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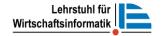
Information Management and Knowledge Management (IMKM)

Lecture 7 IT Controlling & IT Governance

TUM

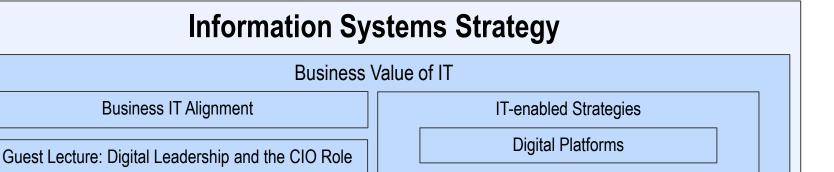
Chair for Information Systems

© Prof. Dr. H. Krcmar

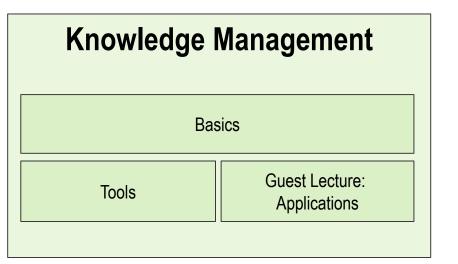


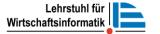


Lecture Schedule



Information Management IT Controlling and IT Governance IT Sourcing and IT Off-Shoring IT Security, Privacy and Risk Management Guest Lecture: Natural language processing for IM







IMKM Lecture 7: IT Controlling & IT Governance

Outline

1. IT Controlling

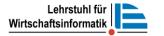
- 1. Objectives and Functions
- 2. Methods

2. IT Governance

- Definition and relation to Corporate Governance
- 2. COBIT 2019

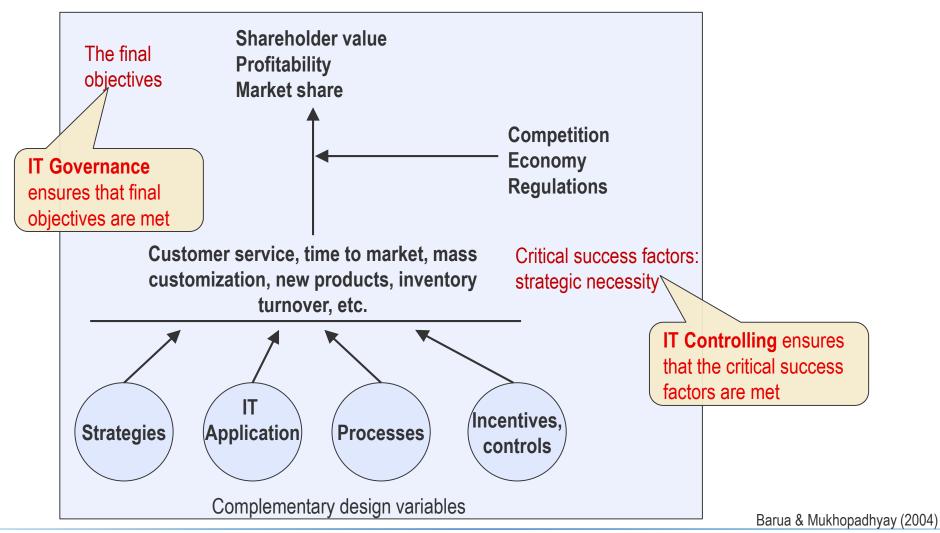
Learning Objectives

- You understand the objectives of IT controlling.
- You understand and can identify and differentiate the functions of IT controlling.
- You know and understand different methods of IT controlling.
- You know and understand IT governance and its relation to corporate governance.
- You know and understand what COBIT 2019 is and its six principles.





Relationship between IT Governance & IT Controlling







Controlling and IT Controlling

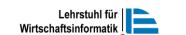
Controlling

- a management concept for a future-oriented corporate and profit controlling and
- a strategy for safeguarding corporate existence and jobs.
- Provides essential decision support via recipient-oriented and future-oriented reporting.

IT Controlling

the controlling of IT in an organization

- guarantees formal objectives (efficiency & effectiveness) and
- content objectives (quality, functionality, adherence to schedule) of information processing.
- Not merely a supervision/ elementary controlling function, but rather a coordination function for information management.





IT Controlling Framework

IT Controlling objectives

formal

- efficiency

content

- quality

objectives:

- effectivity - strategic fit

- functionality objectives:

- adhere to deadlines

IT Controlling functions coordination in information management process orientation products portfolio projects infrastructure reporting in information management

Krcmar (2015), p. 498



tools /methods



IT Controlling Functions

to select projects that fit

project portfolio controlling

Portfolio controlling makes the process of evaluating and selecting new, planned or ongoing IS projects more transparent.

to execute projects correctly

product and infrastructure controlling

project

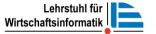
controlling

Project controlling is an integrated system for planning, management and monitoring of costs, schedules and services of a project.

to handle operation correctly

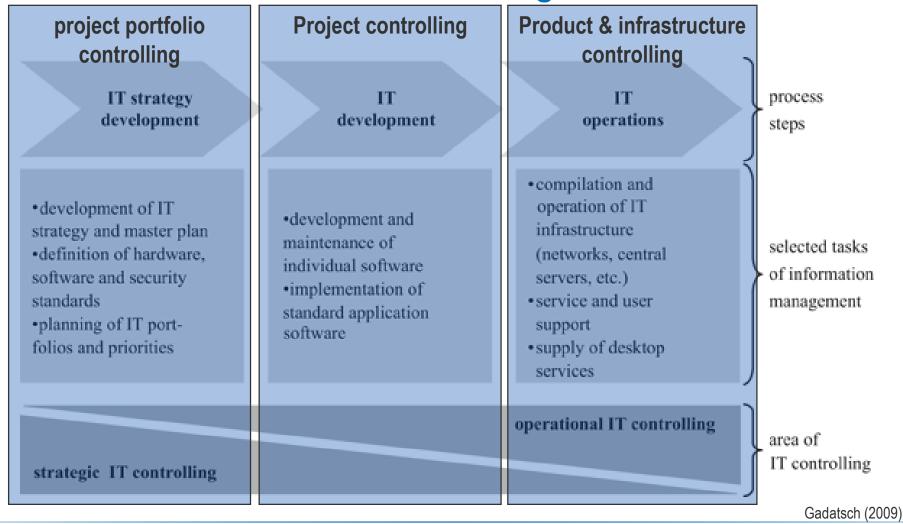
Product an infrastructure controlling ensures the ongoing monitoring of product use throughout the remaining part of the product life cycle.

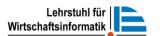
Krcmar (2015), p. 500ff





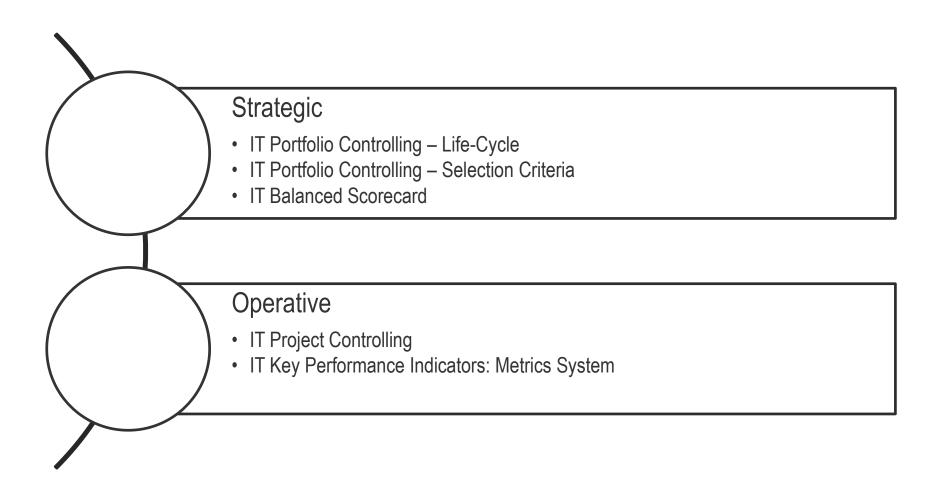
IT Process Model & IT Controlling Functions







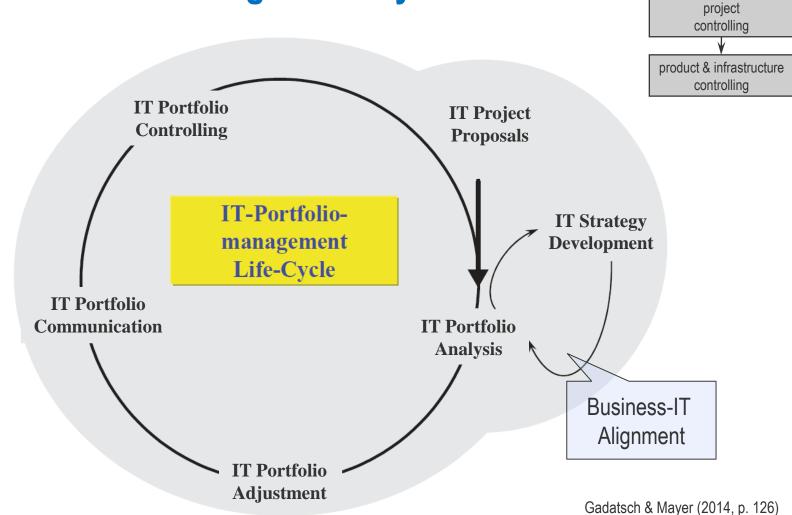
IT Controlling Methods Overview





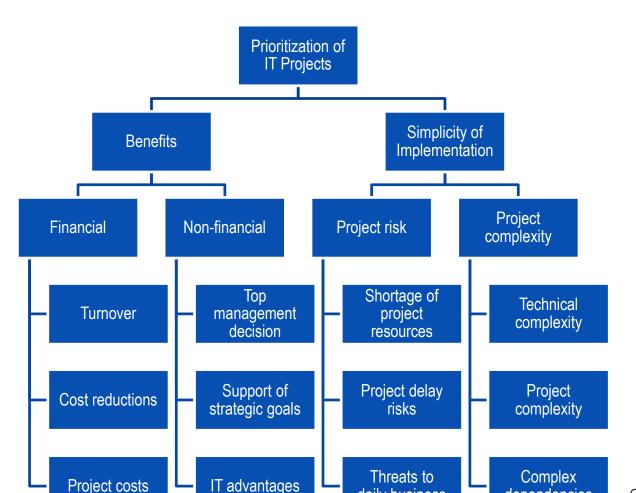
project portfolio controlling

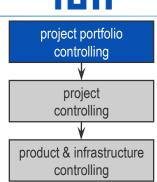
IT Portfolio Controlling – Life-Cycle





IT Portfolio Controlling – Selection Criteria





Gadatsch & Mayer (2014, p.123)



daily business

dependencies



project portfolio controlling

project controlling

product & infrastructure

controlling

Targets

Initiatives

Balanced Scorecard

The Balanced Scorecard is a performance measurement framework that "translates an organization's mission and strategy into a comprehensive set of performance measures that provides the framework for a strategic measurement and management system" (Kaplan & Norton, 1996).

"To achieve

how should we

appear to our

customers?"

our vision.

Customer

Measures

Targets

Initiatives

Objectives

"To succeed financially, how should we appear to our shareholders?"

shareholders Vision and and customers. Strategy what business processes must we excel at?" **Learning and Growth** "To achieve Targets Objectives Measures Initiatives our vision, how will we sustain our

Kaplan & Norton (1996)

Internal Business Process

Measures

Objectives

"To satisfy our

ability to change and improve?"



project portfolio

controlling

Balanced IT Scorecard

Customers

Internal Customers

Targets

Initiatives

External Customers

KPI

CSF = Critical success factor

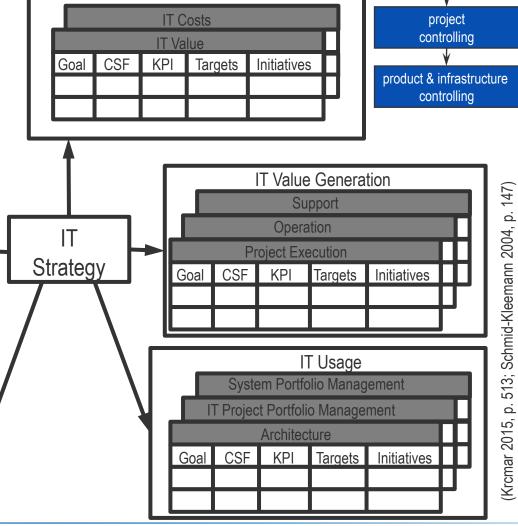
Vital elements for strategy, higher-level, not measurable

KPI = key performance indicator

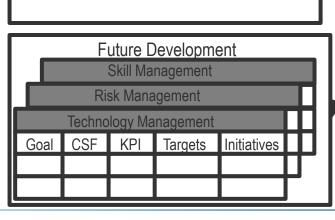
Goal

 Quantifies strategy statement, more concrete, measurable

CSF



Business Contribution

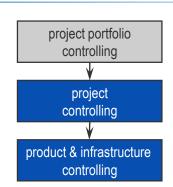




Metrics System

Metric: A quantitative judgement on a planned or actual value of a criteria of a steering

object, at a certain point in time.

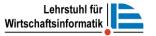


- Types of metrics
 - Steering metrics
 - Information metrics
 - Benchmarks
 - Quantitative vs. Qualitative metrics
 - Retrospective vs. Predicting metrics



project portfolio **Metrics System** controlling project controlling product & infrastructure Domain x controlling objective Top metric Measurement of metrics * Domain x1 Domain x2 + +

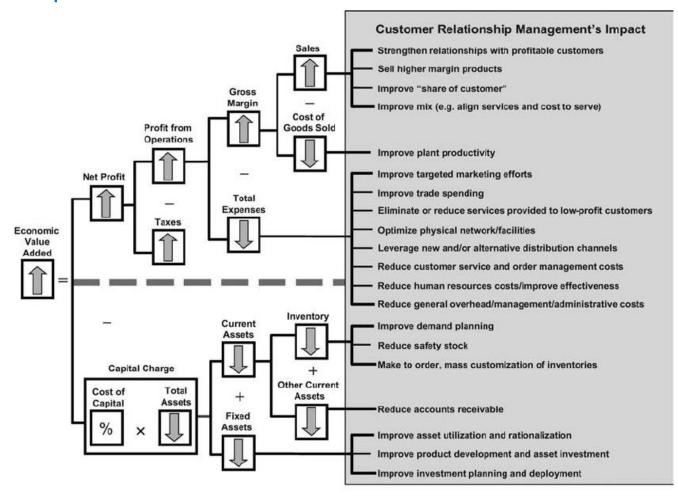
Krcmar (2010), p. 553

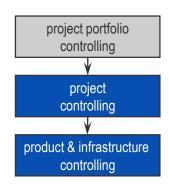




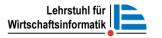
Metrics System

Example: Economic Value Added





Lambert (2008)

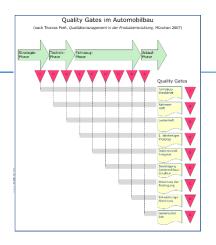


IT Project Controlling

*							
TYPE	COMPLEXITY OF COMPONENT						
	Low	Average	High	Total			
External Inputs	*3=	*4 =	*6 =				
External Output	*4=	*5=	*7 =				
External Inquiries	*3=	*4=	*6 =				
Internal Logical files	*7=	*10=	*15 =				
External Interface File	*5=	*7=	*10 =				
TOTAL UAF							

Repo	t Created ov	3/30/2015			Project	Cost Sheet	Report for Al	Projects				Page 4 of 1
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FAMIS C	Construction P	recent Complete: 99%	Note but update	ed by Tiana Carte		Enter	rod Fed: 12/01/201	4				
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485	Other Proje	ed Development Costs	12,585	12,585	0	0	0	0	9			0
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616	Landscape	Seniors	195,000	217,672	0		0	0	9	-02,022		-30,622
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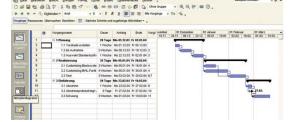
- Cost Estimation (Function Point analysis, COCOMO (Constructive Cost Model))
- Reporting



Quality

Quality gates

Customer reviews



project portfolio

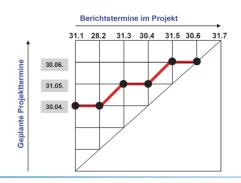
controlling

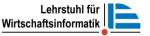
project controlling

product & infrastructure controlling

Time

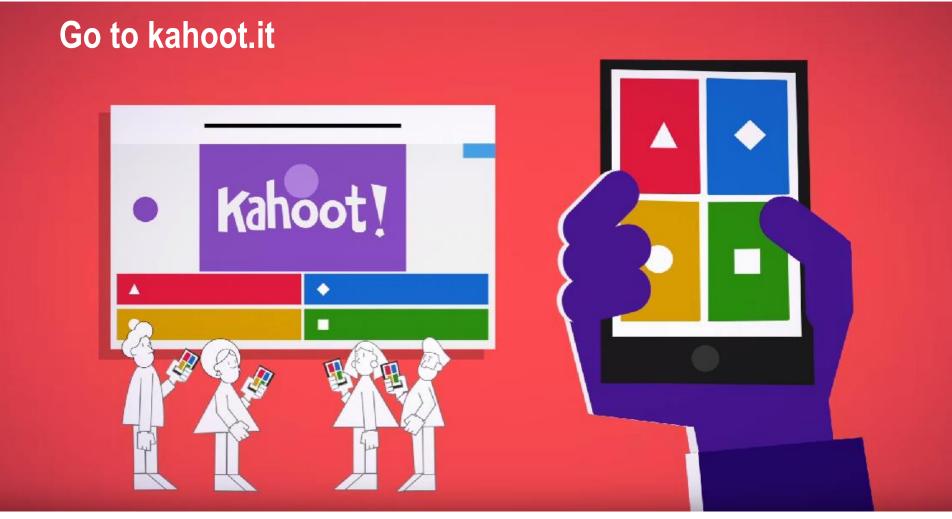
- Milestones
- **Gantt Chart**







Quiz Time!





IMKM Lecture 7: IT Controlling & IT Governance

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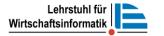
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- Definition and relation to Corporate Governance
- COBIT 2019

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The wirecard Scandal

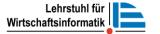
"On 25 June 2020, Wirecard filed for insolvency after revelations that €1.9 billion was "missing", the termination and arrest of its CEO Markus Braun. Questions are raised with regards to the regulatory failure on the part of Federal Financial Supervisory Authority (BaFin), Germany's top financial watchdog, and possible malpractice of its long time auditor Ernst & Young."

Was this scandal related to governance?

(Use yes/agree, no/disagree in Zoom)



https://www.ft.com/content/39087386-2114-403f-8f9b-ca24fdcc668chttps://en.wikipedia.org/wiki/Wirecard_scandal





Why do we need Corporate Governance?

Corporations have two important virtues:

- They allow shareholders (investors) to reduce risk by limiting their liability to the value of their investment.
- They allow shareholders to buy and sell their ownership interests easily.

But there is a big problem that creates a **potential misalignment** of interests between shareholders and managers:

IMKM WS 20/21 – Lecture 7

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The Separation of Ownership and Control!



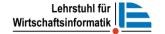


What is Corporate Governance?

Corporate governance is the system by which business corporations are **directed and controlled**. The corporate governance structure specifies the distribution of **rights and responsibilities** among different participants in the corporation, such as the
board, managers, shareholders and other stakeholders, and spells out the **rules and procedures** for making decisions on corporate affairs.

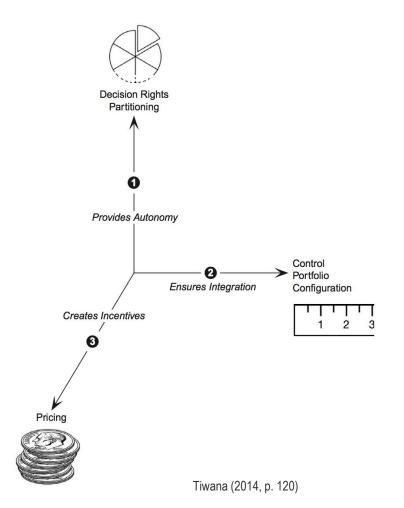
By doing this, it also provides the **structure** through which the company **objectives are set**, and the **means** of attaining those objectives and **monitoring** performance.

OECD (1999)





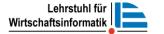
Reminder: Platform Governance in an App Store



How to influence the platform's ecosystem

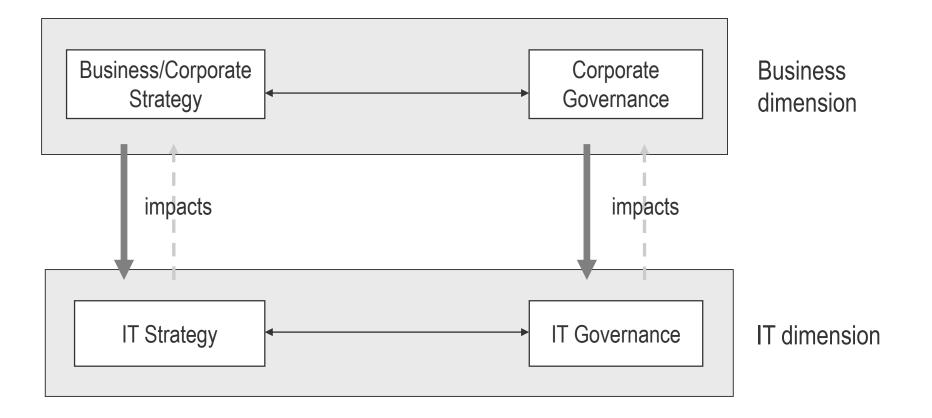
3 dimensions of platform governance:

- Decision rights partitioning provide autonomy
 The platform owner can transfer decision rights to the app developer to trigger innovation
- Control portfolio design ensure integration
 The platform owner needs to control and guide the development process of third-party.
- Pricing create incentives
 The platform owner needs to create incentives
 e.g. by sharing revenues with developers





From Corporate Governance to IT Governance





IT Governance

"IT governance represents the **framework for decision rights** and **accountabilities** to encourage desirable behavior in the use of IT"

Weill & Woodham (2002), cited in Krcmar (2015), p. 444

"IT governance is not about what specific decisions are made. That is management. Rather, governance is about systematically determining who makes each type of decision (a decision right), who has input to a decision (an input right) and how these people (or groups) are held accountable for their role. Good IT governance draws on corporate governance principles to manage and use IT to achieve corporate performance goals."

Lehrstuhl für Wirtschaftsinformatik

Design of IT Governance

Business Goals

IT Governance Goals

IT Governance Core Components

Build current and future shareholder/ stakeholder value



Establish / Enforce Accountability for IT Operational Performance



Establish / Enforce **Accountability for IT Projects**

Align IT Investment to Business Strategy and Objectives



Targets and Feedback

Ratzer (2007)

Compliance and Reinforcement

at

An acceptable level of risk



Manage IT Related **Risks**

by

Engaging and aligning **business** *leadership*



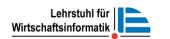
Involve Key Business Stakeholders



Build Decision Making Transparency



Process, Participation, and Timing





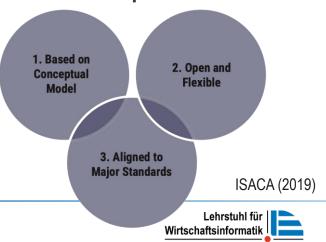
Control OBjectives for Information and related Technology (COBIT) Components:

COBIT = Framework for the **governance & management of enterprise information & technology** (I&T)

- defines the components to build and sustain a governance system
 - which decisions should be taken, and how and by whom they should be taken
- defines the design factors that should be considered (enterprise strategy, goals, size, role of IT, IT sourcing model, compliance requirements, etc.)
- addresses governance issues by grouping relevant governance components into governance and management objectives
- → no silver bullet to design, implement and maintain effective IT governance within an organization
- → need to **tailor** to own specific context and needs

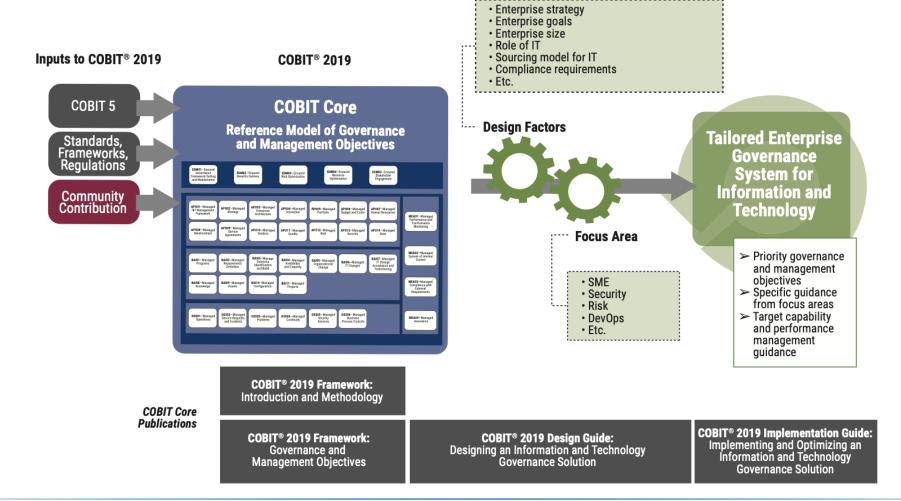


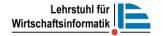
Principles:





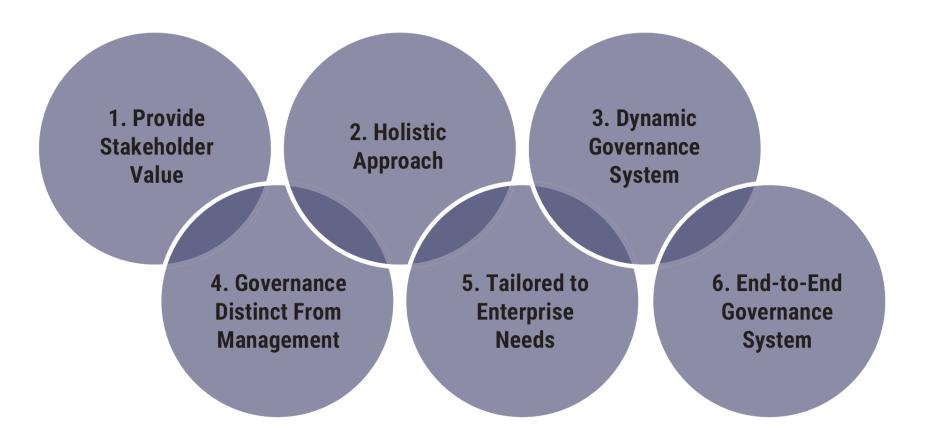
COBIT 2019 Overview

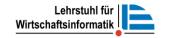






COBIT 2019 Principles



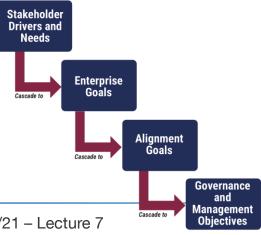




COBIT 2019 Principle 1: Provide Stakeholder Value

- Each enterprise needs a governance system
 - to satisfy stakeholder needs and
 - to generate value from the use of I&T
- Value reflects a balance among benefits, risk and resources.
- Enterprises need an actionable strategy and governance system to realize this value.

	Figure 2.1—COBIT Stakeholders		
Stakeholder	Benefit of COBIT		
	Internal Stakeholders		
Boards	Provides insights on how to get value from the use of I&T and explains relevant board responsibilities		
Executive Management	Provides guidance on how to organize and monitor performance of I&T across the enterprise		
Business Managers	Helps to understand how to obtain the I&T solutions enterprises require and how best to exploit new technology for new strategic opportunities		
IT Managers	Provides guidance on how best to build and structure the IT department, manage performance of IT, run an efficient and effective IT operation, control IT costs, align IT strategy to business priorities, etc.		
Assurance Providers	Helps to manage dependency on external service providers, get assurance over IT, and ensure the existence of an effective and efficient system of internal controls		
Risk Management	Helps to ensure the identification and management of all IT-related risk		
	External Stakeholders		
Regulators	Helps to ensure the enterprise is compliant with applicable rules and regulations and has the right governance system in place to manage an sustain compliance		
Business Partners	Helps to ensure that a business partner's operations are secure, reliable and compliant with applicable rules and regulations		
IT Vendors	Helps to ensure that an IT vendor's operations are secure, reliable and compliant with applicable rules and regulations		



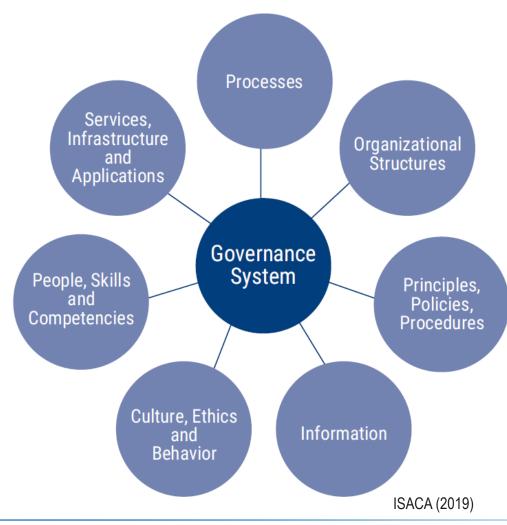




COBIT 2019 Principle 2: Holistic Approach

A governance system for enterprise I&T is built from a number of **components** that

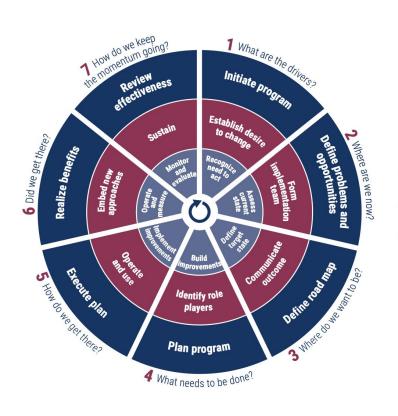
- can be of different types and
- work together in a holistic way.







COBIT 2019 Principle 3: Dynamic Governance System

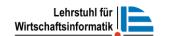


- Program management (outer ring)
- Change enablement (middle ring)
- Continual improvement life cycle (inner ring)

A governance system should be dynamic:

Each time one or more of the design factors are **changed** (e.g., a change in strategy or technology), the impact of these changes on the enterprise governance of information and technology (EGIT) system must be considered.

A dynamic view of the governance system will lead toward a viable and **future-proof** governance system.





COBIT 2019 Principle 4: Governance Distinct From Management

A governance system should **clearly distinguish** between governance and management activities and structures.

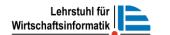
- Governance ensures that:
 - Stakeholder needs, conditions and options are evaluated to determine balanced, agreed-on enterprise objectives.
 - Direction is set through prioritization and decision making.
 - Performance and compliance are monitored against agreed-on direction and objectives.
- Governance is the responsibility of the board of directors/ supervisory board.
 - Specific governance responsibilities may be delegated to special organizational structures at an appropriate level
- Processes: Evaluate, Direct and Monitor (EDM)

Management

- plans, builds, runs and monitors activities,
- in alignment with the direction set by the governance body,
- to achieve the enterprise objectives.
- Management is the responsibility of the executive management, under leadership of the CEO

Processes

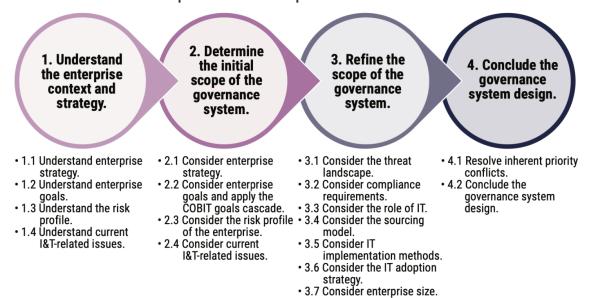
- Align, Plan and Organize (APO)
- Build, Acquire and Implement (BAI)
- Deliver, Service and Support (DSS)
- Monitor, Evaluate and Assess (MEA)

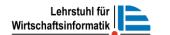




COBIT 2019 Principle 5: Tailored to Enterprise Needs

- A governance system should be tailored to the enterprise's needs, using a set
 of design factors as parameters to customize and prioritize the governance
 system components.
- Governance System Design Workflow for designing a governance system that is tailored to the needs of a specific enterprise.







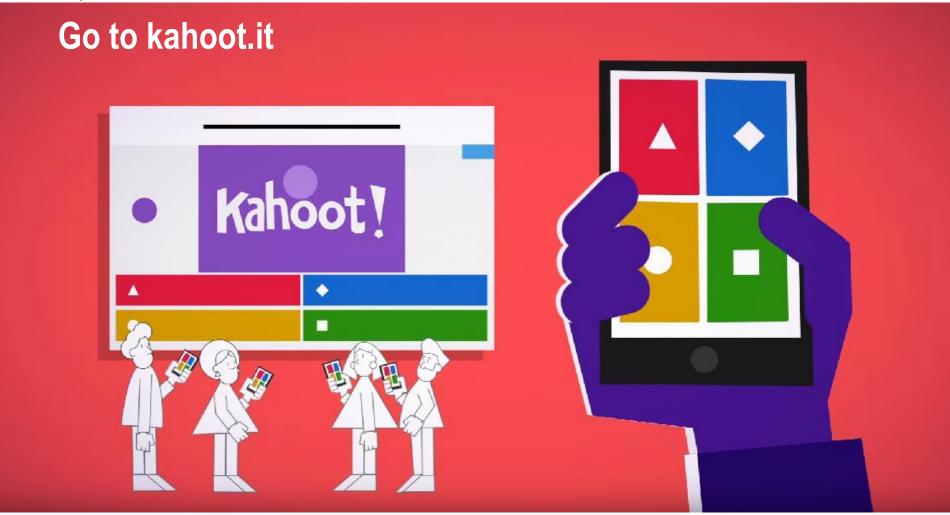
COBIT 2019 Principle 6: End-to-End Governance System

- Governance should cover the enterprise end-to-end
 - focusing not only on the IT function
 - but on all I&T processing the enterprise puts in place to achieve its goals, regardless where the processing is in the enterprise.
- COBIT emphasizes an enterprise-wide view of governance of I&T
 - I&T are pervasive in enterprises
 - neither possible nor good practice to separate business and IT-related activities.
 - The governance and management of enterprise I&T should be
 - implemented as an integral part of enterprise governance,
 - covering the full end-to-end business and IT functional areas of responsibility.





Quiz Time!





Core Literature: Krcmar, Informationsmanagement (2015)

- 1. Einleitung (pp.1-8)
- 2. Begriffe und Definitionen (pp.11-26)
- 3. Modellierung (pp. 31-78)
- 4. Aufgabe des Informationsmanagements: Informationsmanagement (pp. 85-109)
- 5. Aufgabe des Informationsmanagements: Management der Informationswirtschaft (pp. 113-165)
- 6. Aufgabe des Informationsmanagements: Management der Informationssysteme (pp. 173-302)
- 7. Aufgabe des Informationsmanagements: Management der Informations- und Kommunikationstechnik (pp. 315-385)
- 8. Führungsaufgaben des Informationsmanagements
 8.2 IT-Governance (pp. 444-471)
 8.3.2 Ziele und Aufgaben des IT Controllings (pp.497-515)
- 9. Referenzmodelle des Informationsmanagements (pp. 601-630)
- 10. Einsatzfelder und Herausforderungen des Informationsmanagements (pp. 633-753)
- 11. Fallstudie "Rockhaus AG" (pp. 767-783)





Literature

Additional Reading

- Gadatsch, A., & Mayer, E. (2014). Masterkurs IT-Controlling (5 ed.). Wiesbaden: Springer Fachmedien.
- ISACA (2019). COBIT 2019 Framework.
- Weill, P., & Ross, J. W. (2004). IT Governance: How Top Performers Manage IT Decision Rights for Superior Results. Boston, USA: Harvard Business Press





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