

IT Controlling

Vorlesung IT-Unternehmensarchitektur

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Fachgebiet Software-Architekturen, Prof. Dr. Robert Hirschfeld

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Attention: Germanism!

controlling *adj*

Definition of CONTROLLING 👍 +1 👍 Like

: inclined to **control** others' behavior : **DOMINEERING**

🔗 See **controlling** defined for English-language learners »
See **controlling** defined for kids »

Examples of CONTROLLING

- She is very strict and *controlling*.
- The larger bank remained the *controlling* party when it took over the smaller banks.
- He paid over 40 million dollars for a *controlling* interest in the company.

First Known Use of CONTROLLING

1974

Learn More About CONTROLLING

- 📘 Spanish-English Dictionary: Translation of "controlling"
- 🏥 Medical Dictionary: Definition of "controlling"

- 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

Kind of Accounting	Goals
Financial Accounting	Profit Loss Calculation Basis for Taxation
Management Accounting <ul style="list-style-type: none"><li>Operational Management Accounting<li>Strategic Management Accounting	Decision Making <ul style="list-style-type: none"><li>Mostly: Know Unit Costs and Optimize them<li>Track Execution of a Strategy

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

- 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

- 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

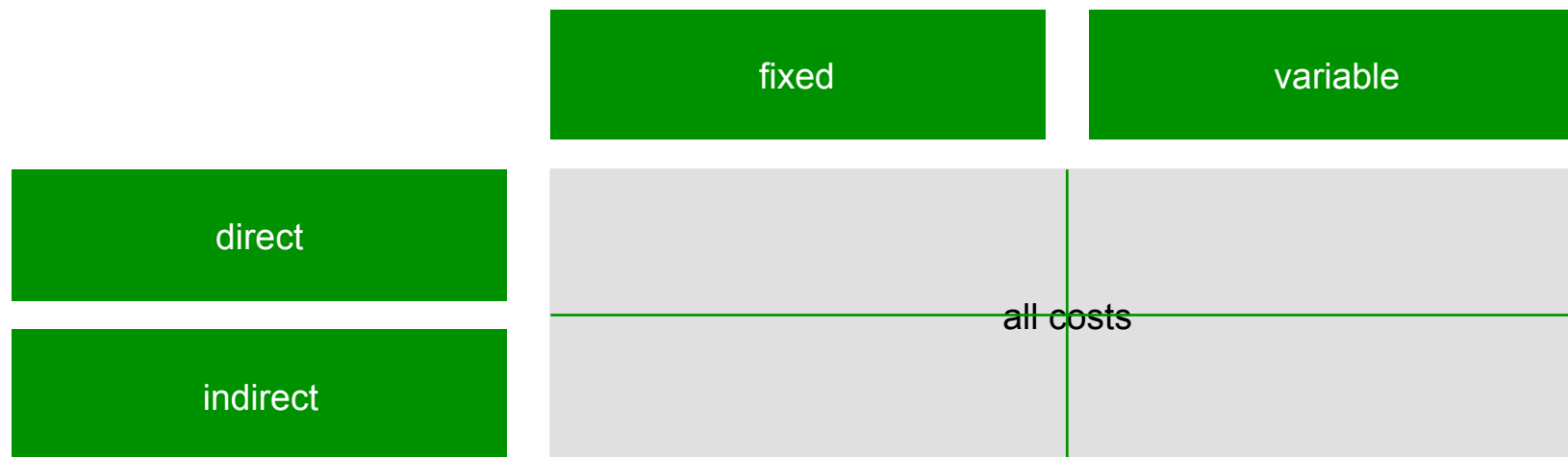
	Anglo Saxon terms	German Terms
1	Kinds of costs: Direct, indirect, fixed, variable	Kostenartenrechnung
2	Cost Centers Departmental cost determination	Kostenstellenrechnung
3	Unit Costing	Kostenträgerrechnung
4	Budgeting	Budgetierung

What is Management Accounting anyway?

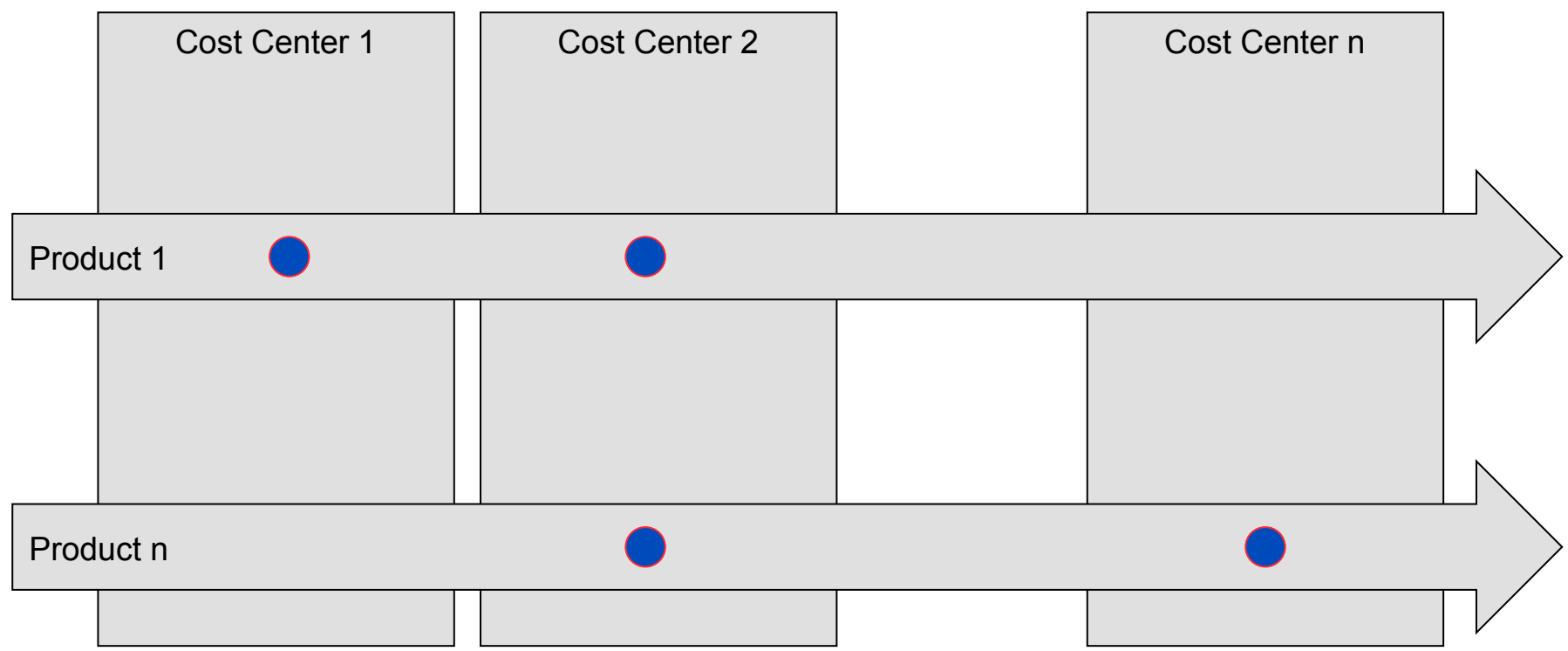
TOC of a typical book on Management Accounting

	Anglo Saxon terms	German Terms
5	Control Dealing with budget deviations of all kinds	Abweichungsrechnungen
6	Investment Decisions	Investitionsrechnung
7	Strategic Management Accounting e.g. Balanced Scorecard	Strategisches Controlling z.B. Balanced Scorecard
8	Performance Working Capital Analysis EVA	Betrachtung von Geschäftseinheiten Kapitalbedarf EVA (Economic Value Added)

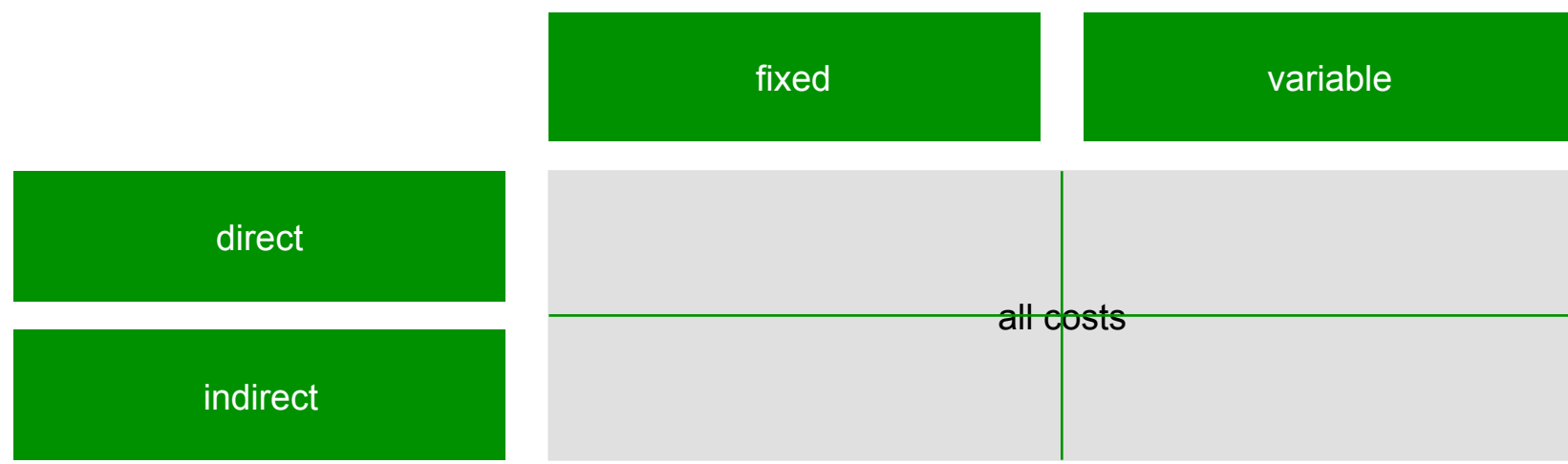
(1) Kinds of Costs



(2) Cost Centers



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

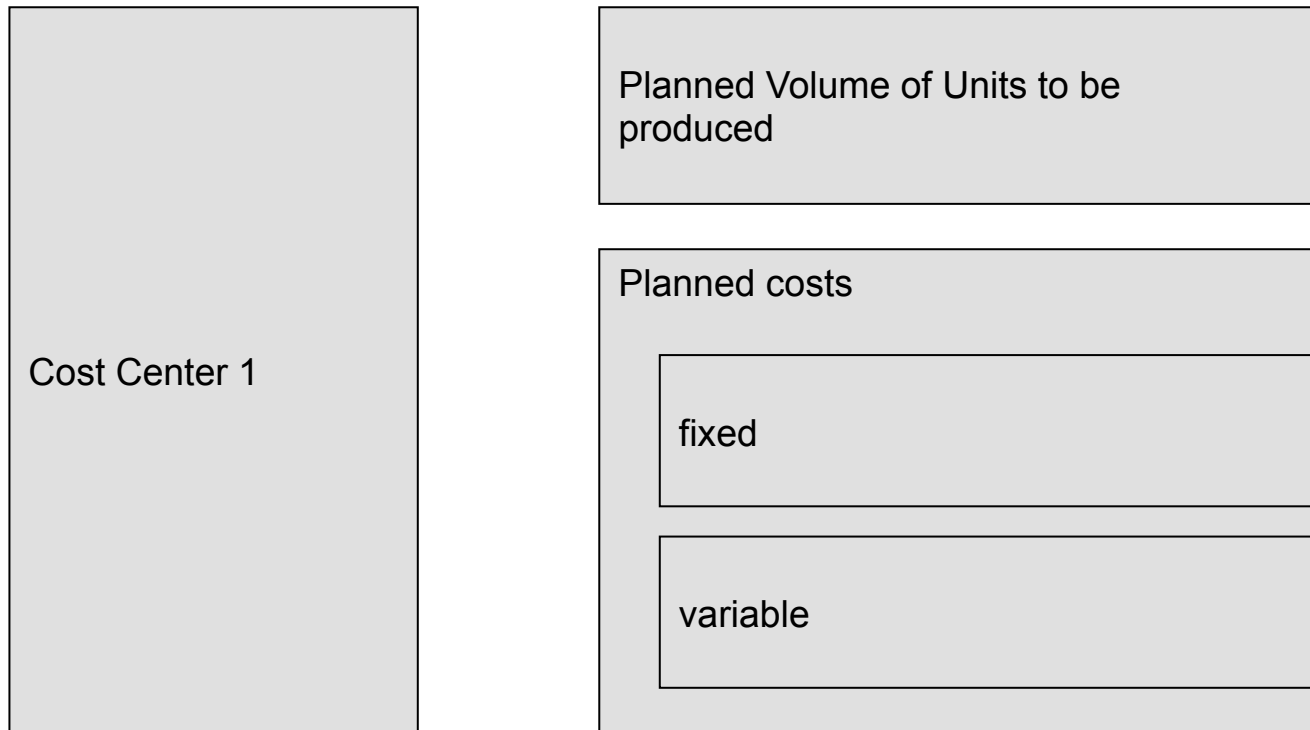


(3) Unit Costing

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)
 -

(4) Budgeting



(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,

...

(7) Strategic Management Accounting

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

Target Costing

Product Lifecycle Analysis
(Boston Squares)

Balanced Scorecards

Technology Lifecycle Analysis

Customer Profitability
Customer Segmentation

(7) Strategic Management Accounting

Some tools especially used in IT

Function Points

Balanced Scorecards

Managed Evolution

Technical Debts

Application Portfolio Management

(3) More Areas of Strategic Management Accounting

Performance Management

Manage Contribution of Business Units

Working Capital Analysis

Optimize Use of Capital Inputs

“Economic Value Added” (EVA) Analysis

Check Decisions, Products, Customers, whether
* they add EVA
* they burn EVA

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- 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

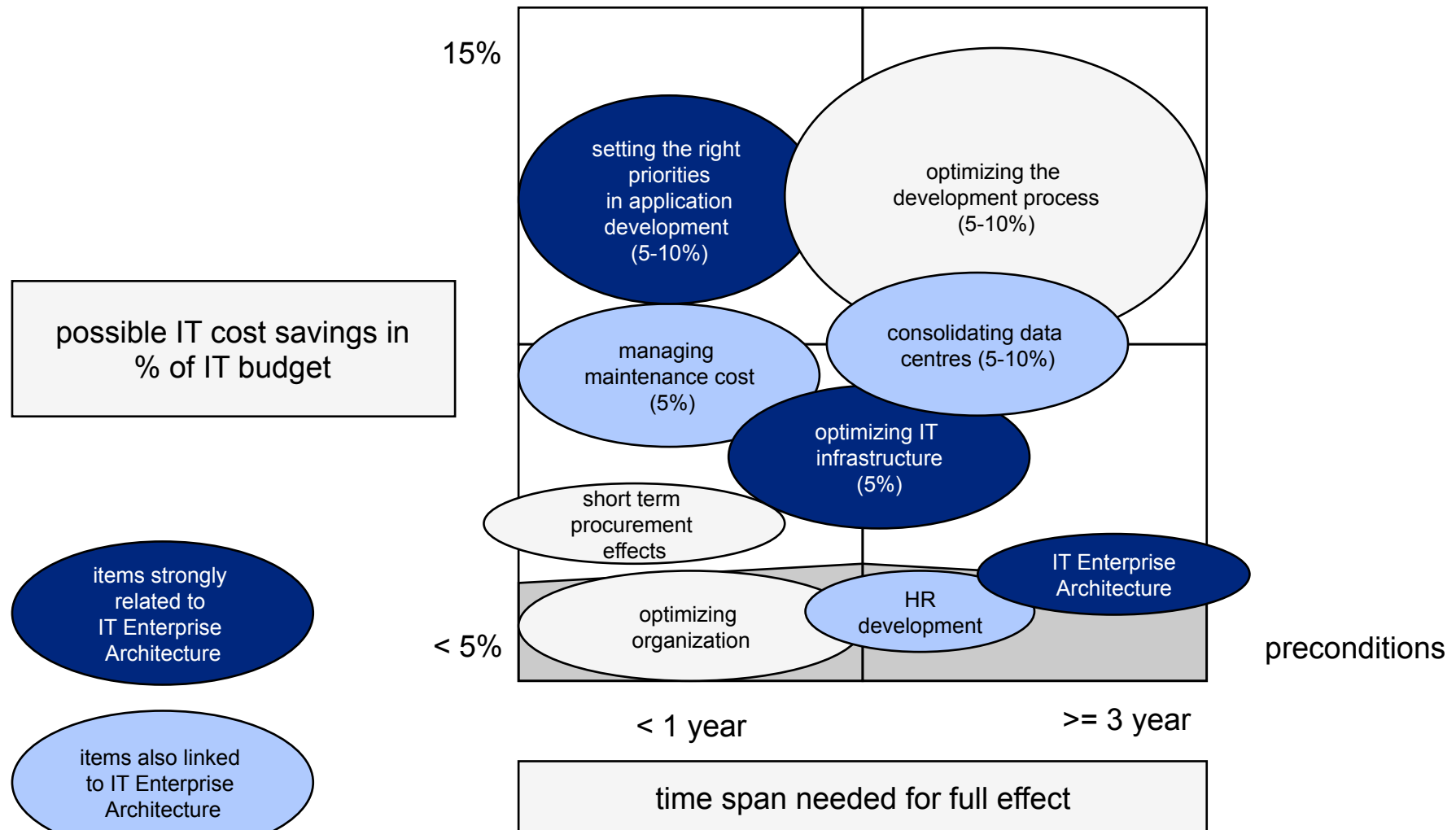
IT Cost Quotas
0,5 – 10+ %
3% typical value



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

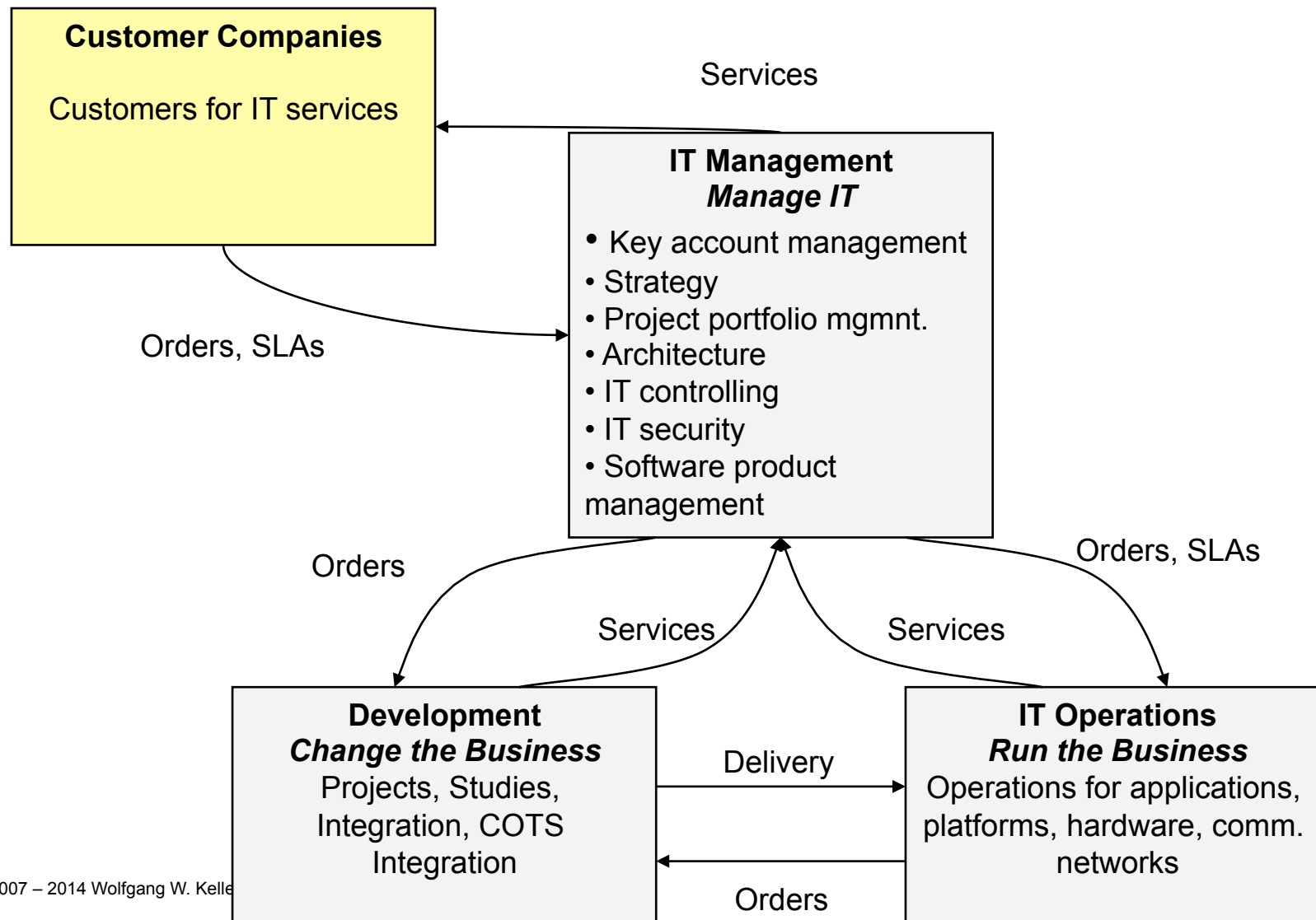
Important in any Case: DO THE RIGHT THING!



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M/C/R Organizations and how to Monitor the Big IT Cost Blocks



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

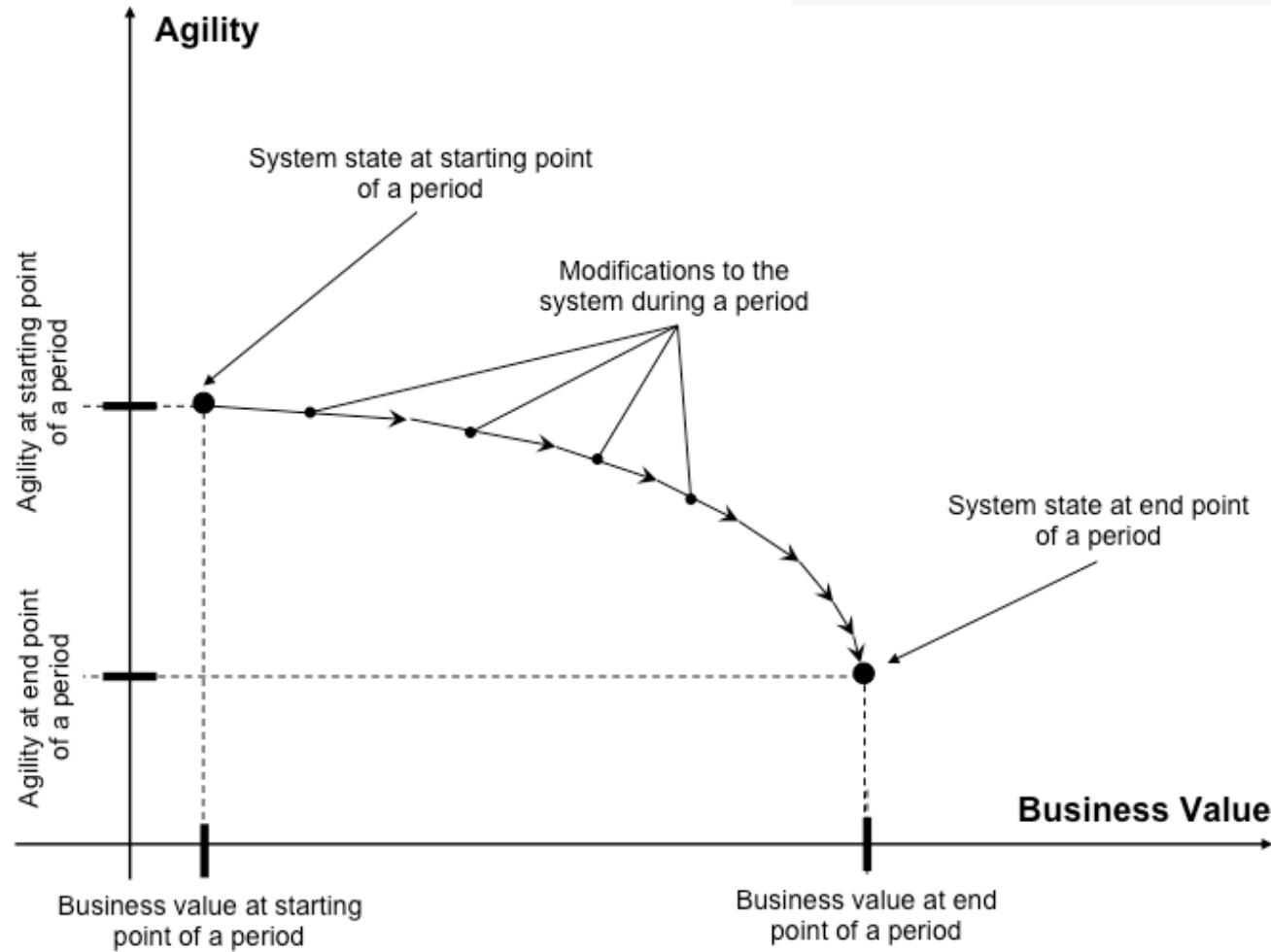
- And again: 70% might be “non discretionary” Software Maintenance Costs
 - Managed Evolution
 - Maintainable Software
 - Sourcing Maintenance to 3rd parties

- Some Tools for Strategic IT Management Accounting

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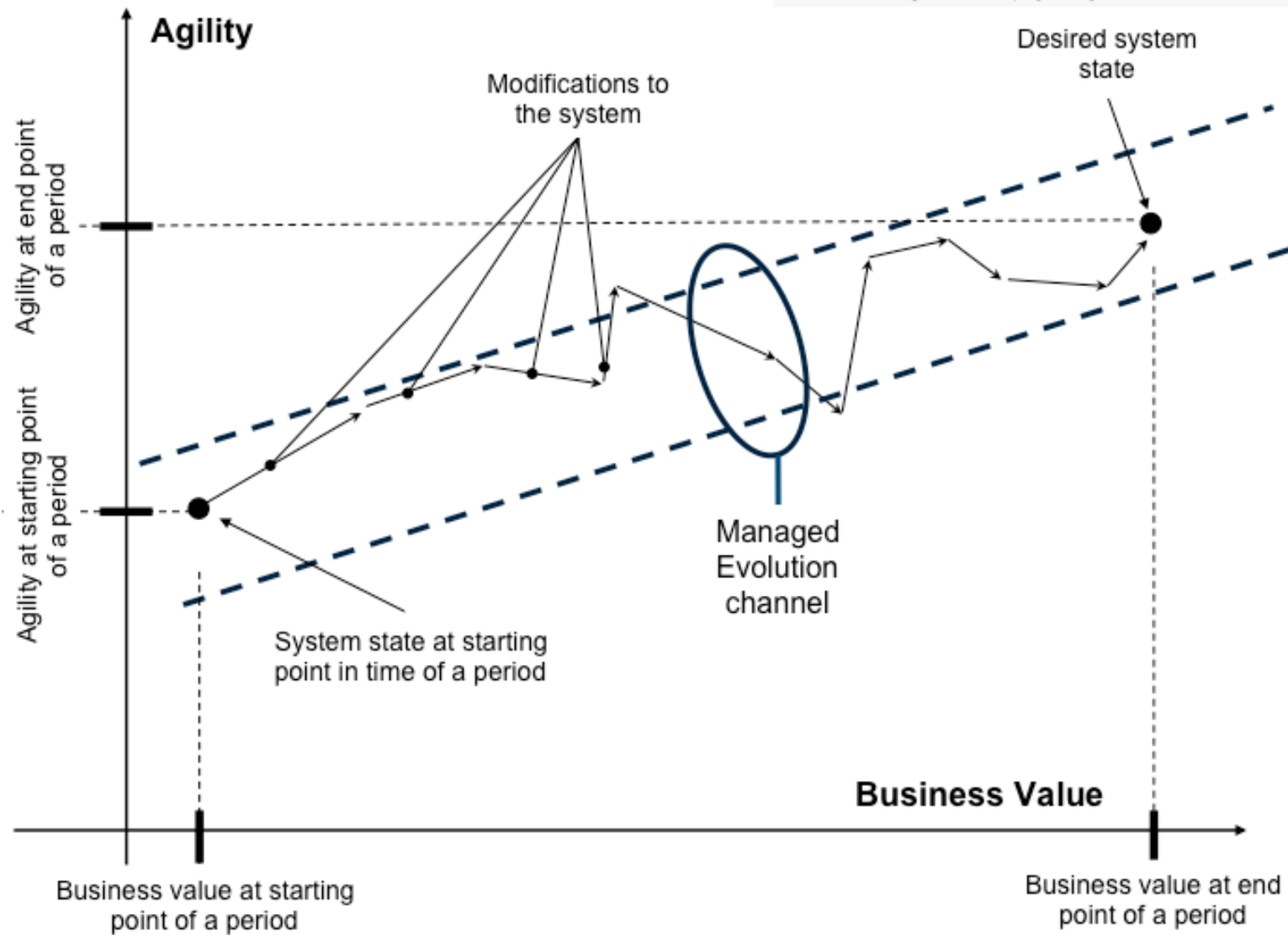
Managed Evolution

© Murer et. al. *Managed Evolution*. Springer-Verlag 2011. ISBN 978-3-642-01632-6

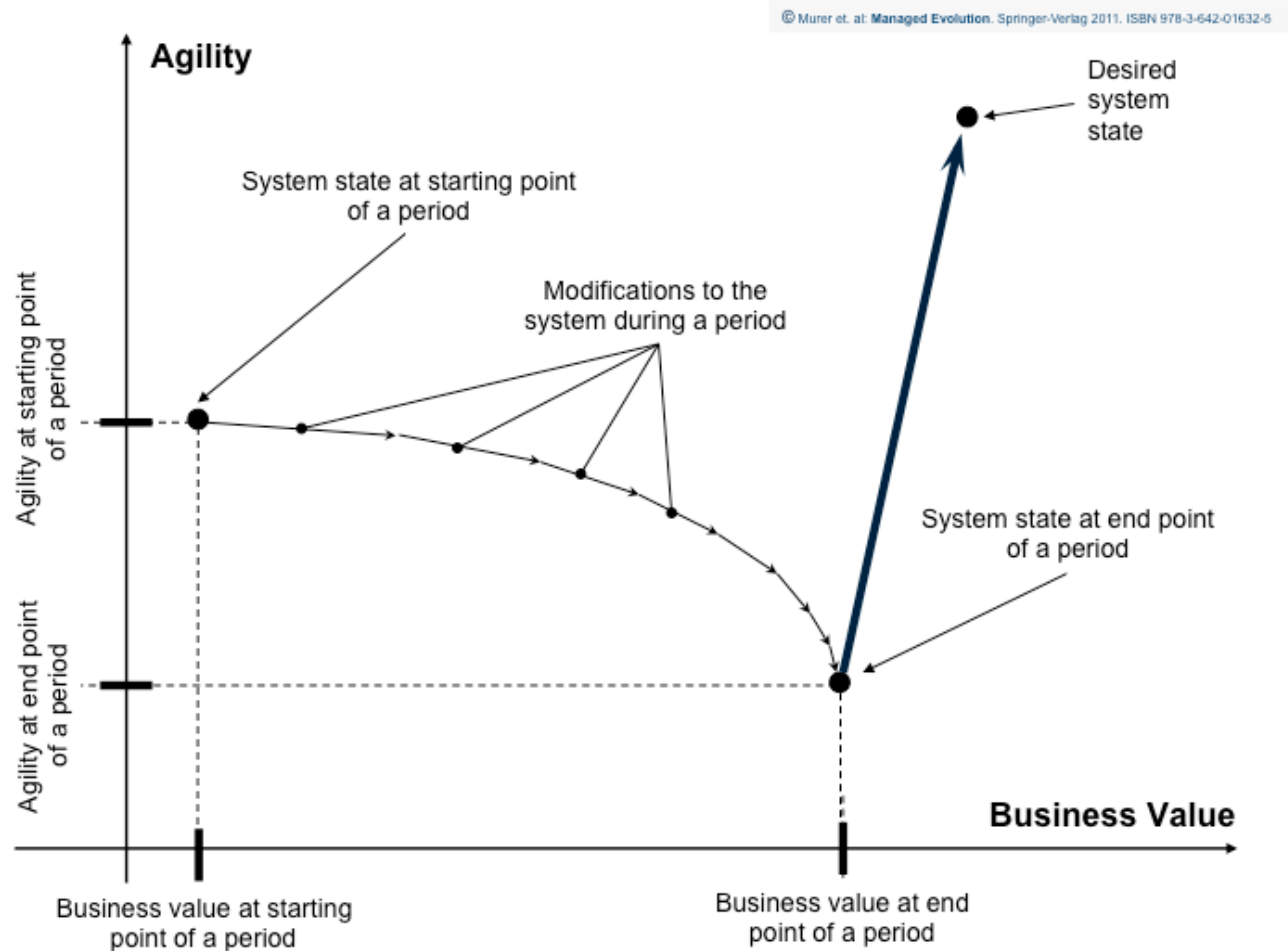


Managed Evolution

© Murer et. al: *Managed Evolution*. Springer-Verlag 2011. ISBN 978-3-642-01632-6



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 ...

Sixth Edition

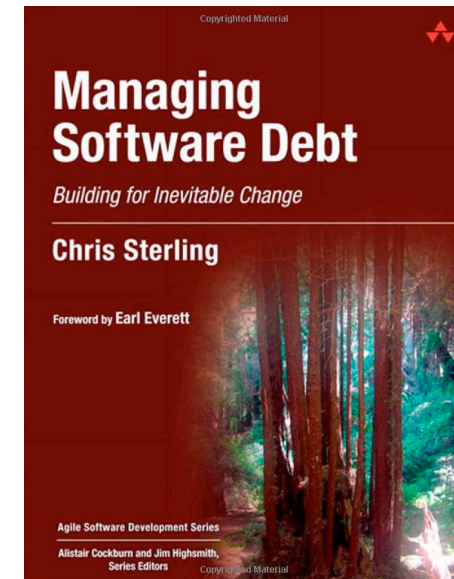
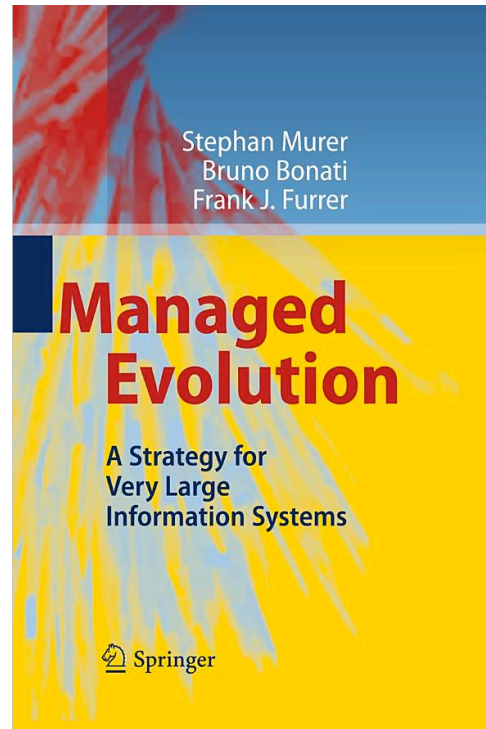
Management Accounting for Decision Makers

Peter Atrill
Eddie McLaney



FT Prentice Hall
FINANCIAL TIMES

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 - **Balanced Score Cards**
 - TCO Models

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

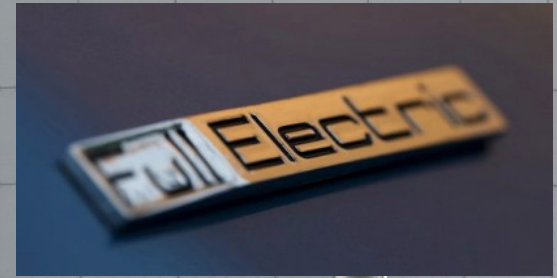
Idea is straightforward

Which lighter serves you better?
Which one is cheaper



Cost per Unit – cost per Lighting – cost of disposal

WHICH CAR SERVES YOU BEST? DEPENDS!



In IT you have additional stuff to take into your 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