

Alignment of Business and IT

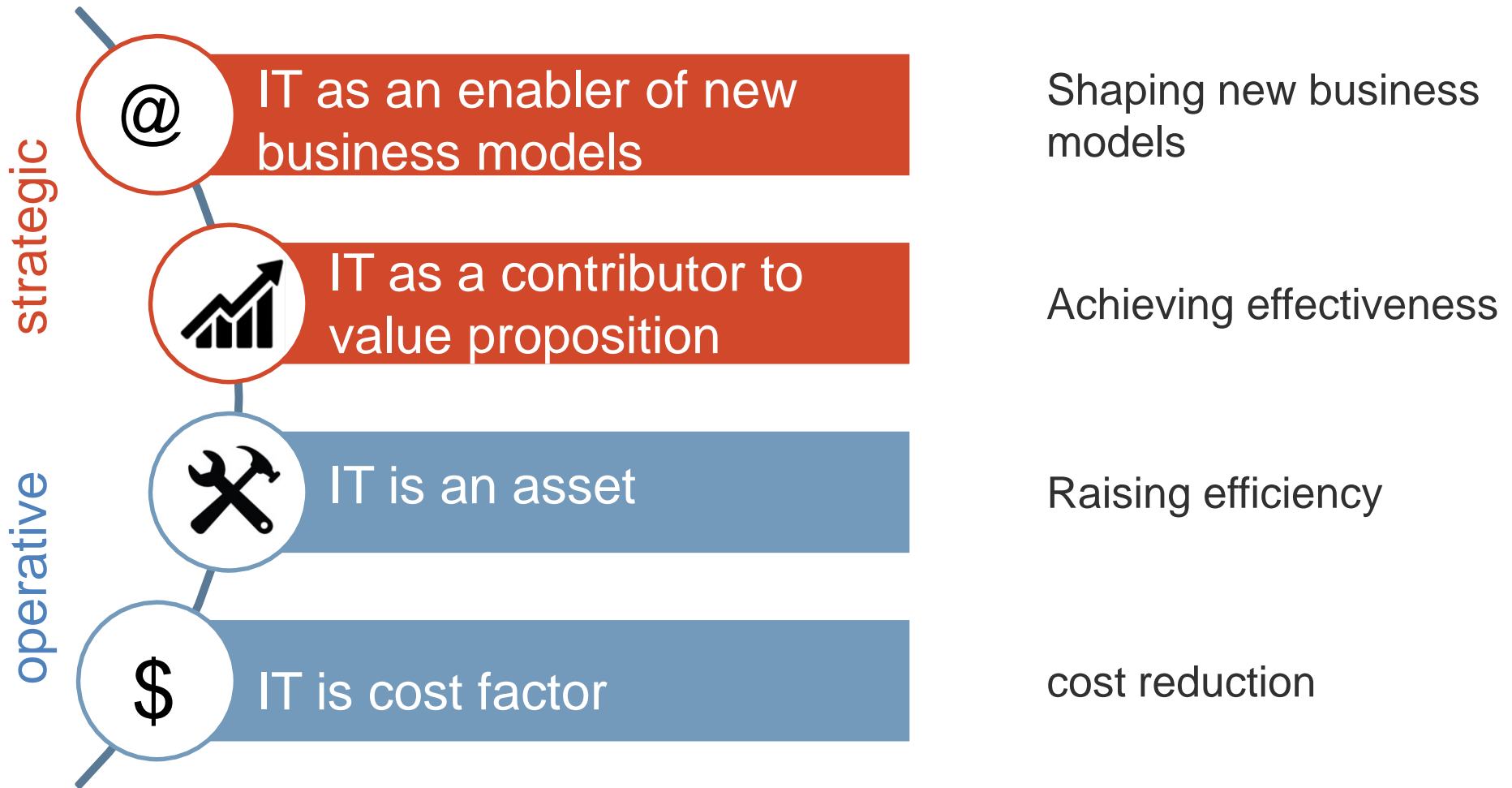
Introduction

Prof. Dr. Knut Hinkelmann



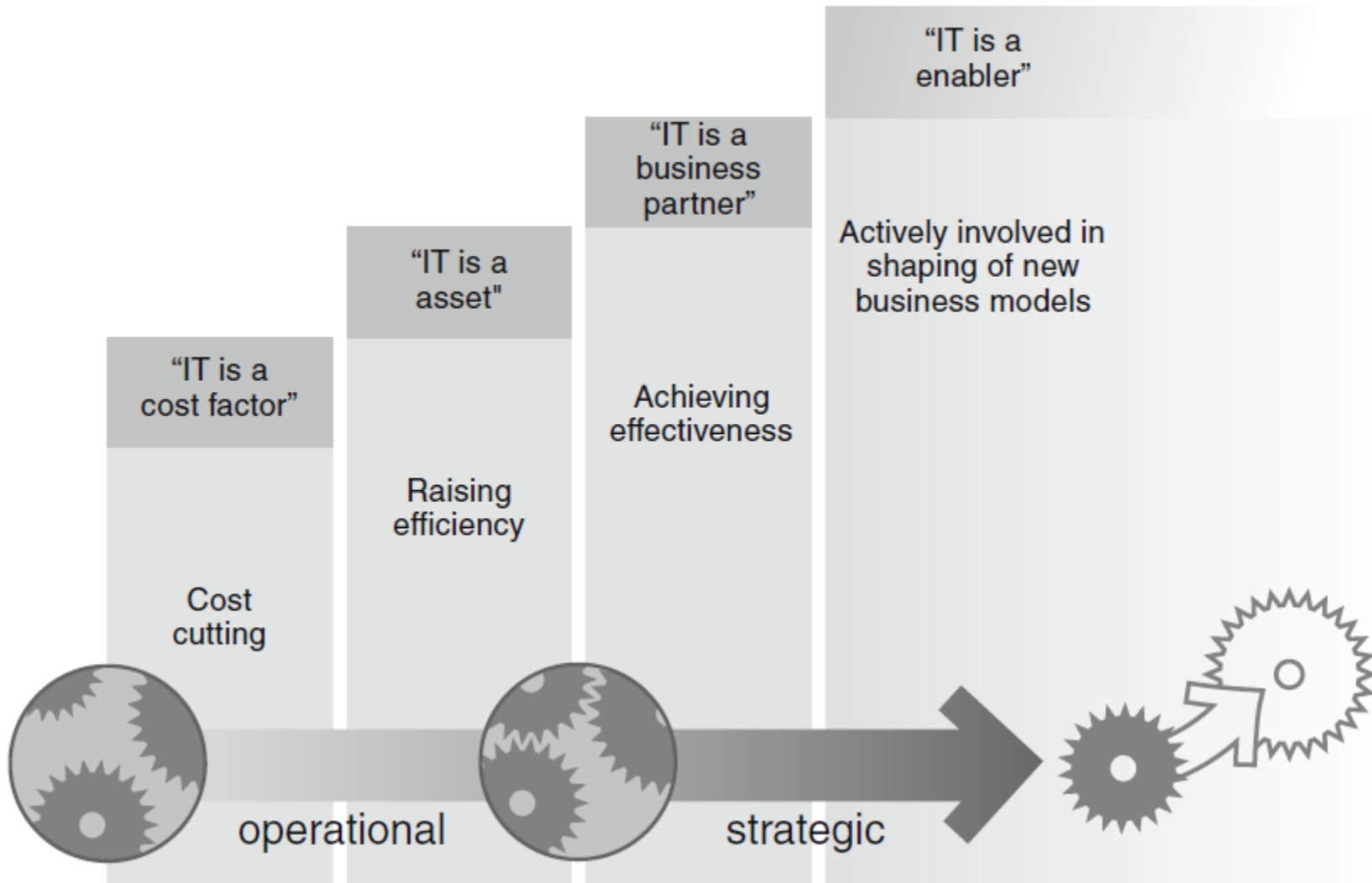
Motivation: Changing Role of IT

Role of IT Enterprises



Source: (Hanschke 2013, S. 27ff)
N. Tschichold, ELCA

The Role of IT



(Hanschke 2010, p. 12)

The Different Roles of IT - Portfolio and IT Controlling

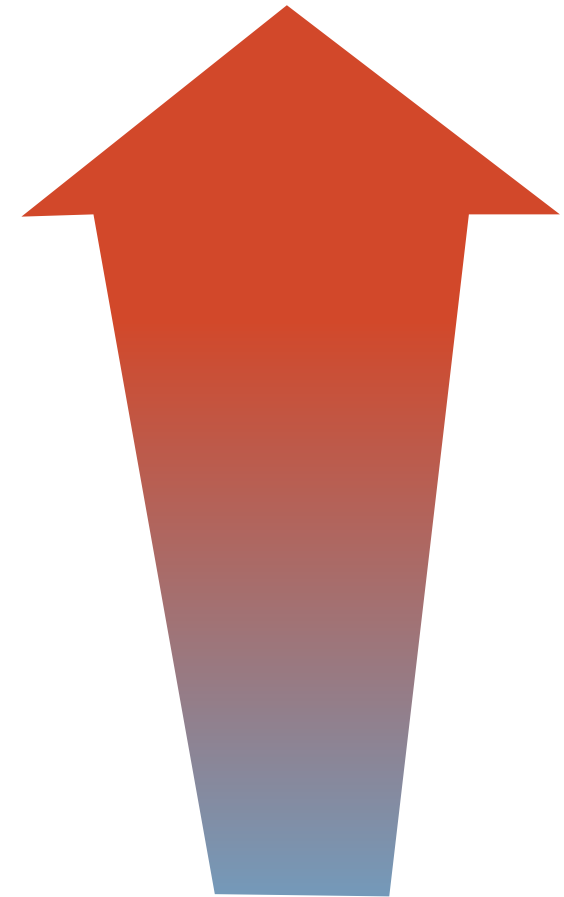
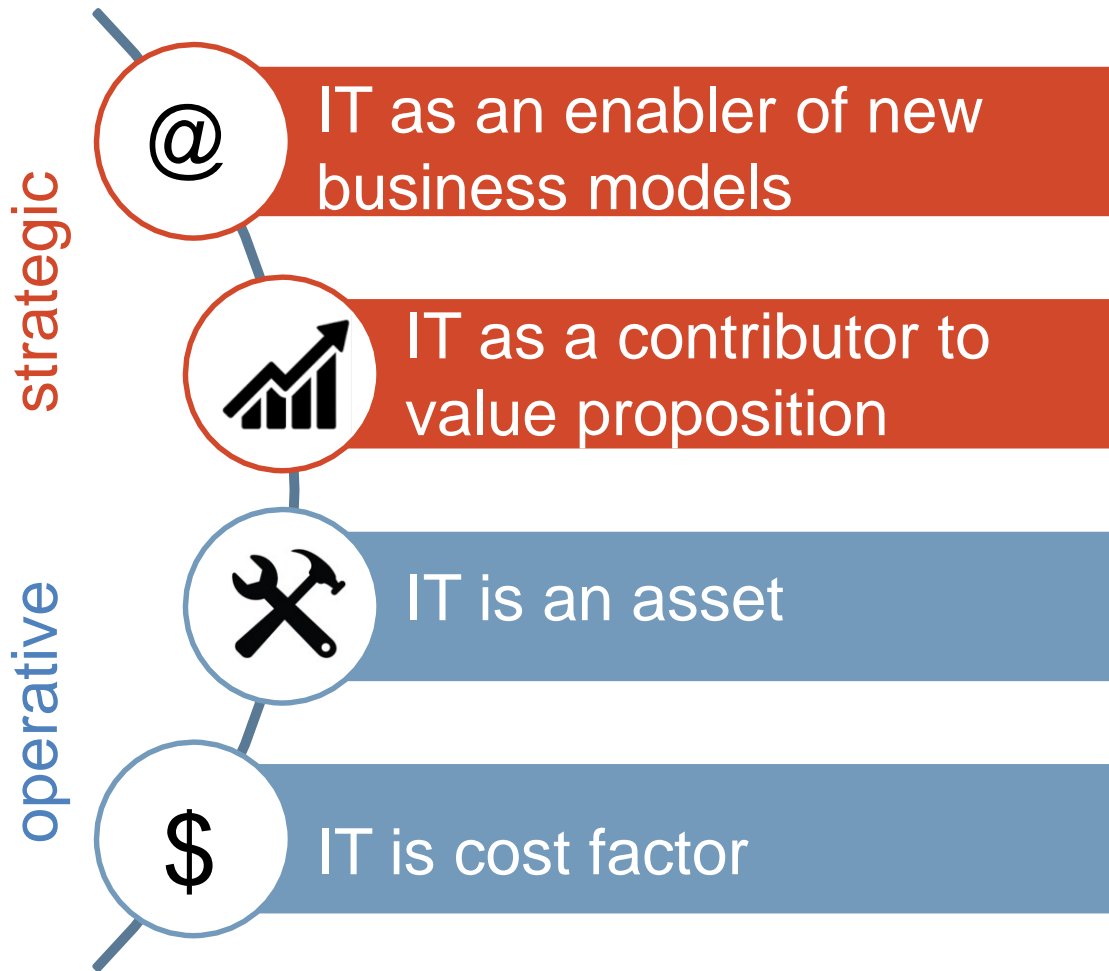
IT is ...

Cost factor	Asset	Business partner	Enabler
<i>Product and service portfolio</i>			
Commodity IT, such as provision of peripheral equipment and operating standard software	Securing business operation through reliable, cost-effective basic IT Fulfilment of security and compliance requirements	Business-relevant IT products e.g. focused on business processes or the enterprise's products Reliable, cost-effective basic IT	Impetus for business through new technologies and business-relevant IT products Reliable, cost-effective basic IT
<i>IT controlling focuses mainly on...</i>			
Cost reduction	Cost/benefit and operational excellence Benchmarks	Contribution to value-added and cost/benefit	Contribution to value-added and strategy, and cost/benefit

(Hanschke 2010, p. 14)

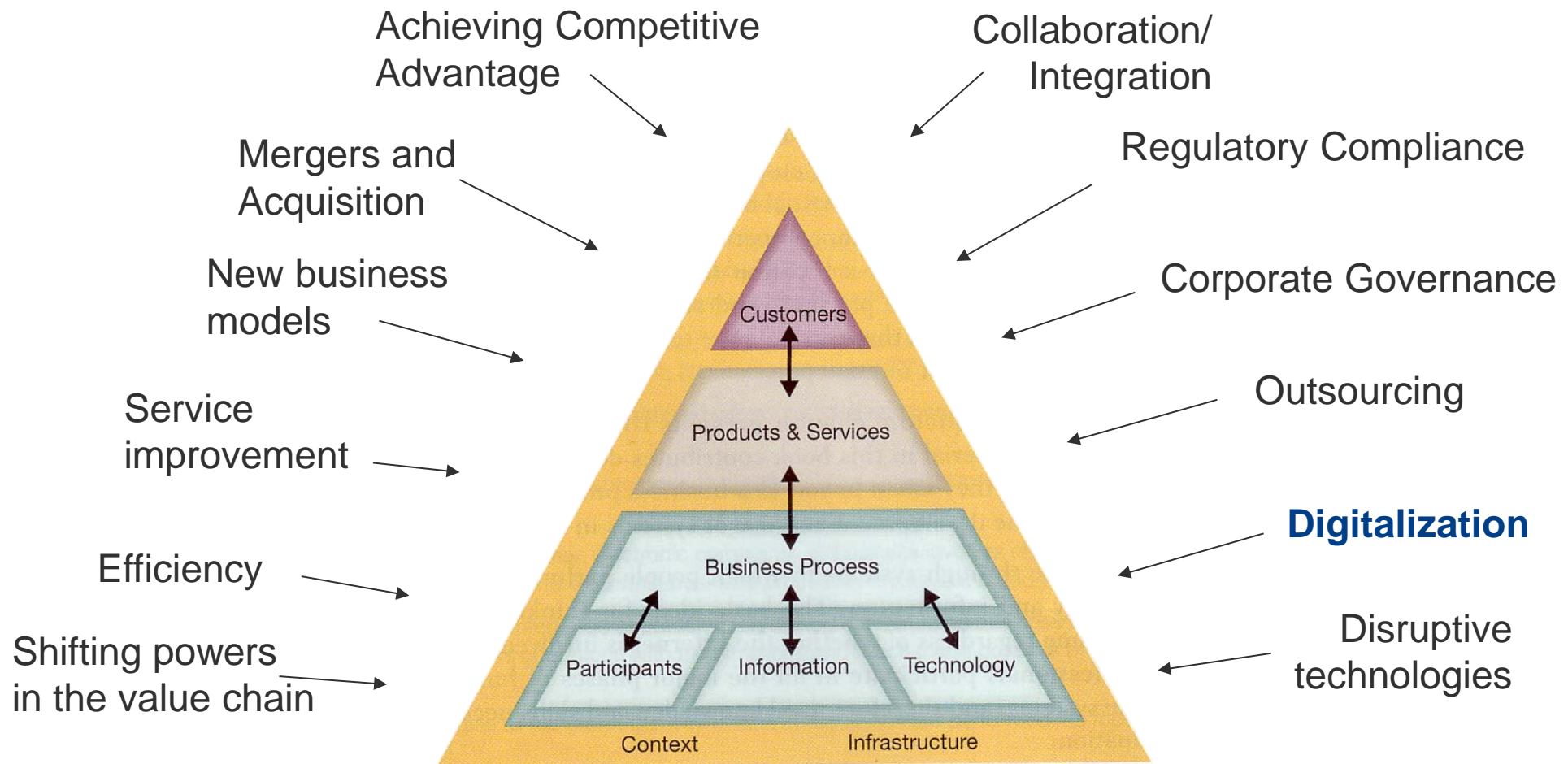


Strategic Importance of IT



Source: (Hanschke 2013, S. 27ff)
N. Tschichold, ELCA

Increasingly dynamic environment: Challenges confronting an Enterprise



Agility: Demand for Continuous Change

- To improve their chances of survival, enterprises need to be agile.
- Agility is the ability of enterprises to
 - ◆ quickly **adapt themselves to changes** in their environment and
 - ◆ **seize opportunities** as they avail themselves
 - ◆ have **flexibility** to deal with individual customer requirements, to reduce response time to external demands, and to react on events

Source: Op 't Land, M.; Proper, E.; Waage, M.; Cloo, J. and Steghuis, C.: Enterprise Architecture - Creating Value by Informed Governance, Springer-Verlag 2009, page 6. <http://www.springerlink.com/content/k8jp3r/#section=132347&page=2&locus=10>



Agility



#113 - "AGILE DEVELOPMENT, EXPLAINED" - BY SALVATORE IOVENE, FEB. 21ST 2009

[HTTP://WWW.GEEKHEROCOMIC.COM/](http://www.geekherocomic.com/)

Digitalization

- Capturing and preparation of information for storage and processing in a digital system
- Electronically supported processes using information and communication technology





Digital Product

- Reproduction
 - ◆ in perfecter quality
 - ◆ at nearly no costs
- instant delivery
- no storage space



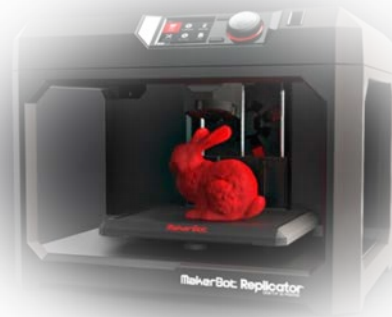
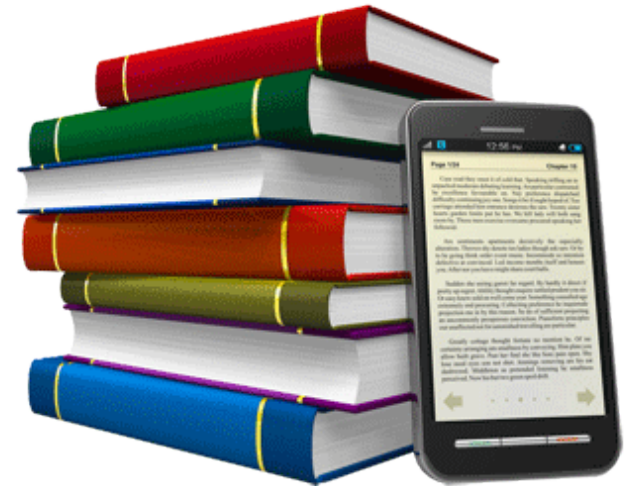
Digitalization: Improving Information Management



Digitalisation of Products



way for the
news in the
his new



3D Print



Drivers for Digital Revolution



Digital Information



Mobile Devices/Connectivity

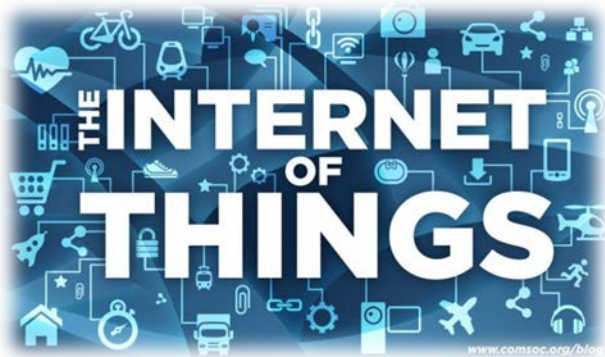


networks



Automation

Technology Trends



Digital Economy

Marketing



Apps



Social Media



Smart Home



Industry 4.0



Energy Sector



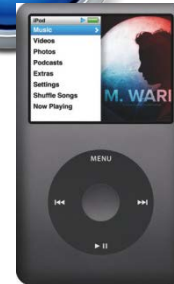
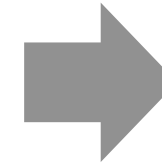
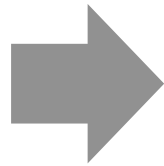
Digital Economy: Digitalisation of Products

Vinyl disc

Compact Disc

Download

Streaming



Influencers:

storage medium

Digitalisation

Device has storage
network
(no media necessary for
transport)

Always online



Physical Products: Sharing Economy

Sharing economy is about renting or borrowing.
Everything will become “on demand”.





Physical Products: Shared Economy



- Broker between user and supplier
 - ◆ Uber has no cars and no drivers
 - ◆ Airbnb has no apartments
 - ◆ Sharoo has no cars



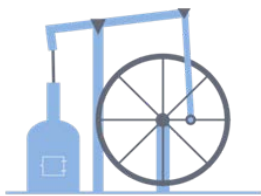
- Platforms
 - ◆ network
 - ◆ reviews



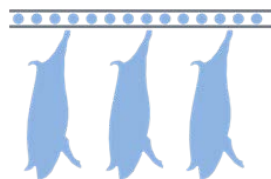


Industry 4.0

1st Industrial Revolution
Mechanization



2nd Industrial Revolution
Mass production



3rd Industrial Revolution
Automation



4th Industrial Revolution
Cyber-Physical Systems

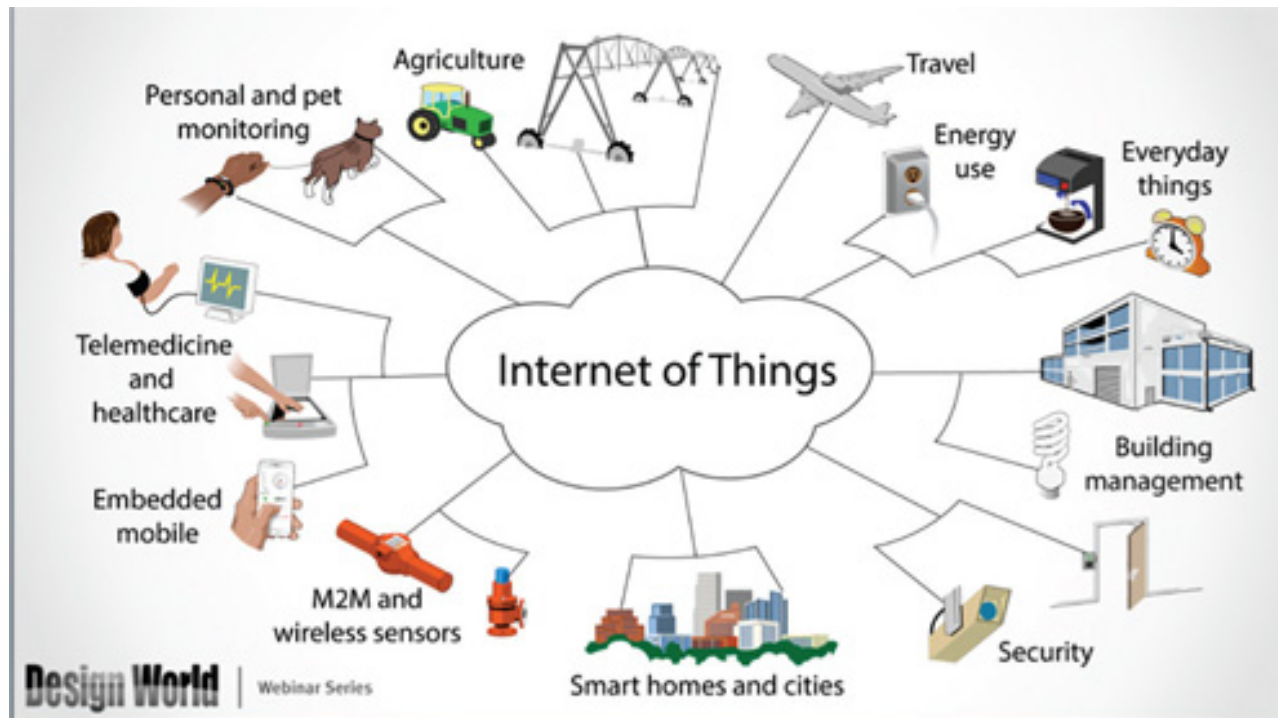


Connecting
machines and
intelligent
products



Internet of Things

Virtual representation of identifiable physical objects

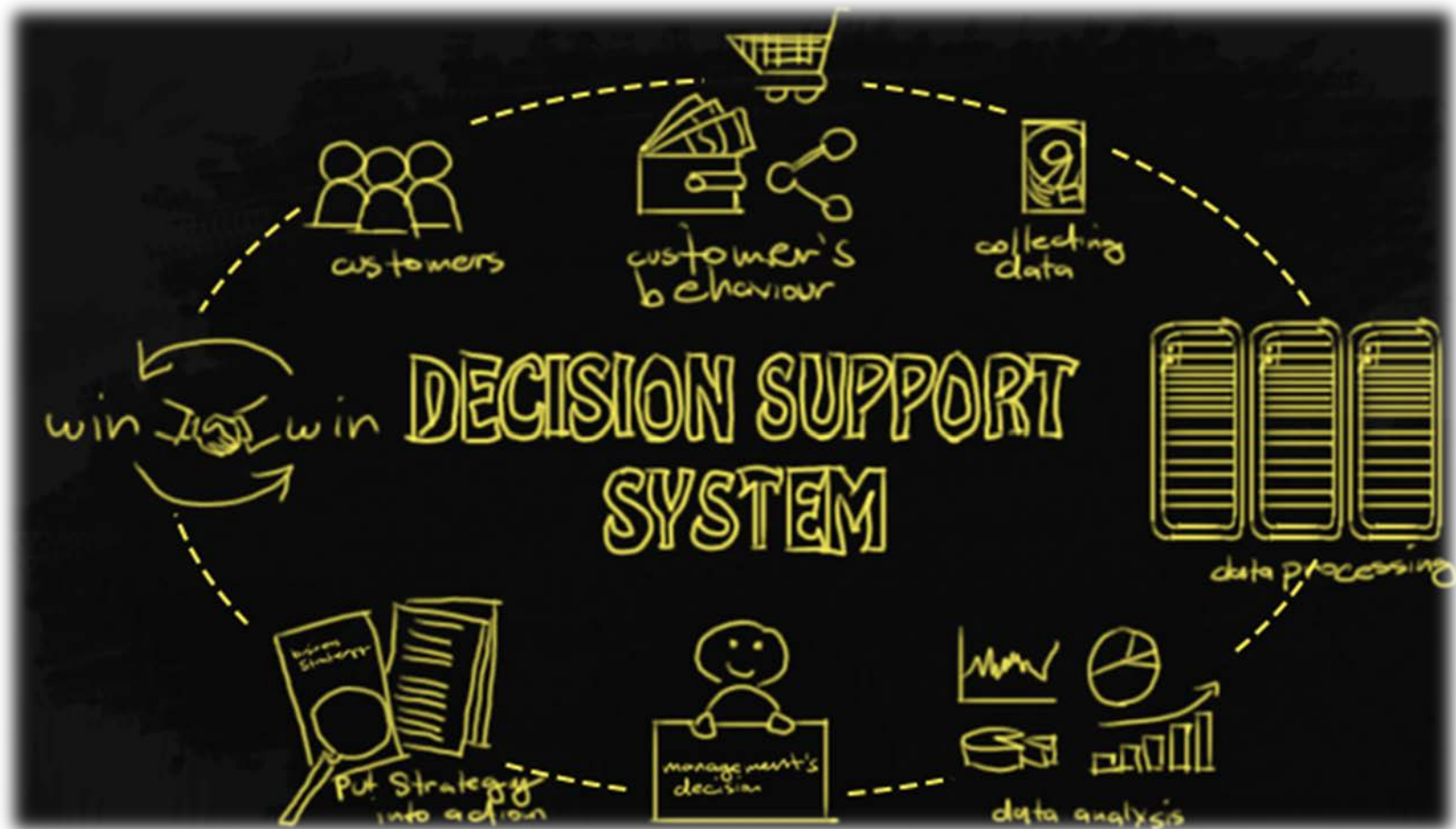


By 2020, the number of devices connected to the internet is expected to exceed 40 Billion



Automating Decisions

- Uniform decisions
- Easy to replicate
- No Training





Personalisation

Customer Segmentation



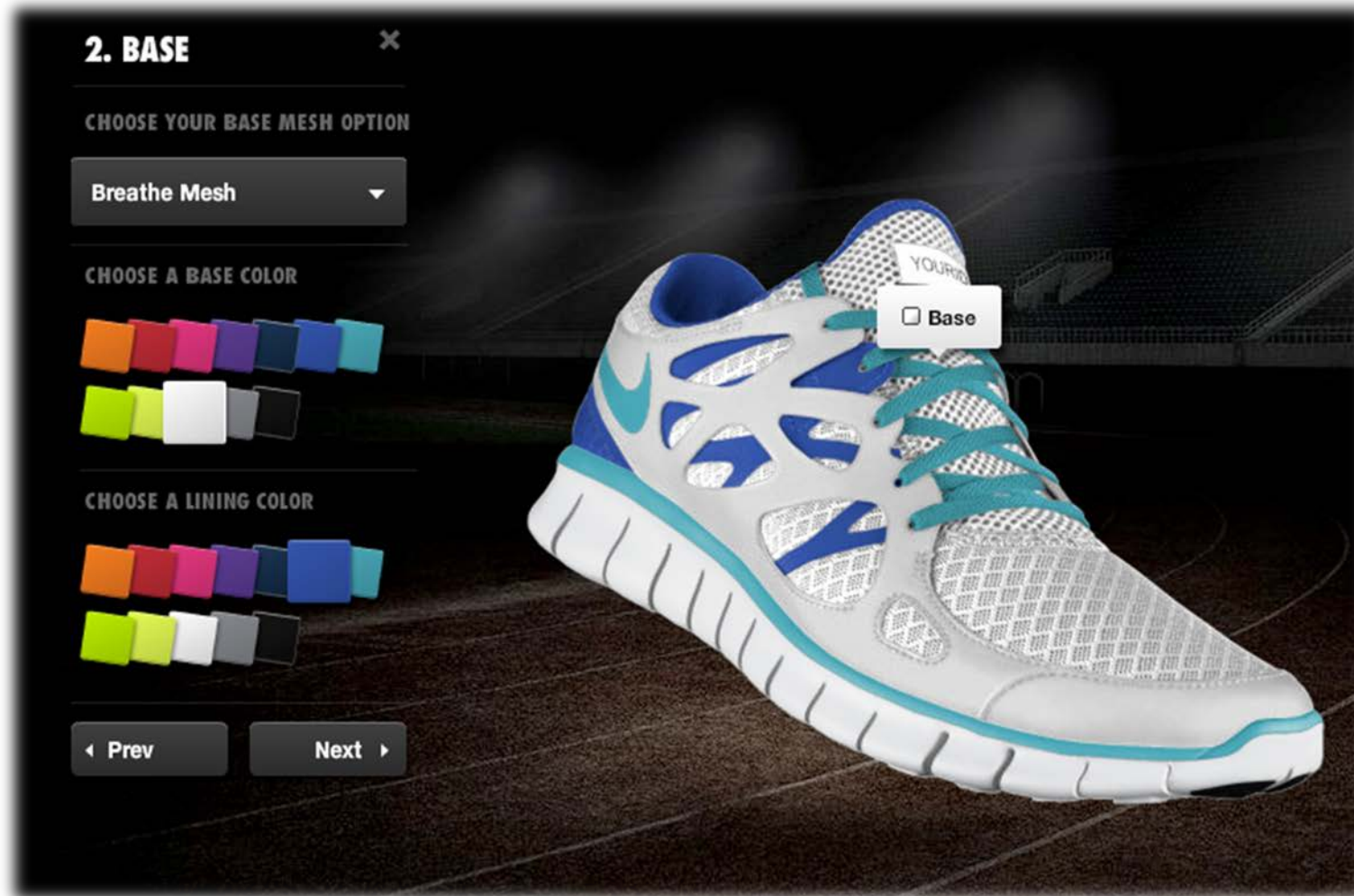
Segments of One





Mass Customization

mass production of individually customized goods and services, e.g. car industry, electronics (PC), clothes, furniture



Reduce Time to Market



IT is an enabler to reduce time to market.

Reducing time to market has become a business requirement in many lines of business, e.g.

- car industry (new model within few months instead of 6 years)
- banking industry (time to market for a new product in few weeks instead of 9-12 months) ¹⁾

1) Op 't Land, M.; Proper, E.; Waage, M.; Cloo, J. and Steghuis, C.: Enterprise Architecture - Creating Value by Informed Governance, Springer-Verlag 2009, page 6. <http://www.springerlink.com/content/k8jp3r/#section=132347&page=2&locus=10>

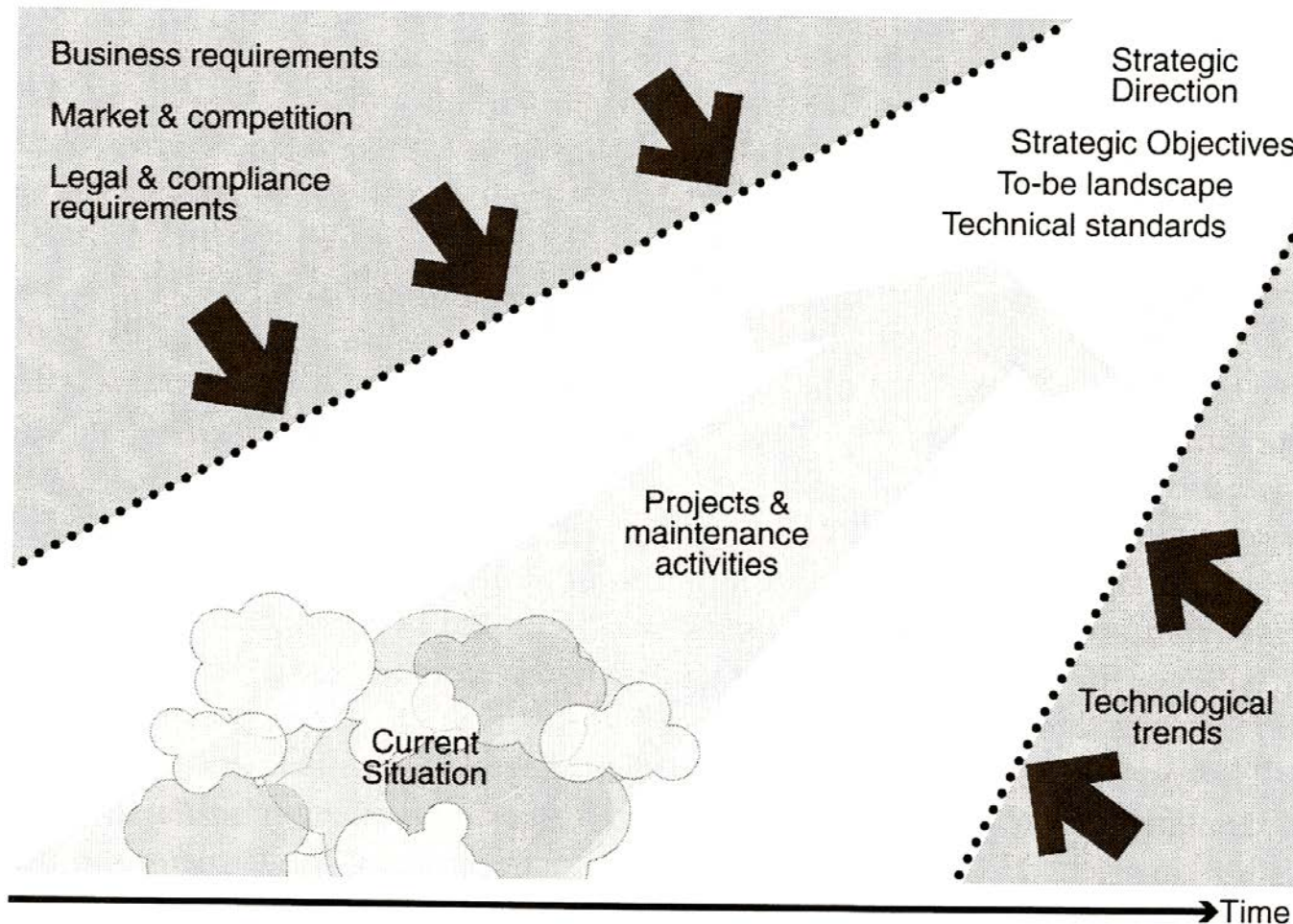
Business-IT Alignment



Business-IT Alignment

Business-IT alignment is a dynamic state in which a business organization is able to use information technology (IT) effectively to achieve business objectives

Strategic Alignment of IT



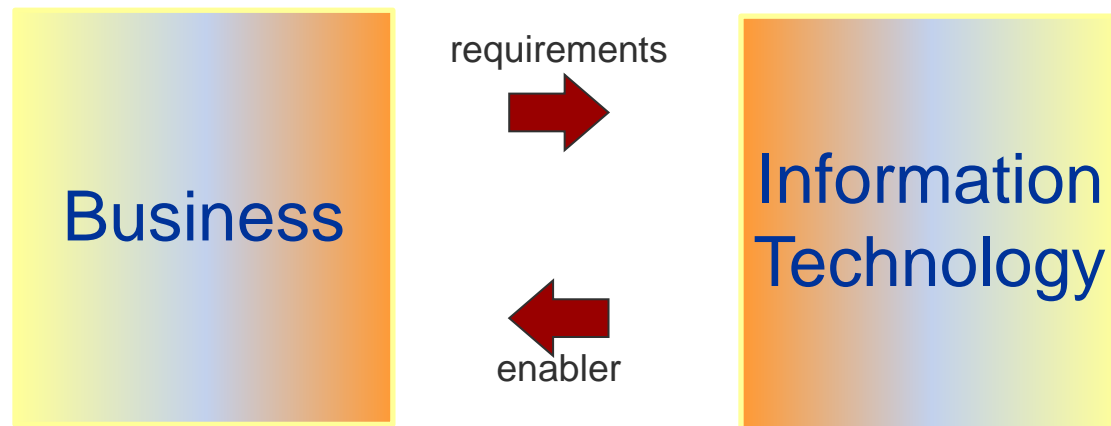
- Change projects transform a current situation (as-is) into a future situation (to-be)
- The change has to align business and IT.

(Hanschke 2010, p. 11)



Alignment of Business and IT

- There are *mutual dependencies* between business and IT
- The alignment of business and IT has to create an environment in which the IT department and the CIO ...
 - ...are not merely installing technology to support business processes but
 - ...are also using technology to shape business strategy.



Integration of Business and IT

- The Integration of business and IT planning depends on the role of IT: The higher the role the more are business planning and IT planning intermeshed

IT is ...			
Cost factor	Asset	Business partner	Enabler

IT planning focuses mainly on. . .

Reactive planning	Operational IT planning based on business planning	Business planning and IT planning intermeshed	Business planning and IT planning intermeshed
Decision on outsourcing or in-sourcing	Transparency of IT landscape Technical standardisation	Strategic planning of IT landscape	Anticipatory planning, e.g. future scenarios

(Hanschke 2010, p. 14)



Strategic Planning of Information Technology

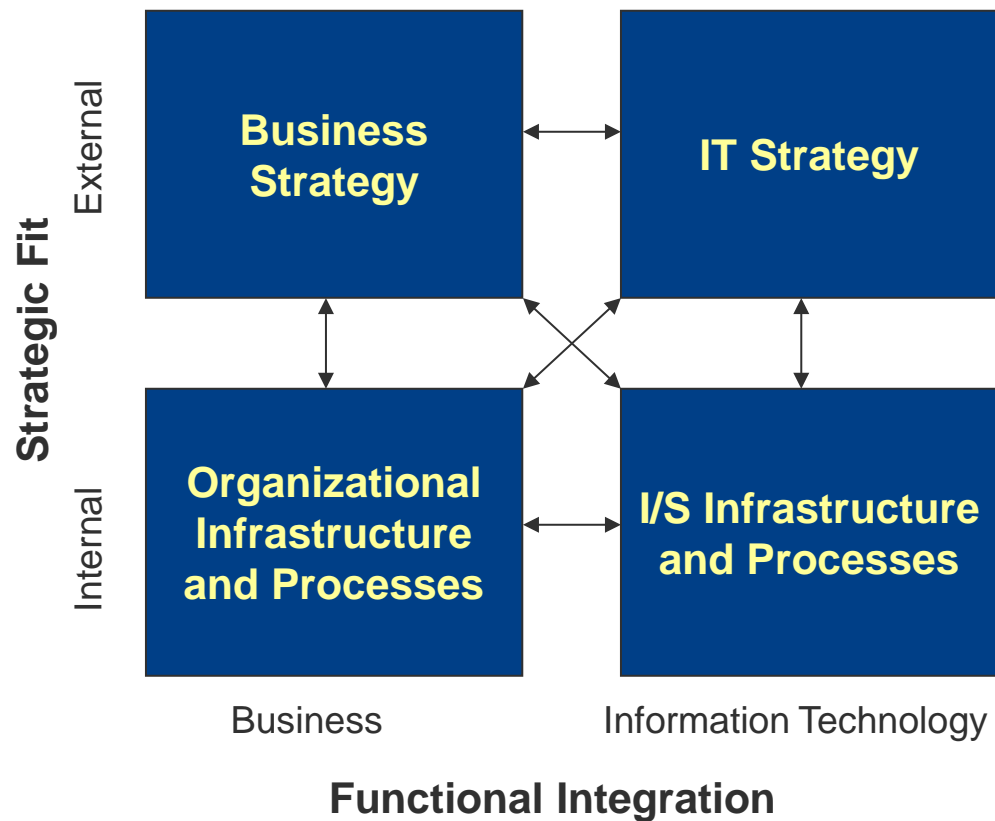
The objective of planning IT strategically is to **align** it with overarching corporate goals and business requirements and make it **agile** enough to deal with constant change in the company and its environment

(Hanschke 2010, p. 7)

- **Business-IT alignment**
- **Agility – Ability to change**



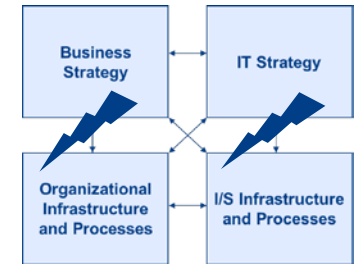
Strategic Alignment Model



- The strategic alignment model of Henderson and Venkatraman (1993) combines the two dimensions
 - ◆ Aligning business and IT (functional integration)
 - ◆ Aligning internal and external drivers (strategic fit)
- Two principle approaches for alignment:
 - business-driven: take the business strategy as the starting point and derive the IT infrastructure
 - IT driven: focus on IT as an enabler; start from IT strategy deriving organisational infrastructure

(Henderson & Venkatraman 1993)

Drivers for Change can be internal and external



■ External Drivers

- ◆ Market Opportunities, new business models
- ◆ Innovations
- ◆ New regulations
- ◆ Demand for new services and products

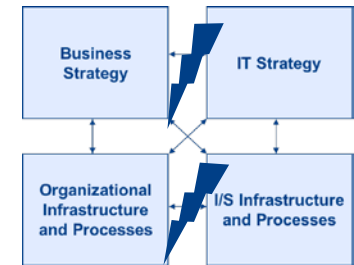
Seize **Opportunities**
React on **Threats**

■ Internal Drivers

- ◆ Business Process Optimisation
- ◆ Increase flexibility
- ◆ Reorganisation
- ◆ Migration of Information Systems
- ◆ Changes in IT infrastructure

Exploit **Strengths**
Eliminate **Weaknesses**

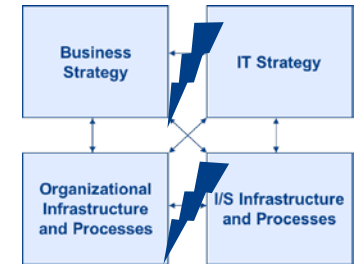
Drivers for Change can come from Business or IT



- **Digitalization:** Almost all processes have become IT reliant, if not fully automated.
- Thus, there is a mutual influence between information systems and the design of business process
 - ◆ A (re-)design of a business process often demands changes in the IT
 - ◆ Changes in IT applications and information systems can demand a re-design of business processes
 - ◆ New IT may lead to new business models or strategies.

"There are no IT projects, only business projects."
(Paul Coby, CIO of British Airways)

Alignment of Business and IT



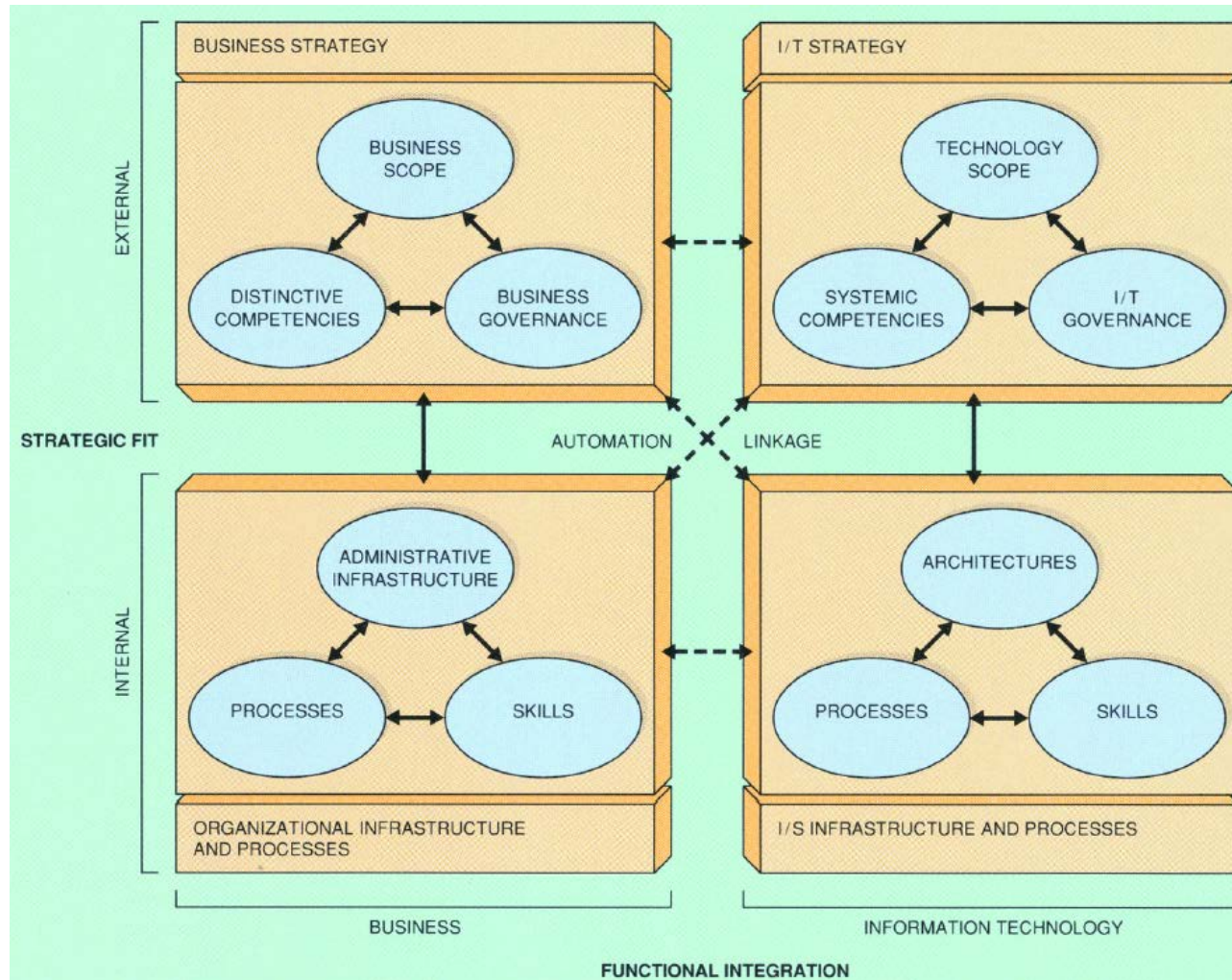
- The alignment of business and IT is an issue on both strategic and operational level
- On strategic level the alignment of business and IT has to deal with problems like the following:
 - ◆ What happens to IT if the company has to react on market requirements?
 - ◆ What IT innovations are needed to remain competitive?
 - ◆ How do changes in the IT affect the business?
- On the operational level questions can be:
 - ◆ Can the new collaboration platform improve the business processes?
 - ◆ What information does the business process need and how can it be stored?

Examples of Conflicts between Business and IT

- Alignment of business and IT is usually a compromise between business requirements and IT potentials
- Some examples:
 - ◆ Business requirements cannot be fully satisfied, because
 - there are *already systems available* that cannot be replaced (reasons can be costs or other dependencies)
 - standards set by IT strategy avoid unmanagable varieties and ensure reliability
 - centralisation reduces costs at the expense of specialisation
 - ◆ Chances of IT innovations cannot be implemented, because of
 - missing skills of employees
 - business processes or organisation are not appropriate
 - incompatibility with business strategy







Strategic Alignment Model – Detailed View



(Henderson & Venkatraman 1993)

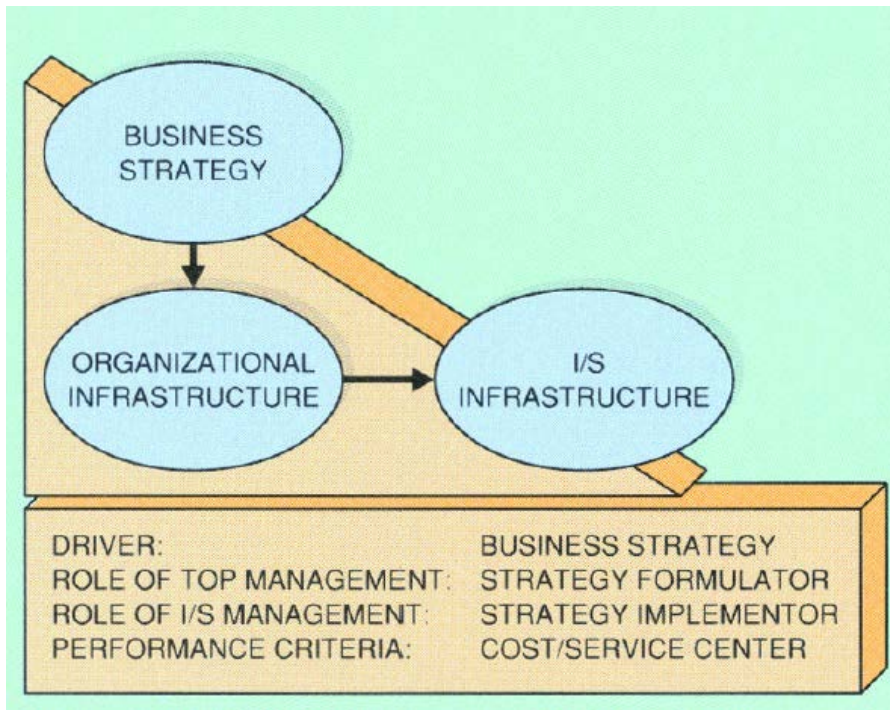


Four Dominant Strategic Alignment Perspectives

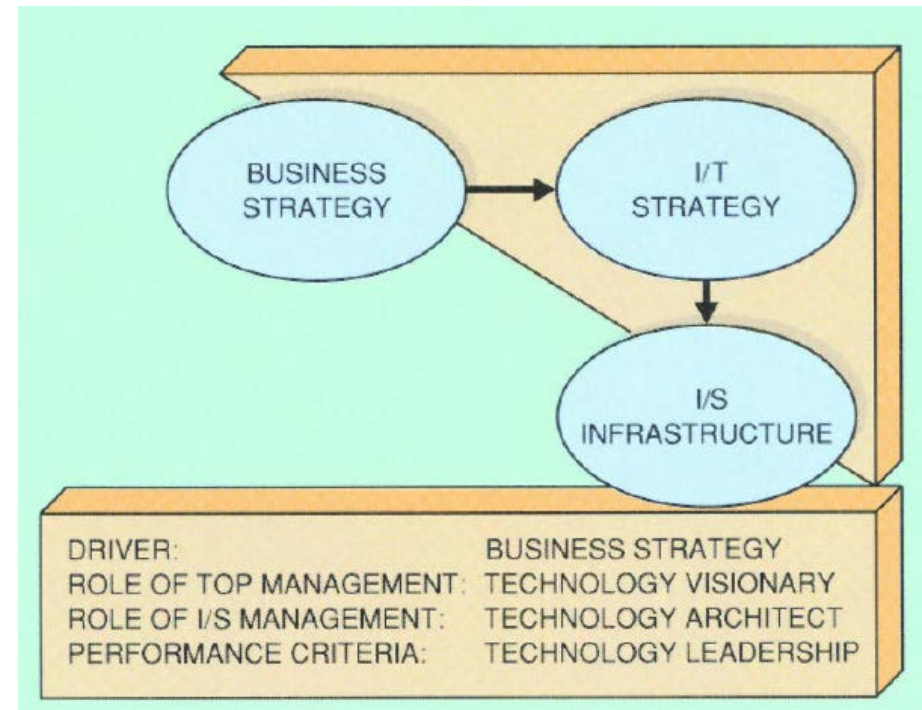
Perspective	Driver	Role of top management	Role of IT management	Performance criteria	Alignment approach
Strategy execution	Business strategy	Strategy formulator	Strategy implementer	Cost/service center	
Technology transformation	Business strategy	Technology visionary	Technology architect	Technology leadership	
Competitive potential	IT strategy	Business visionary	Catalyst	Business leadership	
Service level	IT strategy	Prioritizer	Executive leadership	Customer satisfaction	

Four Dominant Alignment Perspectives:

I) Business Strategy as the Driver



Strategy Execution Alignment

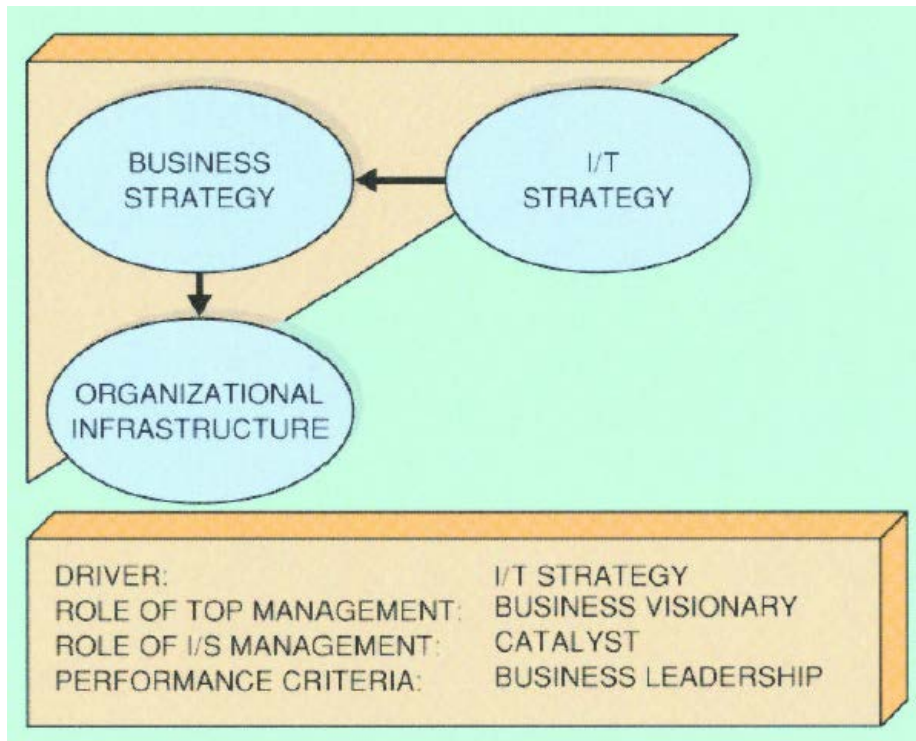


Technology Transformation Alignment

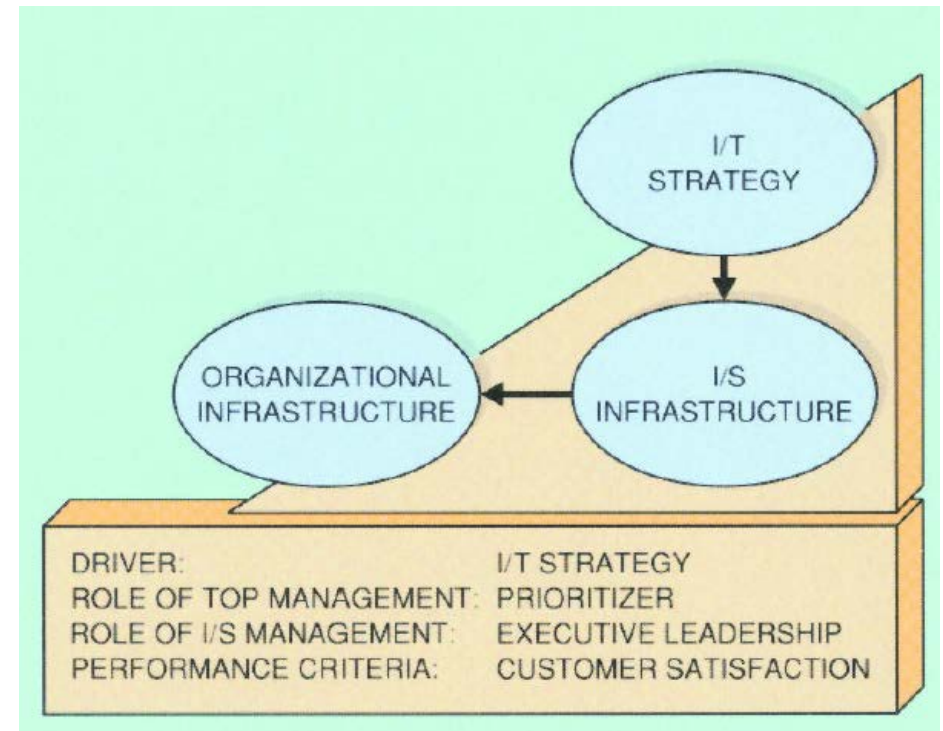
(Henderson & Venkatraman 1993)

Four Dominant Alignment Perspectives:

II) IT Strategy as the Driver



Competitive Potential Alignment



Service Level Alignment

(Henderson & Venkatraman 1993)

New: Digital Business Strategy

- Digital technologies are fundamentally reshaping traditional business strategy as
 - ◆ modular, distributed, crossfunctional, and global business processes that
 - ◆ enable work to be carried out across boundaries of time, distance, and function

Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatraman, N. (2013). Visions and Voices on Emerging Challenges in Digital Business Strategy. *MIS Quarterly*, 37(2), 633–635.



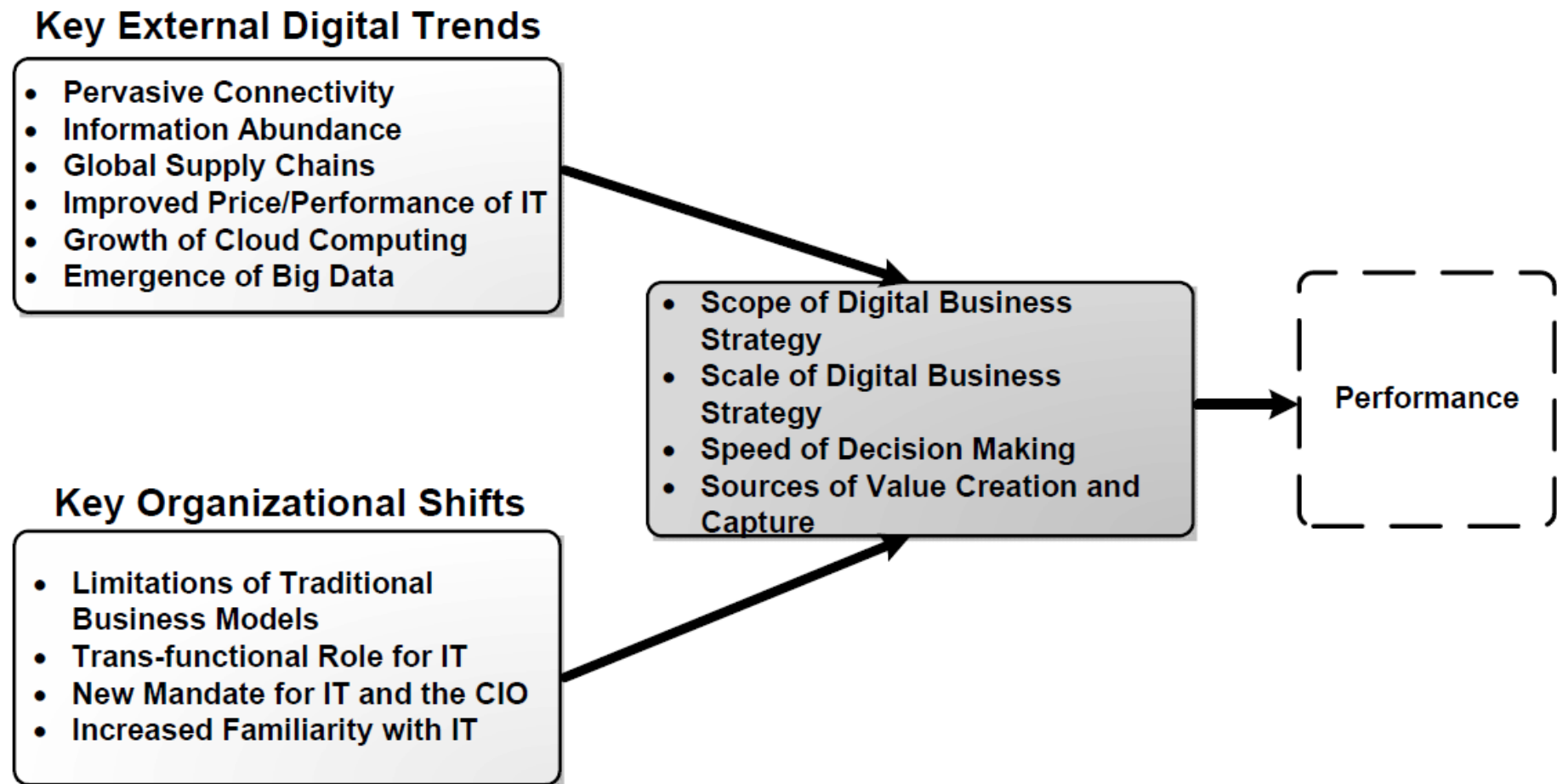
Digital Business Strategy

- Digital business strategy is an ***organizational strategy formulated and executed by leveraging digital resources to create differential value.***
- Overcoming the view of IT strategy as a function following business strategy
- Recognizing the pervasiveness of digital resources in other functional areas such as operations, purchasing, supply chain, and marketing
- Explicitly linking digital business strategy to creating differential business value (...) drive competitive advantage and strategic differentiation

(Bharadwaj et al. 2013)



Drivers of the Four Key Themes of Digital Business Strategy



(Bharadwaj et al. 2013)

