centers, cooling, security, …)
Common recipes to reduce TCOs of IT items

- **Standardization**: Having only a limited number of technologies / items / software versions / …
- **Centralization**: Saving on infrastructure by centralizing sites
- **Automation**: Saving money by automating routine tasks