



Information Management and Knowledge Management (IMKM)

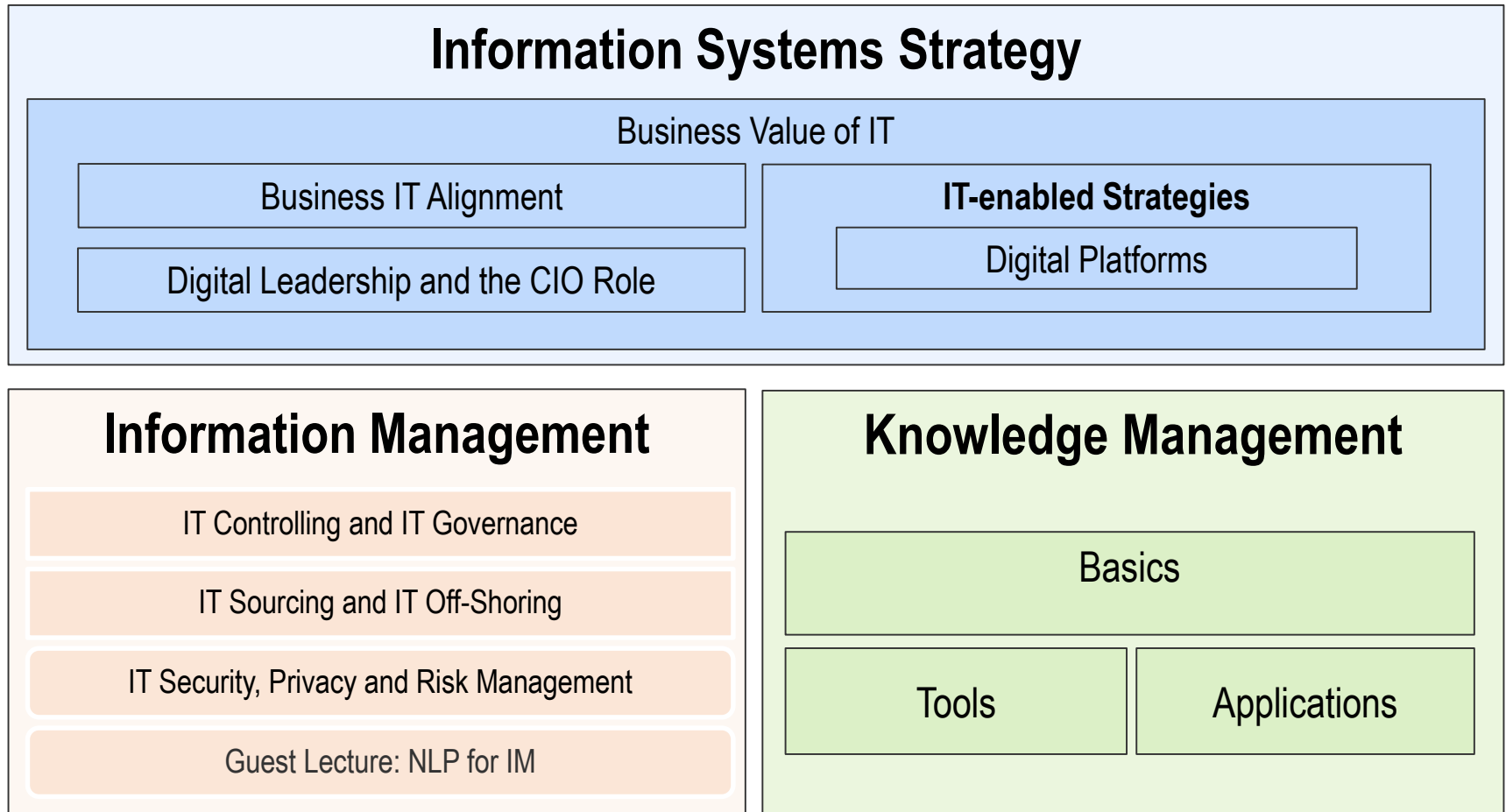
Lecture 4 *IT-enabled Strategies*

TUM

Chair for Information Systems

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Lecture Schedule



IMKM lecture 4: IT-enabled Strategies

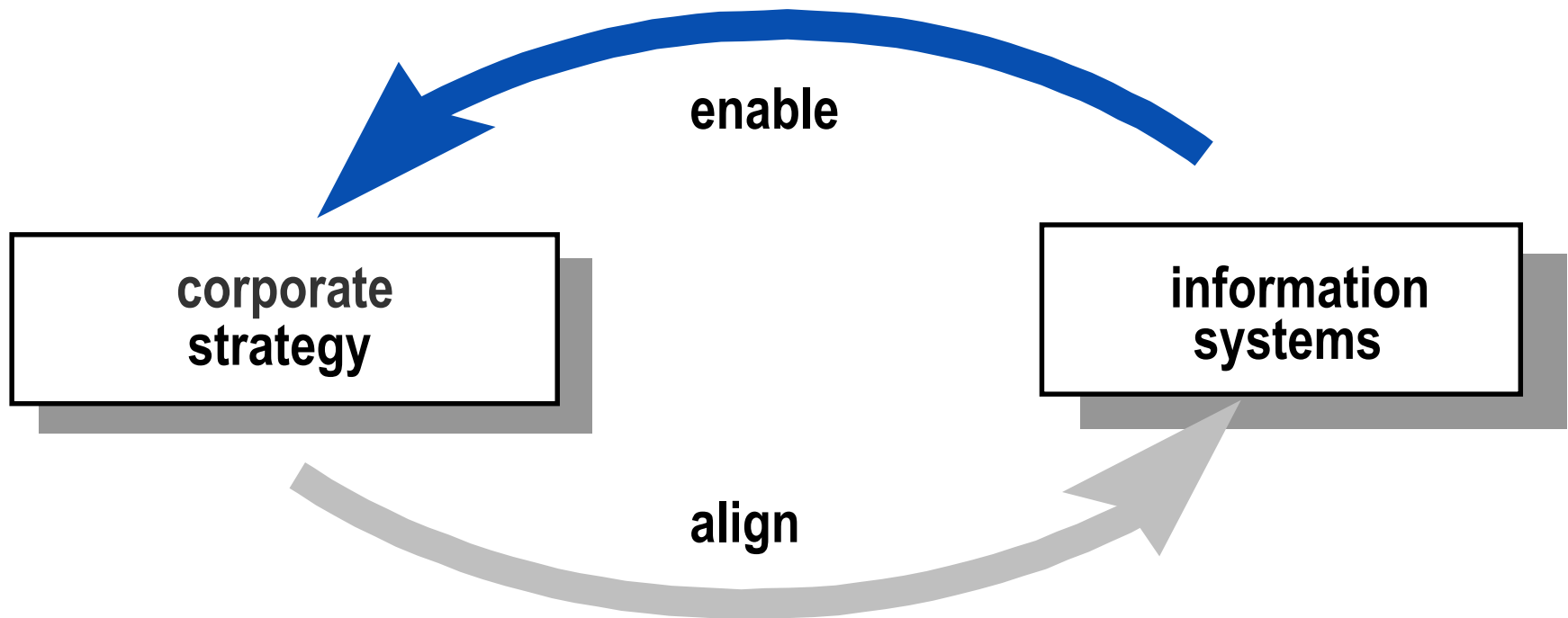
Outline

1. **Components of IT-enabled Strategies**
 1. Strategic Information Systems
 2. Business Model
 3. Business Model Innovation
 4. Types of IT-enabled Business Models
2. Innovations
 1. Types
 2. Disruptive Innovations

Learning Objectives

- *You understand and can identify strategic information systems.*
- *You understand the business model construct and can identify and differentiate its elements in practice.*
- *You understand what business model innovation is and can identify it in practice.*
- *You understand and can identify and differentiate different types of IT-enabled business models.*
- *You understand and can identify and differentiate different types of innovation.*

Relation between corporate strategy and information systems



Krcmar (2015, p. 396)

IT-enabled Businesses



Strategic Information Systems (SIS)

Strategic information systems are IS that **assure a competitive advantage** for a company or avoid a drop of the company's competitiveness.

Krcmar (2015, p. 409)

Examples?



System Categories for Strategic Information Systems

1. Inter-Organizational Systems

- systems that connect two partners in the value chain,
- can be differentiated according to system developer or system operator

2. Value-Added Services

- support order initiation, order processing and maintenance procedures, as well as to improve customer service and intensify customer relations

3. IT for new products and services

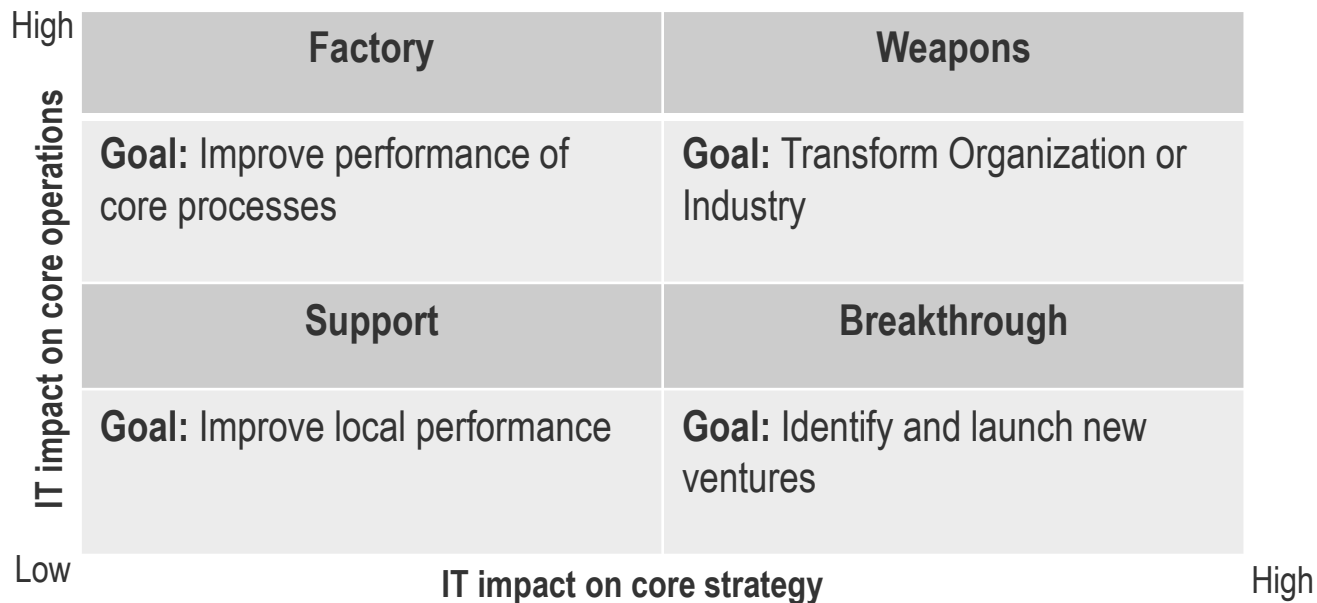
- Development of new products and business areas
- rather evolutionary than revolutionary

4. Electronic Markets

- Enabling and merging of transactions via digital platforms

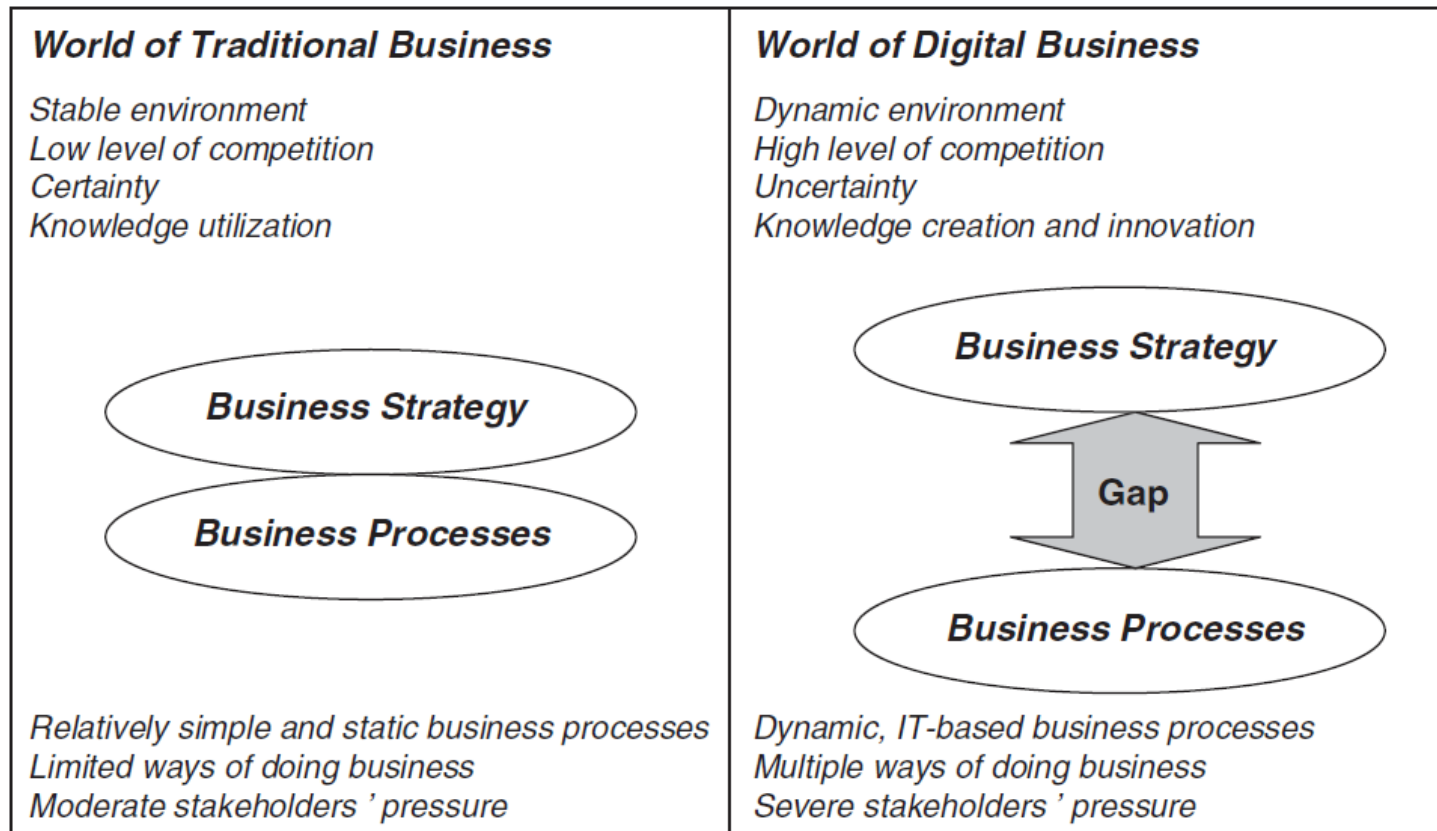
Krcmar (2015, pp. 409)

McFarlan's Strategic Grid – Determining the impact of information systems on strategy



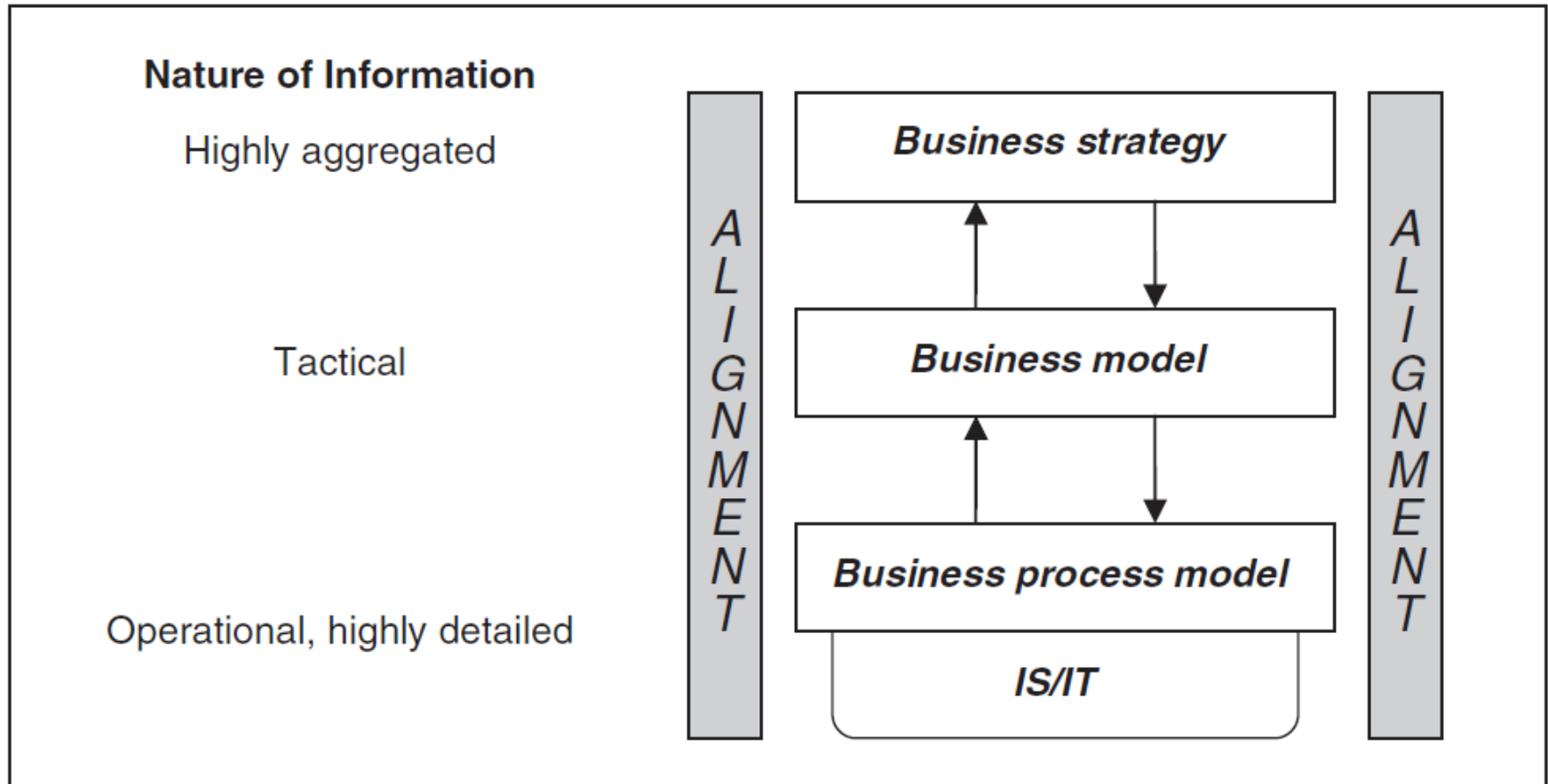
Porter's Competitive Forces can help in framing decision making along the two dimensions depicted in McFarlan's strategic grid

Adaptability Gap in a World of Digital Business



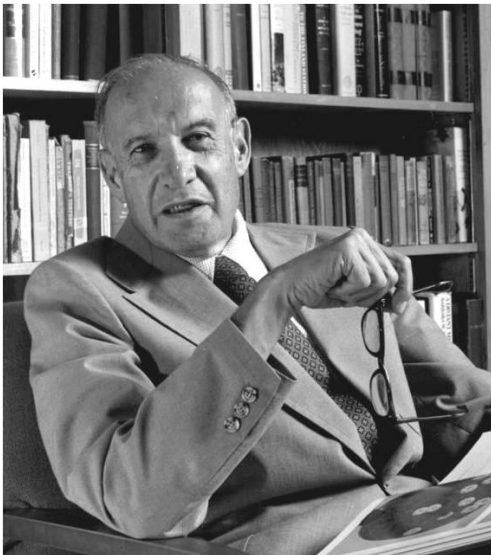
Al-Debei, M. M., & Avison, D. (2010)

The Business Model as conceptual tool of alignment



Al-Debei, M. M., & Avison, D. (2010)

A Business Model – What is it actually?

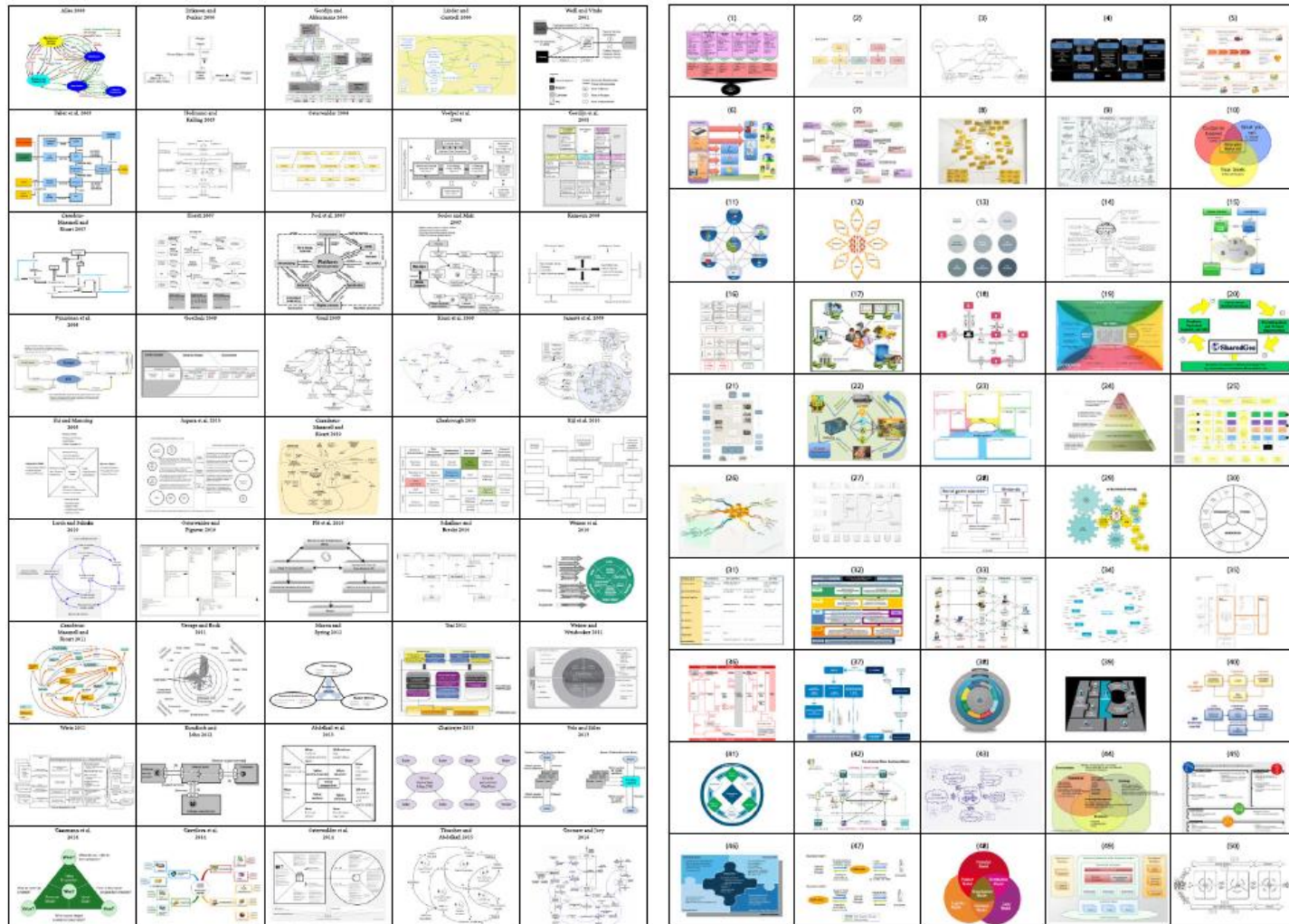


Peter Drucker's Question:

*Who is the customer,
what does he value, and
how does an organization intend to earn
money?*










Drucker 1954; Magretta 2002, wishtank.org

Business Model Representations

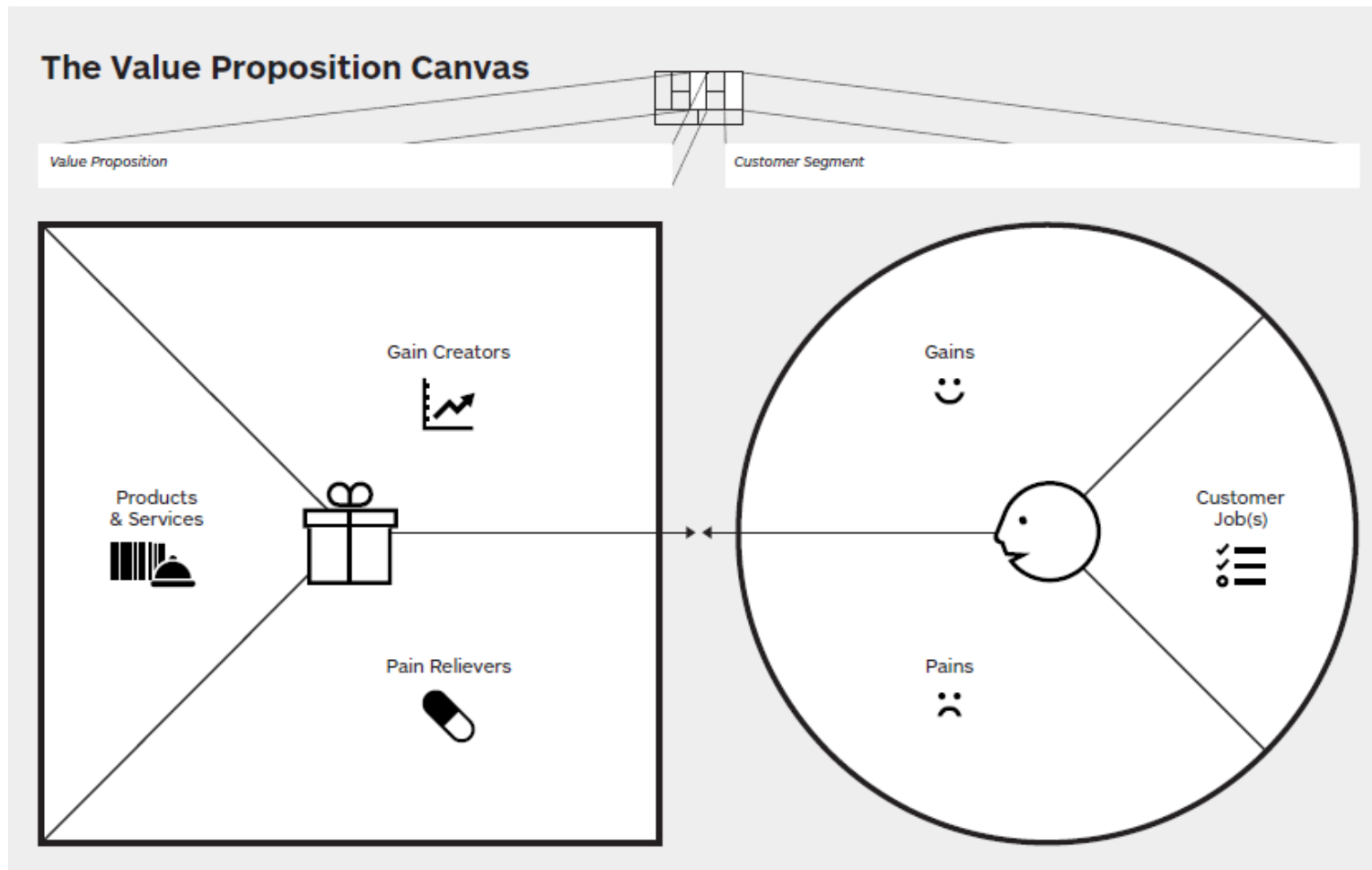


Example: Business Model Canvas

Osterwalder & Pigneur (2010)

<div></div> <div>Key Partners</div> <div>Who are our Key Partners? Who are our key suppliers? Which Key Resources are we acquiring from partners? Which Key Activities do partners perform?</div>	<div></div> <div>Key Activities</div> <div>What Key Activities do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue streams?</div>	<div></div> <div>Value Proposition</div> <div>What value do we deliver to the customer? Which one of our customer's problems are we helping to solve? What bundles of products and services are we offering to each Customer Segment? Which customer needs are we satisfying?</div>	<div></div> <div>Customer Relationships</div> <div>What type of relationship does each of our Customer Segments expect us to establish and maintain with them? Which ones have we established? How are they integrated with the rest of our business model? How costly are they?</div>	<div></div> <div>Customer Segments</div> <div>For whom are we creating value? Who are our most important customers?</div>
	<div></div> <div>Key Resources</div> <div>What Key Resources do our Value Propositions require? Our Distribution Channels? Customer Relationships? Revenue Streams?</div>		<div></div> <div>Channels</div> <div>Through which Channels do our Customer Segments want to be reached? How are we reaching them now? How are our Channels integrated? Which ones work best? Which ones are most cost-efficient? How are we integrating them with customer routines?</div>	
<div></div> <div>Cost Structure</div> <div>What are the most important costs inherent in our business model? Which Key Resources are most expensive? Which Key Activities are most expensive?</div>		<div></div> <div>Revenue Streams</div> <div>For what value are our customers really willing to pay? For what do they currently pay? How are they currently paying? How would they prefer to pay? How much does each Revenue Stream contribute to overall revenues?</div>		

Value Proposition Canvas



Osterwalder et al. (2015)

The Magic Triangle: Four elements of a business model

The Customer

- **Who** are our target customers?

The Value Proposition

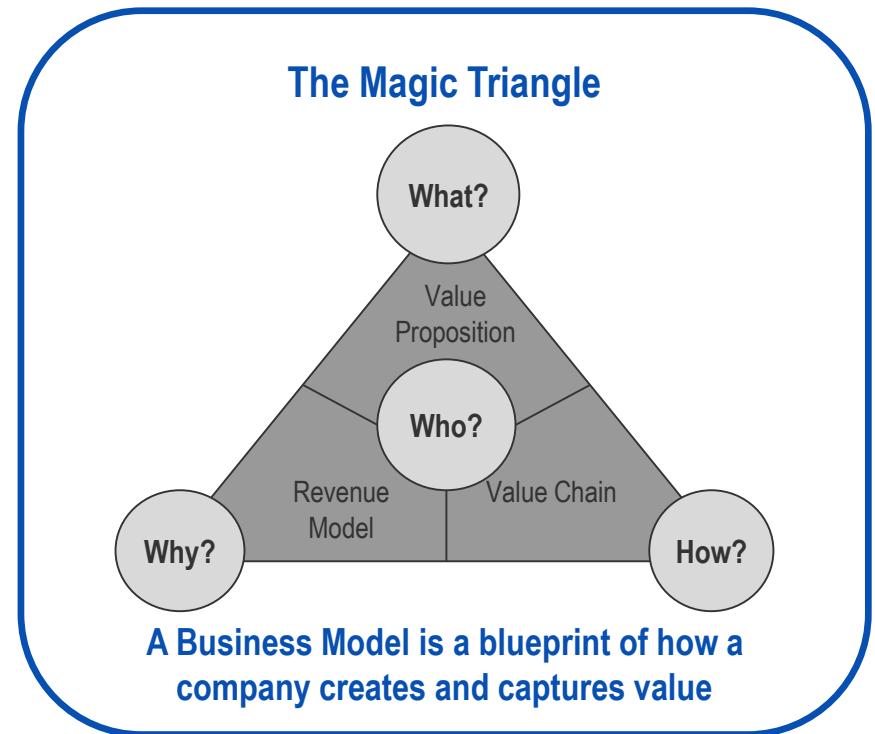
- **What** do we offer to customers?

The Value Chain

- **How** is the value proposition created?

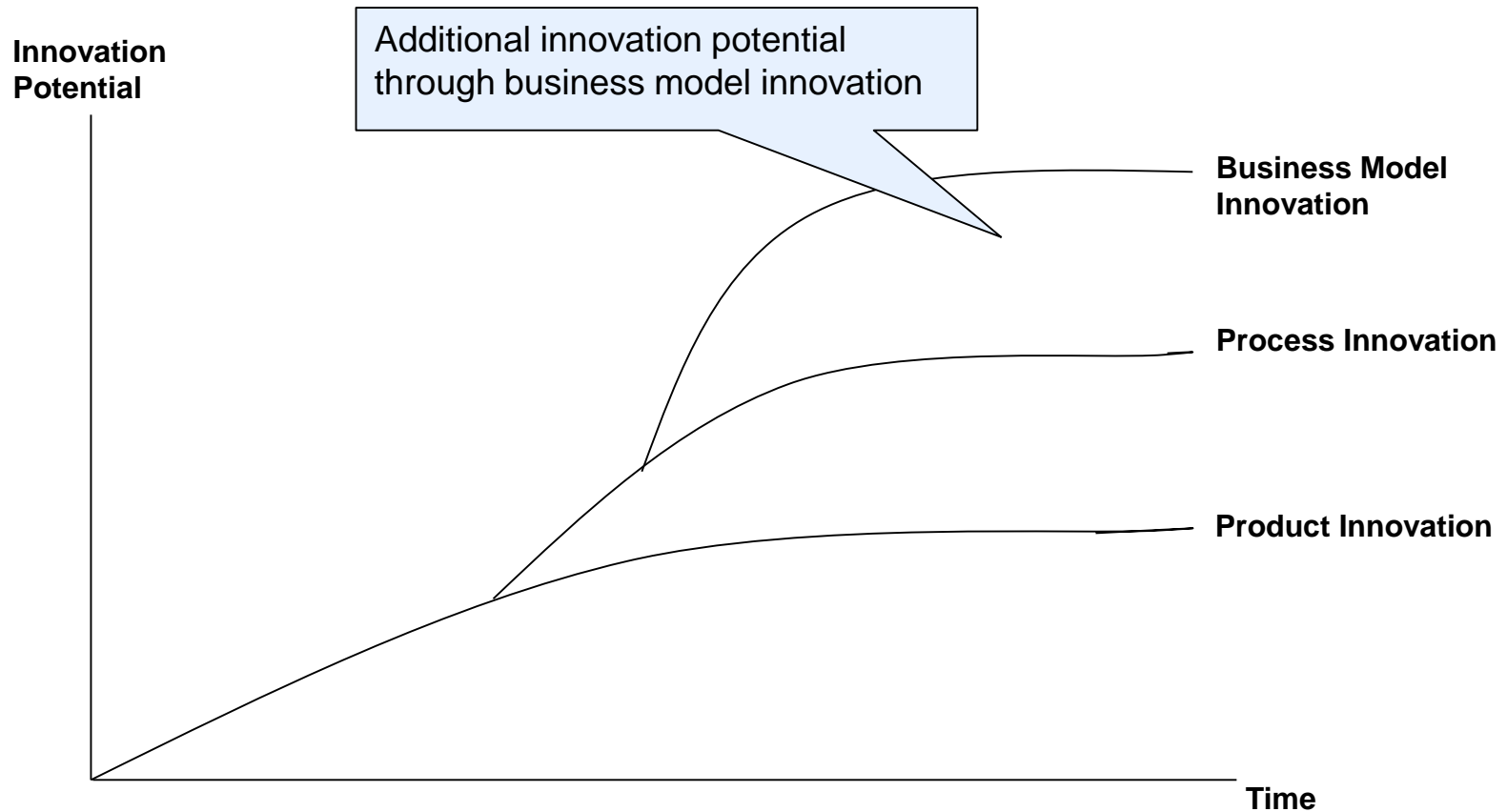
The Profit Mechanism

- **Why** does it generate profit?



Gassmann et al. (2014) The Business Model Navigator

Innovation Potential of Business Model Innovations

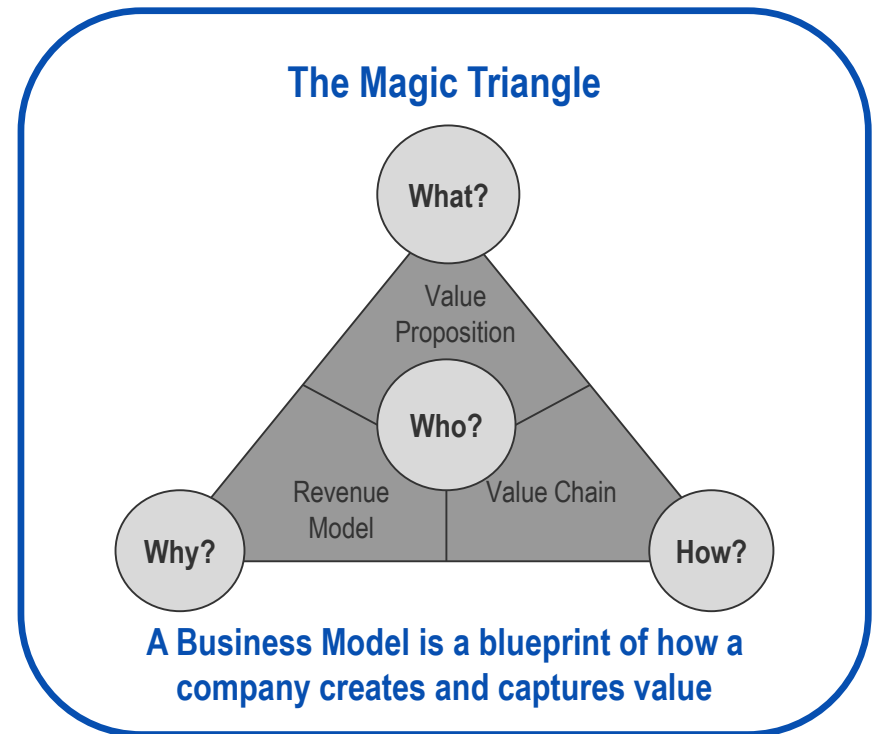


Gassmann et al. (2014) The Business Model Navigator

Business Model Innovation

A business model innovation

- creates **new logic** regarding how a company creates or captures value
- by making **changes in at least two** of the What, Who, How and Why



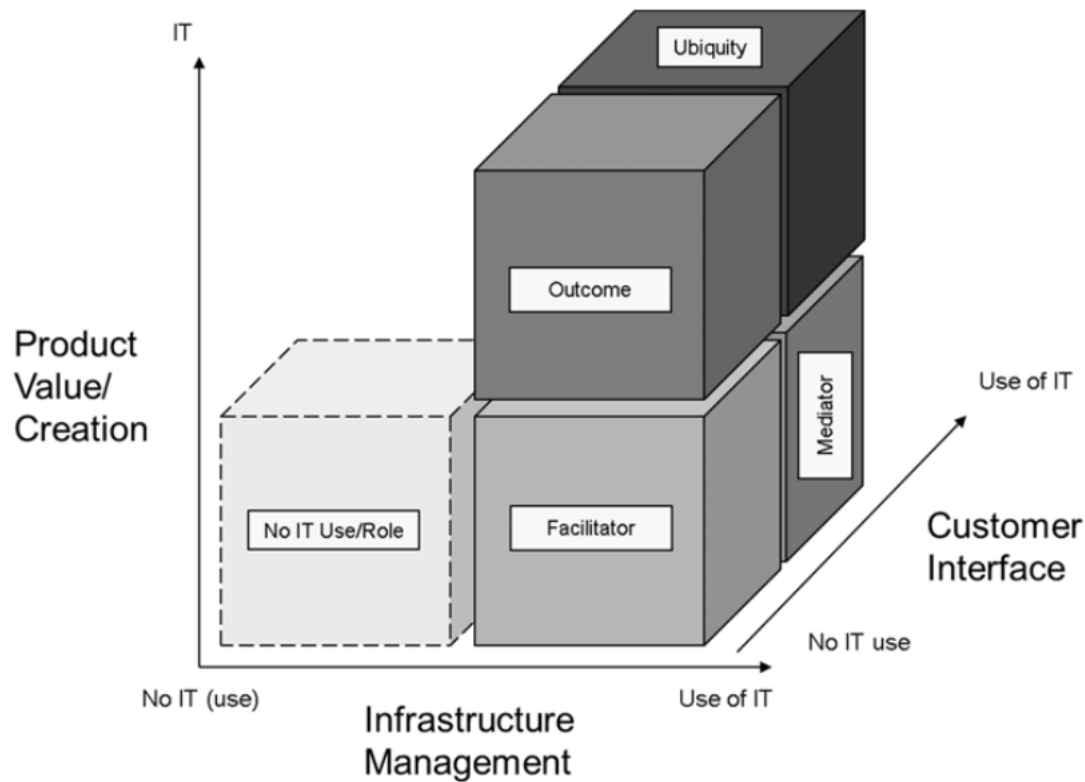
Gassmann et al. (2014) The Business Model Navigator

Types of IT–Associated Business Models

	Facilitator	Mediator	Outcome	Ubiquity
Value created through	Sale of traditional goods or services	Mediation and physical delivery, sale of traditional goods or services	Sale of hardware or software	Completely digitized product or service, digitally sold and delivered
Diffusion of IT in the business model of sample ventures	In the infrastructure management pillar of the business model	In the infrastructure management and the customer interface pillars	In the infrastructure management and the value proposition/ product pillars	In the infrastructure management, the customer interface, and the value proposition/ product pillars
Proposed definitions	<i>IT-facilitated business models</i>	<i>IT-mediated business models</i>	<i>IT-bearing business models</i>	<i>Digital business models</i>

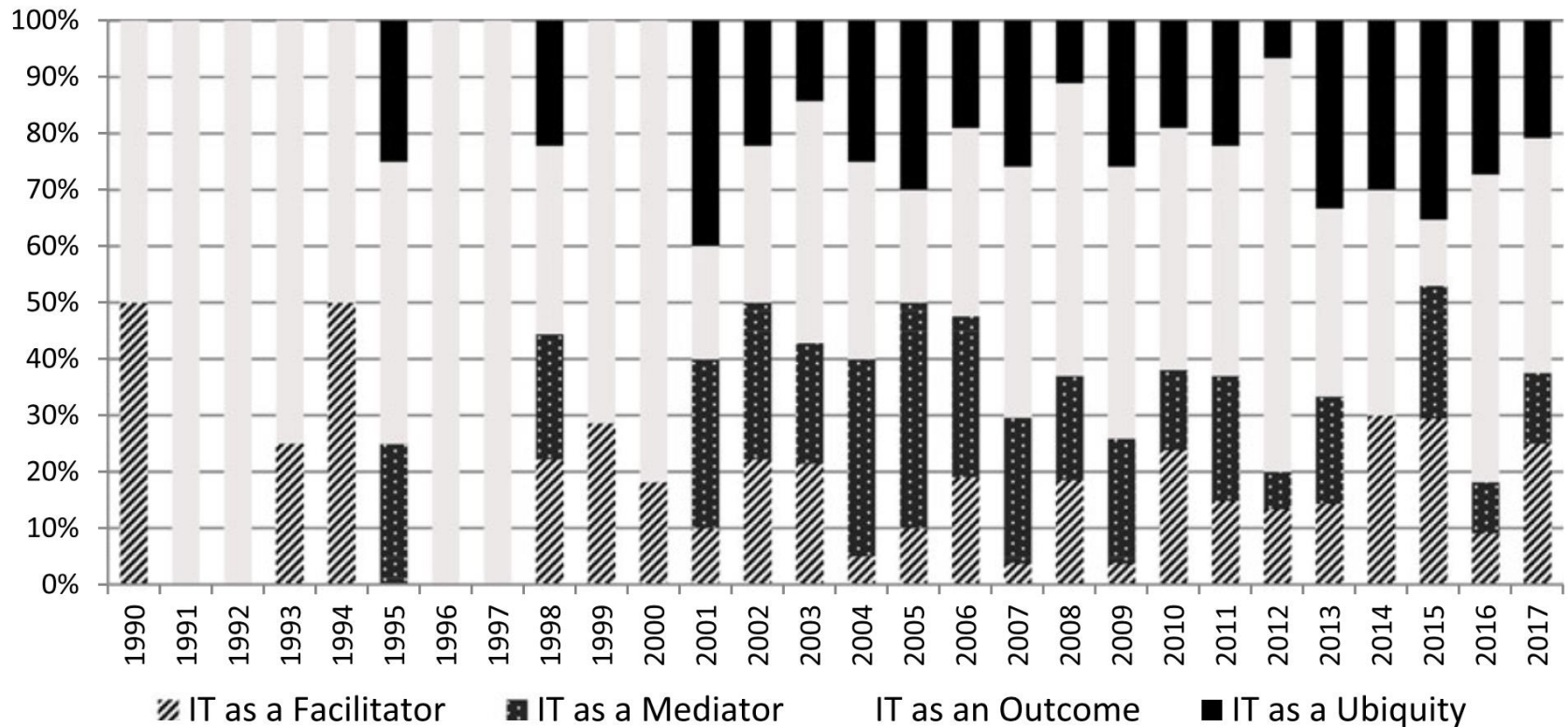
Steininger (2019)

Types of IT-Associated Business Models



Steininger (2019)

Types of IT-Associated Business Models



Steininger (2019)

IT as an Mediator/ IT-mediated business model

Example: Hummel

Hummel is a Danish fashion brand



Challenge:

- Brand was threatened to dilute
- Revenues from **B2B sales** from own operations, distributors, agents and licensed partners (large sports retails chains, departmental stores, etc.)
- Fragmented **online presence** due to websites launched by **partners** and distributors in various countries
- Different brand experience for customers in each channel

Westerman, Bonnet, and McAfee (2014)

IT as an Mediator/ IT-mediated business model

How did Hummel respond?



Hummel's approach:

In 2010, Hummel hired a new Head of Digital and began to implement an omnichannel strategy by

- Aligning online branding globally
- Enhancing e-commerce support for B2B partners
- Building the omnichannel customer community
- Complementing the physical store experience

Omni channel:



a cross-channel business model to increase customer experience via online and offline marketing and sales channels



Hansen & Sia (2015)

IT as an Outcome/ IT-bearing business model

Example: Press Shop

Challenge:

Output quality varies depending on

- Quality of steel coil
- Sufficient surface oil
- Correct pressure
- Faulty tool
- ...



Westerman, Bonnet, and McAfee (2014)

IT as an Outcome/ IT-bearing business model

Example: Press Shop 4.0



Steel producer delivers steel coil + production data per meter of steel

- ▶ production conditions: e.g. temperature, roll pressure, ...
- ▶ raw material quality

Press can continuously adjust its parameters according to steel data

➔ Digital Twin of the Material / Product

Westerman, Bonnet, and McAfee (2014)

IT as an Ubiquity/ Digital business model

Example: Post Denmark e-Boks

- one of the most established and successful postal digital mailbox
- e-Boks started as a closed one-way system supporting transactional business-to-consumer and government-to-consumer communications
- Can be accessed on the web or via an app
- Since then e-Boks has evolved to support two-way communication, integrated payment options, and can handle contracts and agreements requiring a signature



➤ Digital communication replaced traditional Postal communication services

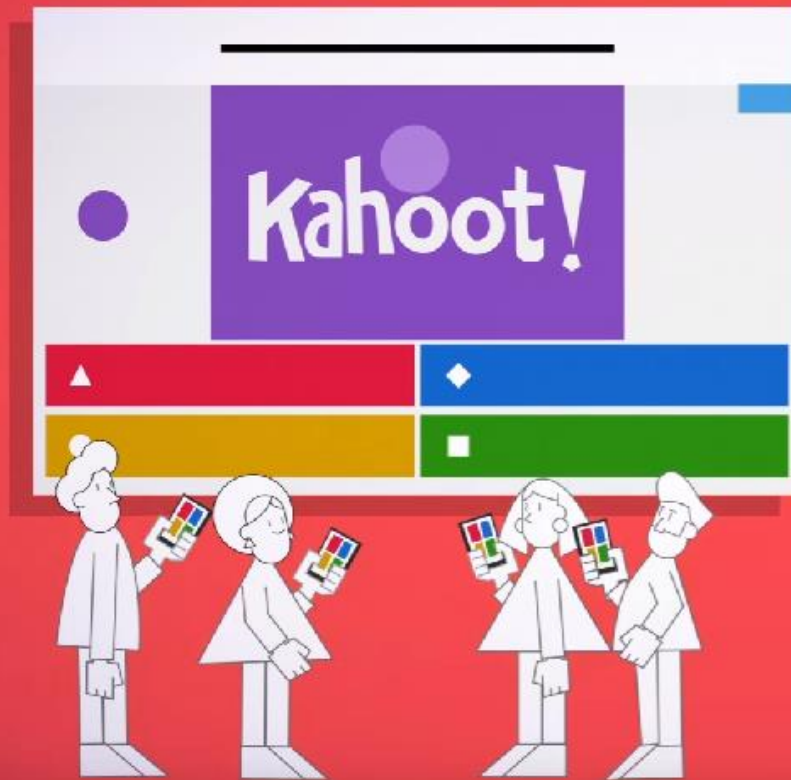
Other Example: Film photography getting replaced by Digital photography



Westerman, Bonnet, and McAfee (2014)

Quiz Time!

Go to kahoot.it



IMKM lecture 4: IT-enabled Strategies

Outline

1. Components of IT-enabled Strategies
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2. **Innovations**
 1. Types
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Learning Objectives

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- *You understand and can identify and differentiate different types of innovation.*

Innovation is...

Schumpeter (1934):

- "the introduction of **new goods** (...),
- new **methods** of production (...),
- the opening of new **markets** (...),
- the conquest of new **sources of supply** (...) and
- the carrying out of a new **organization** of any industry“

Rogers (1995):

- "an idea (of an object, method, or process) that is **perceived as new** by an individual, a group, or an organization“

Christensen (1997):

- "all processes by which an organization transforms labor, capital, materials and information into products or services of **greater value**"

Types of Innovation

		Core Concepts	
		Reinforced	Overturned
Linkage between Core Concepts and Components	Unchanged	Incremental innovation	Modular Innovation
		<ul style="list-style-type: none"> refines and extends an established design improvement in individual components underlying core design concepts, and links between them, remain the same 	<ul style="list-style-type: none"> changes only the core design concepts without changing the product's architecture
	Changed	Architectural Innovation	Radical Innovation
		<ul style="list-style-type: none"> reconfiguration of an established system changes only the relationships between existing core design concepts link existing components in a new way 	<ul style="list-style-type: none"> establishes a new dominant design new core components that are linked in a new architecture

Henderson & Clark, 1990

Disruptive Innovation

- New technologies or business models pushing established technology/ business models out of the market without this having been expected at first
- leads to companies losing their market positions or being completely forced out of the market

Radical Innovation \neq Disruptive Innovation !

(However specific forms of radical innovations can be disruptive)

(Bower und Christensen 1995; Christensen 2000).

Disruptive Innovation – Christensen's Criteria

Criterion	Description
Historically most valued attributes	Innovation leads to products or services that underperform dominant ones along the dimensions historically most valued by customers in the market
Other qualities	Innovation leads to products or services superior in dimensions not valued as important before
Cost and margin	Innovation leads to products or services that are cheaper for customers and provide lower margins for vendors than dominant ones
Simplicity / convenience	Innovation leads to products or services simpler or more convenient to use
Interest of main customers	The most profitable customers of the current market's leading firms have initially little interest in products / services based on the innovation
First customers	First customers are mainly situated in niche or emerging markets
First vendors	Among the companies that commercialize the innovation is a high rate of startups or companies new to the market
Value chain	The innovation leads to a different structure of the vendors' value chain
Market disruption	Eventually, products or services based on the innovation will displace the dominant ones in the mainstream market

Christensen (1997)

Disruptive Innovation – Christensen's Criteria

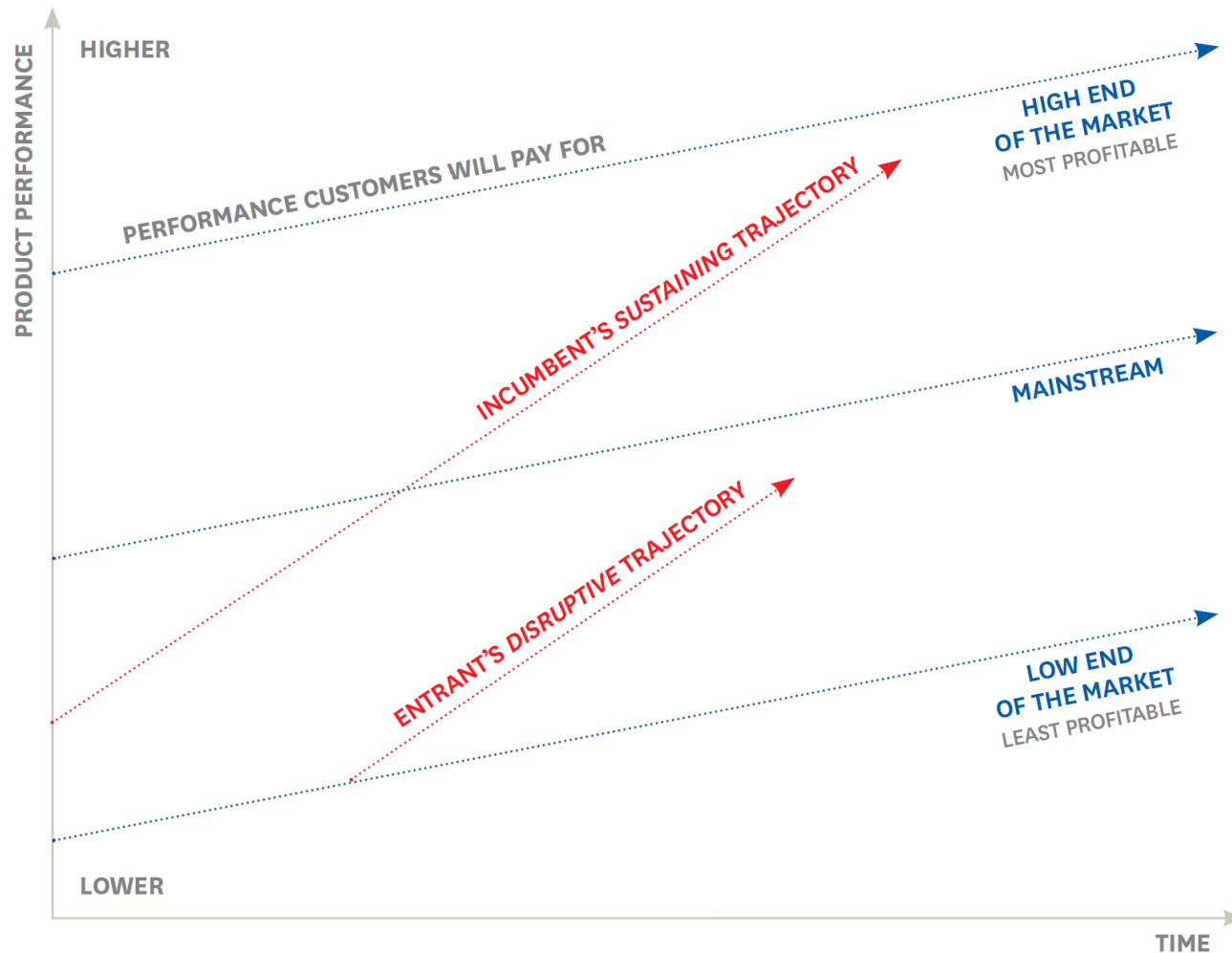
- Historically most valued attributes
- Other quality criteria
- Cost and margin
- Simplicity / convenience
- Interest of main customers
- First customers
- First vendors
- Value chain
- Market disruption

It is not possible to
forecast market
disruption ex-ante

Criteria are a good first
indicator

Christensen (1997)

Disruptive Innovations



Christensen et al. (2015)

Is Uber disruptive?

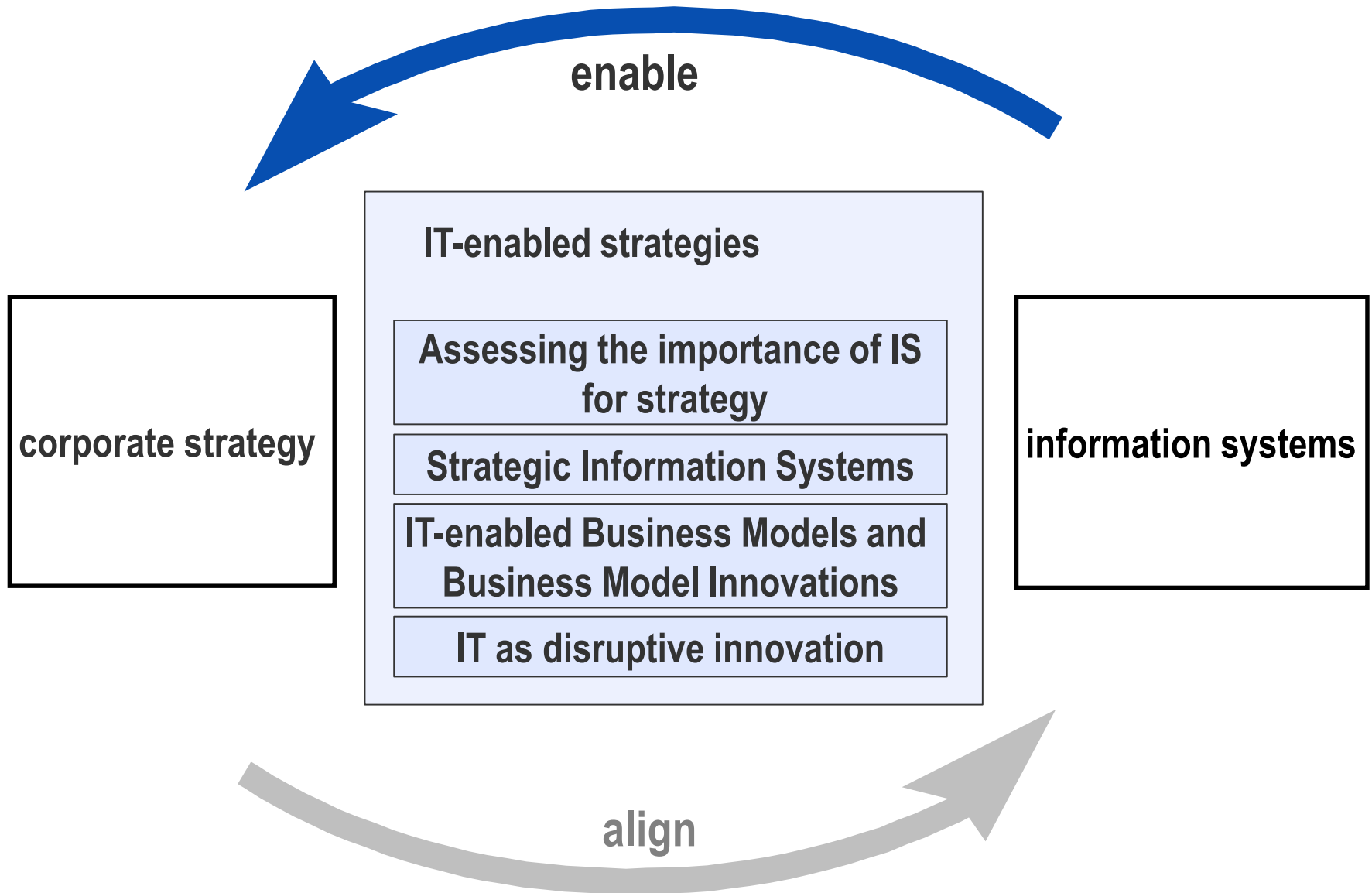
Use agree/ disagree in Zoom.

Is Uber Disruptive According to Christensen?

- Disruptive innovations originate in low-end or new-market footholds
 - providing low-end customers with a “good enough” product
 - create a market where none existed
 - **Uber served mainstream customers first**
- Disruptive innovations don't catch on with mainstream customers until quality catches up to their standards
 - considered inferior by most of an incumbent's customers
 - customers are not willing to switch to new offering because it is cheaper
 - **Many consider Uber's service better than taxis**

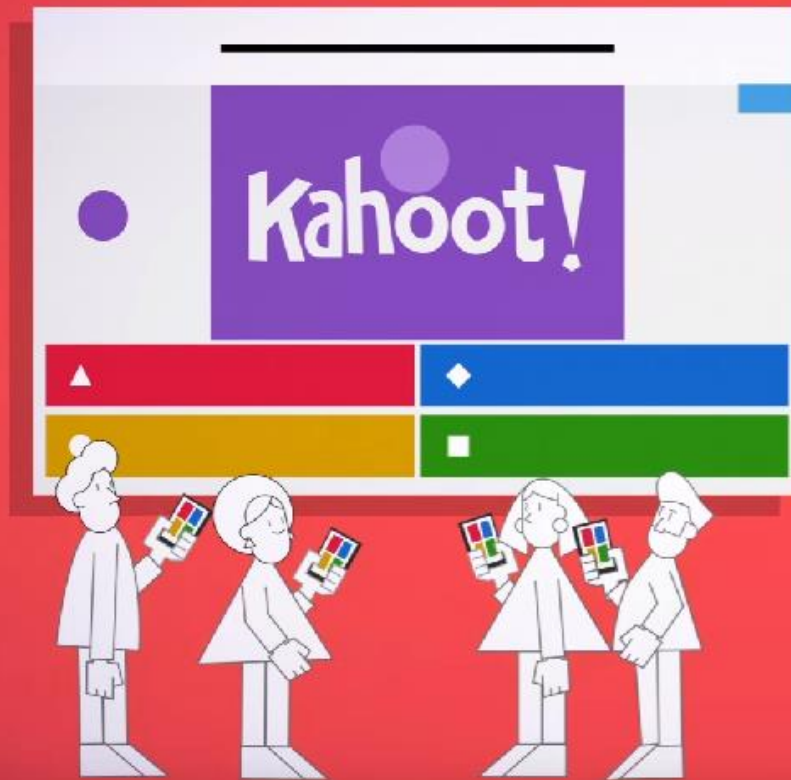
→ **According to the theory, the answer is no**

Christensen et al. (2015)



Quiz Time!

Go to kahoot.it



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
8.1 Unternehmensstrategie und Informationsmanagement (pp. 396-427)
9. Referenzmodelle des Informationsmanagements (pp. 601-630)
10. Einsatzfelder und Herausforderungen des Informationsmanagements (pp. 633-753)
11. Fallstudie „Rockhaus AG“ (pp. 767-783)

Additional Reading

- Al-Debei, M. M., & Avison, D. (2010). Developing a unified framework of the business model concept. *European Journal of Information Systems*, 19(3), 359-376. doi:10.1057/ejis.2010.21
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