Information Management and Knowledge Management (IMKM)
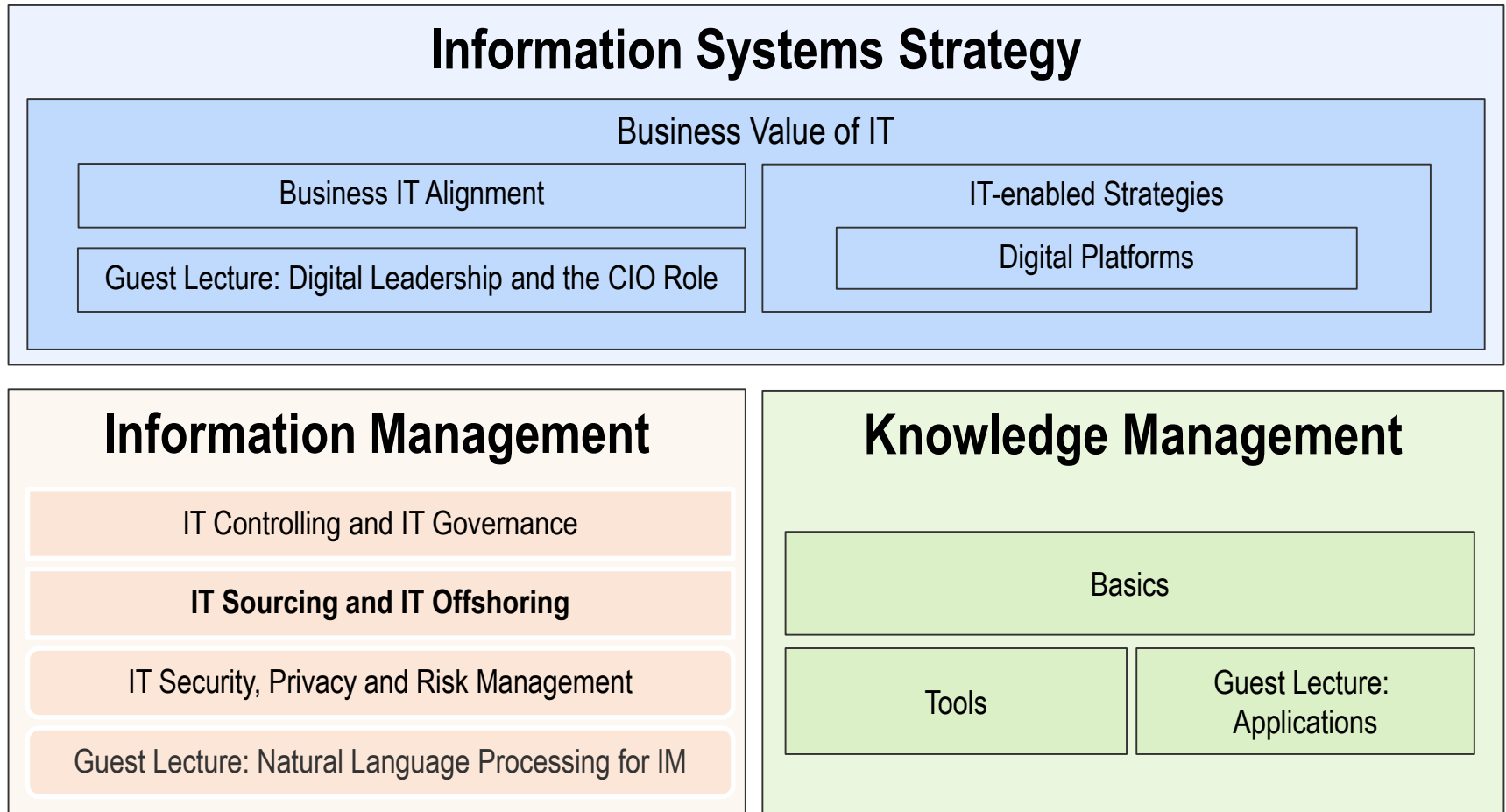
IM

Lecture 8
IT Sourcing and IT Offshoring

Technische Universität München

Chair for Information Systems

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Lecture Schedule

Information Systems Strategy

Business Value of IT

Business IT Alignment	IT-enabled Strategies
Guest Lecture: Digital Leadership and the CIO Role	Digital Platforms

Information Management

IT Controlling and IT Governance

IT Sourcing and IT Offshoring

IT Security, Privacy and Risk Management

Guest Lecture: Natural Language Processing for IM

Knowledge Management

Basics

Tools	Guest Lecture: Applications

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IMKM Lecture 8: IT Sourcing and IT Offshoring

Outline

1. Sourcing
   1. Overview & Definition
   2. Reasons & Risks
   3. Configurations
   4. Processes

2. Special forms of Sourcing
   1. Cloud Computing
   2. Off-shoring Overview & Drivers
   3. Risks: Client Extra Costs

Learning Objectives

- *You can discuss reasons and risks of outsourcing from a client and vendor perspective.*
- *You can differentiate outsourcing agreements building on outsourcing configurations.*
- *You understand steps for outsourcing from a client and vendor perspective.*

- *You can discuss cloud computing and its relation to outsourcing and understand different types of it.*
- *You can discuss IT offshoring and its relation to outsourcing and understand drivers and risks for it.*
- *You can understand and can interpret possible client extra costs in offshoring.*

Revenue from IT outsourcing in Germany by segment until 2021

Statista (2019)

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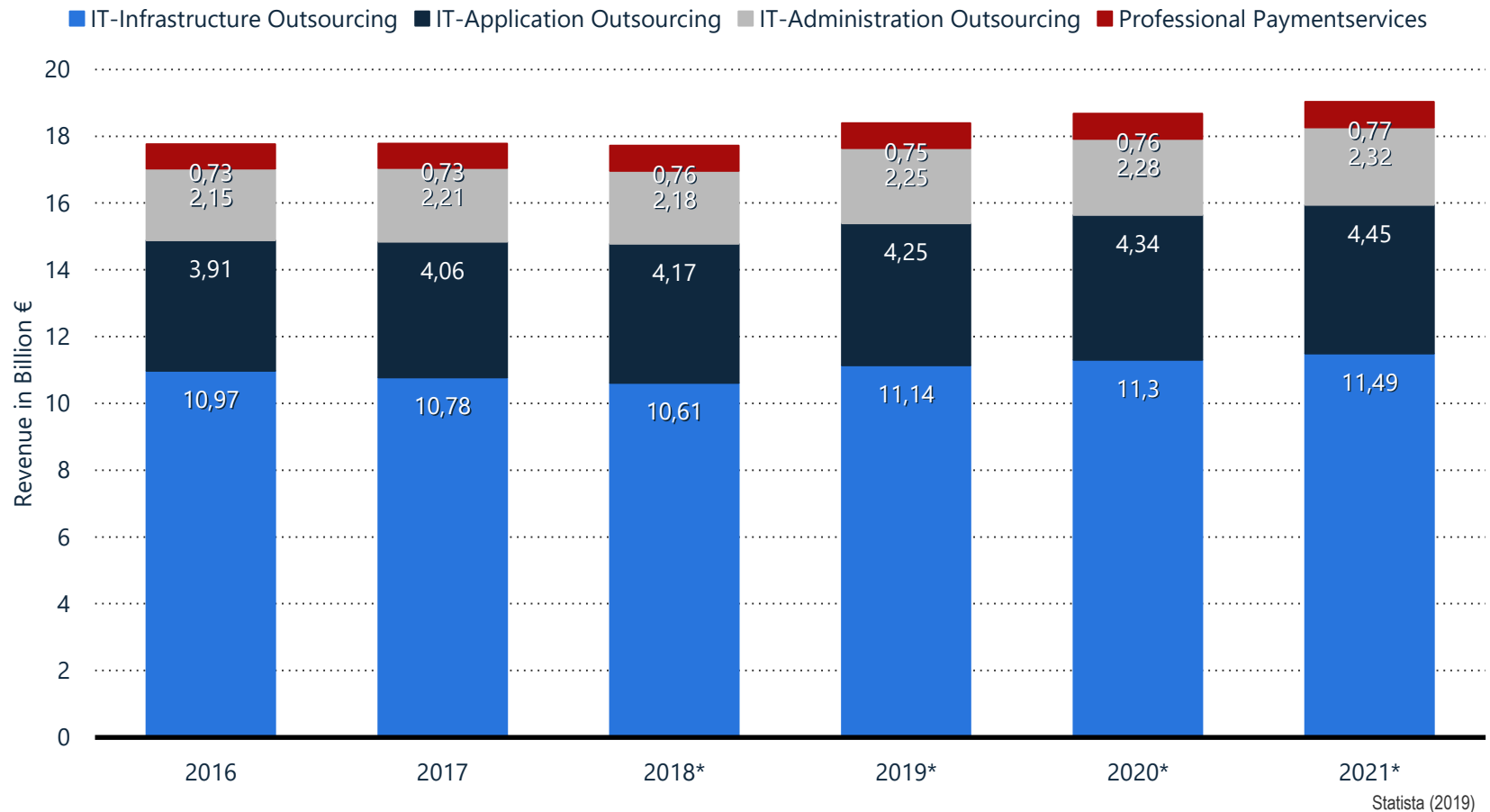
Why is there a market for Outsourcing?

The reason that we want someone else to do the work for us is that they are experts

(vgl. He 2003)

Outsourcing – a working Definition

- Outsourcing is a composition of the words **outside**, **resource** and **using**.

- That means that execution of certain in-house tasks are completely transferred
  - to one or several external companies
  - for a certain period of time
  - based on the contractual service agreements (Krcmar 2015: 428)

- In the context of IT, it means that single IT-tasks or the whole IT-tasks are given to another company.

- It is a question of *make* or *buy*
  - Whether to do everything internally or hire the services of specialists?

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Reasons for Outsourcing – Client Perspective

Cost
- improved cost transparency, e.g., pay per use
- cost reduction

Personnel
- Avoid the lack of qualified IT-employees
- reduction of dependency on single employees

Risks
- transfer risks to the outsourcing vendor
- shift of risks from complexity in application and technology dynamics

Concentration
- IT focus on business value
- IT focus on strategic information systems

Finances
- from fixed to variable cost → increased liquidity
- avoid high investments

Knowledge
- access to specialised knowledge & novel technology
- more discipline in knowledge conservation (documentation)

Bongard (1994), pp. 152

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Reasons for Outsourcing – Vendor Perspective

Size of the operations brings **economies of scale** by enabling them to **maintain expertise** in technologies beyond that even significant sized companies can justify.

➔ Higher quality services can be provided at a lower cost.

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Risks of Outsourcing – Client Perspective

Cost
- Switching cost
- Increased coordination and communication cost
- Expected cost reduction does not occur
- Lack of transparency and impossible control of vendor's prices

Personnel
- Loss of key employees & knowledge
- Loss of motivation for the remaining IT-employees
- Personnel related legal issues

Knowledge
- know-how transfer and the competitive advantage to competitors involved
- increasing outsourcing activities inevitably result in loss of IT-competence and know-how

Technology
- fixed commitment to the outsourcing-vendor´s technology
- danger of too much standardization

Privacy
- maintaining privacy of confidential data dependent on vendor
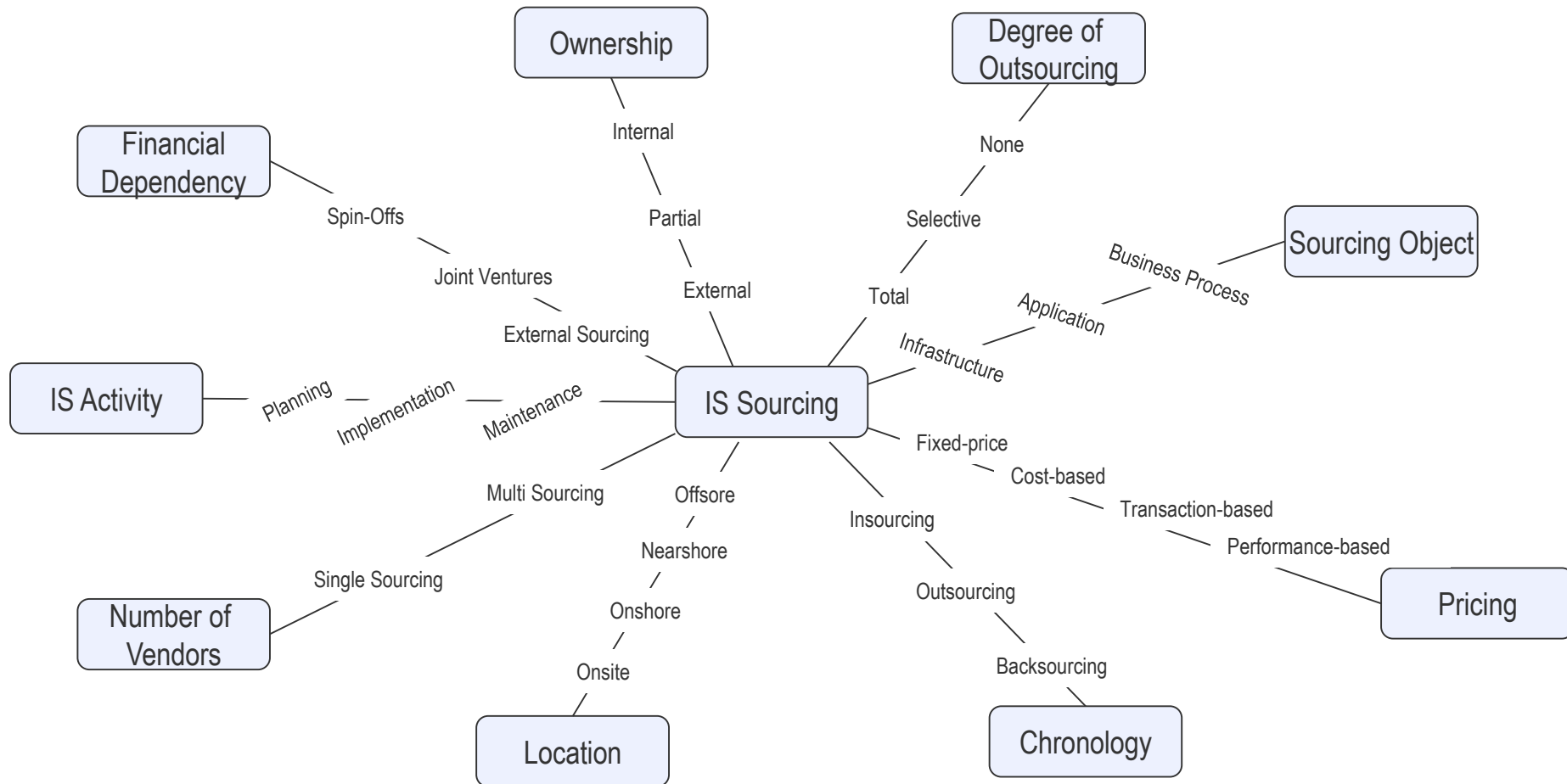
Return to the own IT
- might not be possible because of long-term commitment to outsourcing contracts
- rebuilding of know-how
- cost for rebuilding own IT-department
- nearly impossible to return to an own IT-department after some years

Bongard (1994), pp. 152

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Outsourcing Configurations

What are core decisions a company needs to take when outsourcing their IT Services?

Outsourcing Configuration
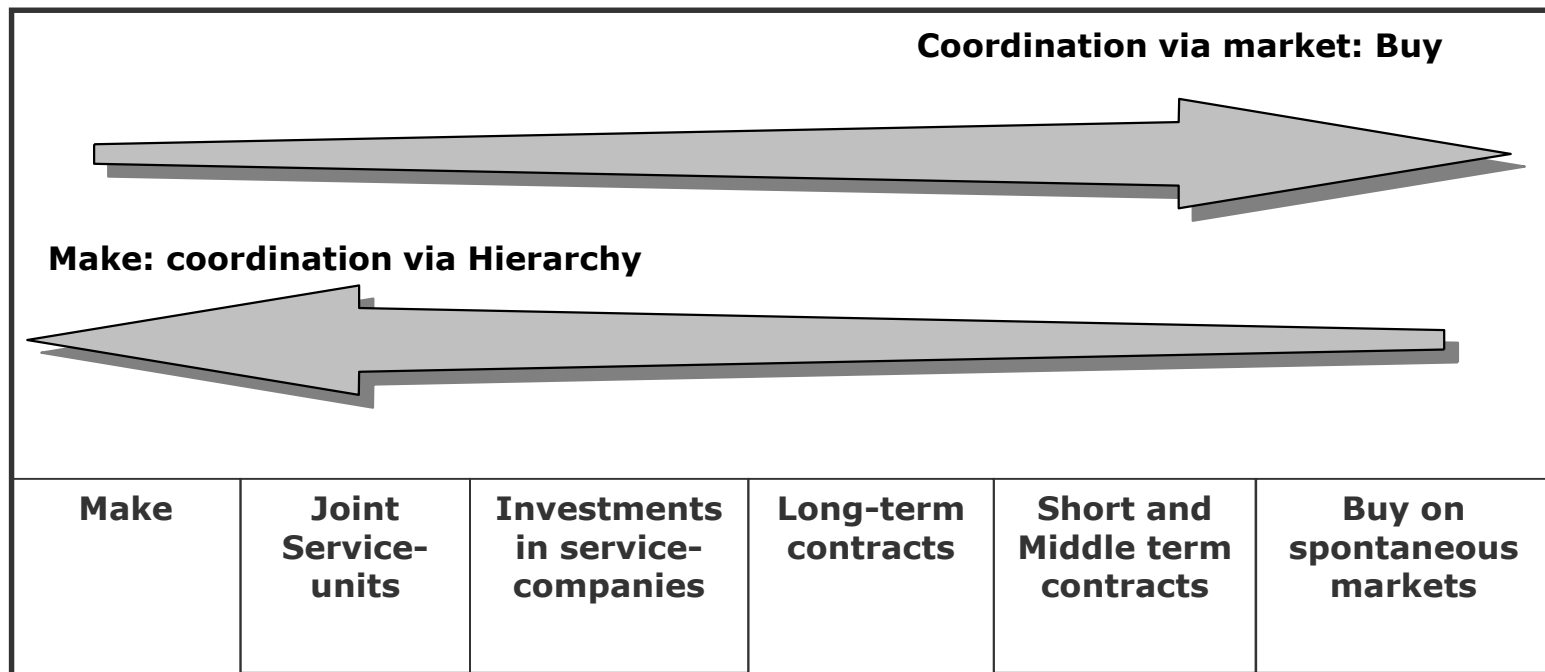

Leimeister (2009); von Jouanne-Diedrich (2007)

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Institutional Continuum

Coordination via market: Buy

Make: coordination via Hierarchy

Make	Joint Service-units	Investments in service-companies	Long-term contracts	Short and Middle term contracts	Buy on spontaneous markets

Adapted from Picot & Maier (1992)

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Types of Sourcing Arrangements

Degree of outsourcing	Ownership		
	Internal	*Partial*	*External*
Total	Spin-offs (fully owned subsidiary)	Joint-Venture	Traditional Outsourcing
Selective			Selective Sourcing
None	Insourcing / Backsourcing	Facilities Sharing among multiple clients	N/A

Dibbern et al. (2004)

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Chronology

- **Backsourcing**
  - Bring previously outsourced jobs back to be performed internally

- **Insourcing**
  - Assign a project/ found a fully owned subsidiary within a company rather hiring a third party

- **Outsourcing**
  - Individual internal tasks are handed over to one or more other companies for a defined period of time on the basis of a contractual agreement

Backsourcing

Insourcing

Outsourcing

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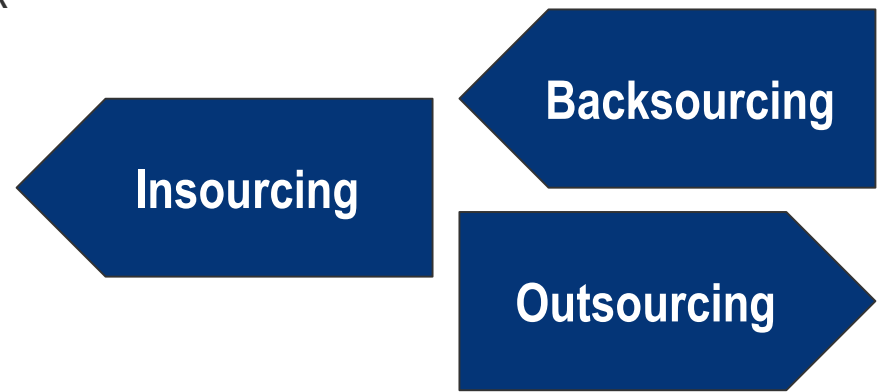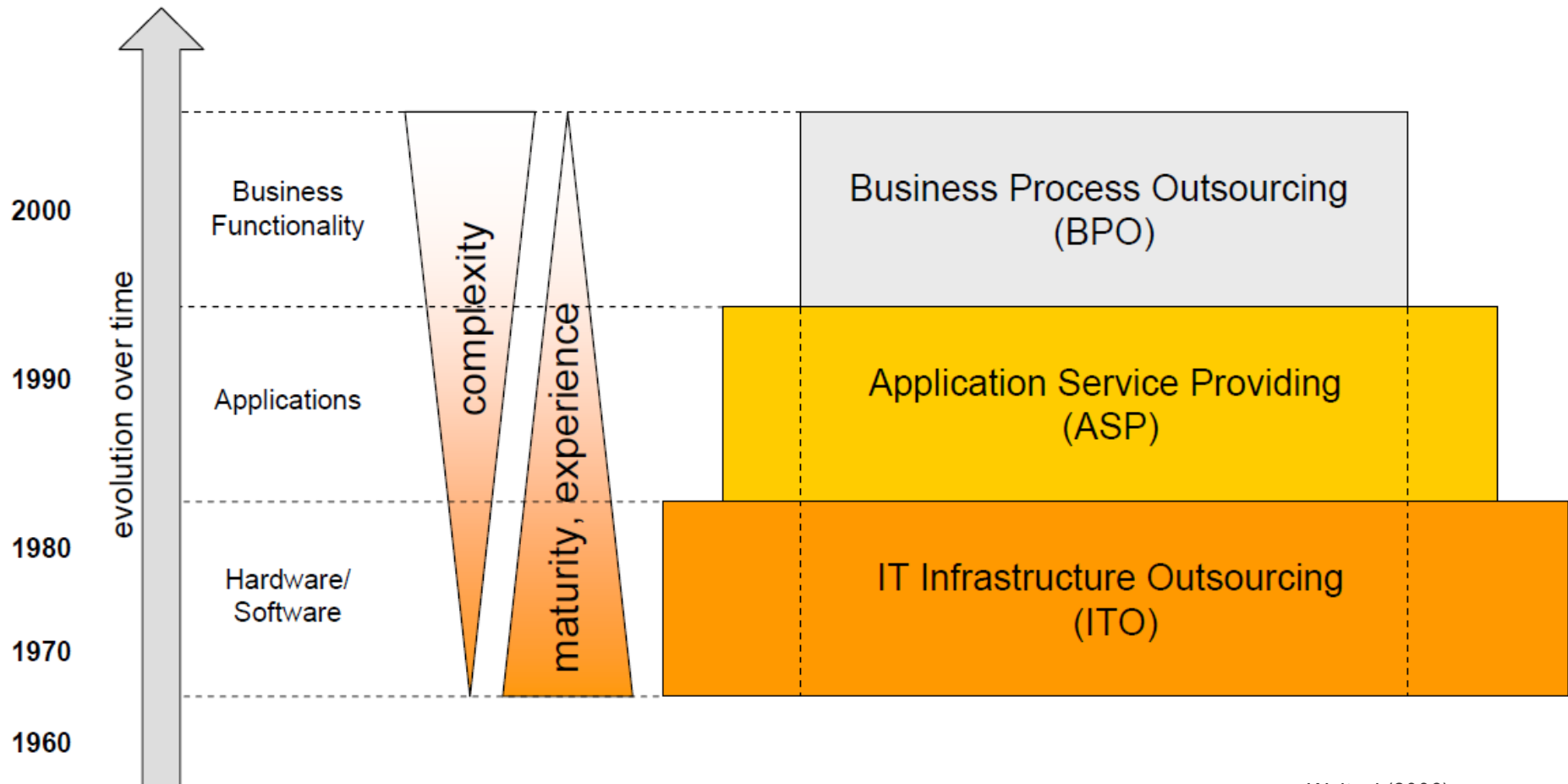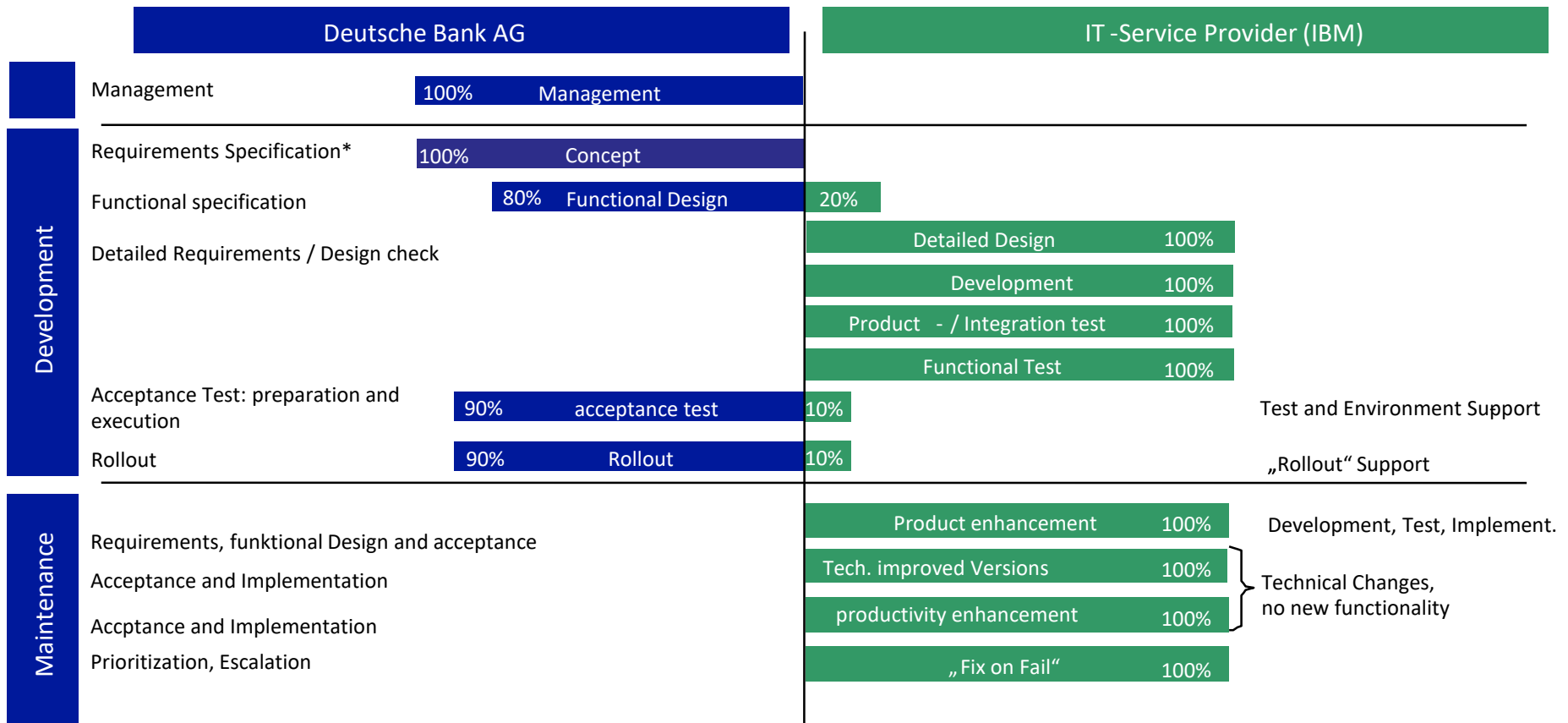
Outsourcing Types

Weitzel (2006)

Core Competencies to retain in your Company

- Development of **strategy** and **architecture**
- Establishment of **standards** for your own organization
- Capability to **evaluate outsourcing options**
- **Repository** of all installed applications and hardware
- Career **development** of your own employees
- **Consultancy** of your own organization on cost/benefit, strengths and weaknesses, risks and potential of IT (in the sense of: internal marketing and training)
- **Evaluating** the **architecture fit** of new hardware/software
- Identifying and **development of the relationship** to the most important suppliers incl. the capability to enforce your own standards.
- **Monitoring** your old systems incl. planning for retirement and replacement

Applegate et al. (554-555)

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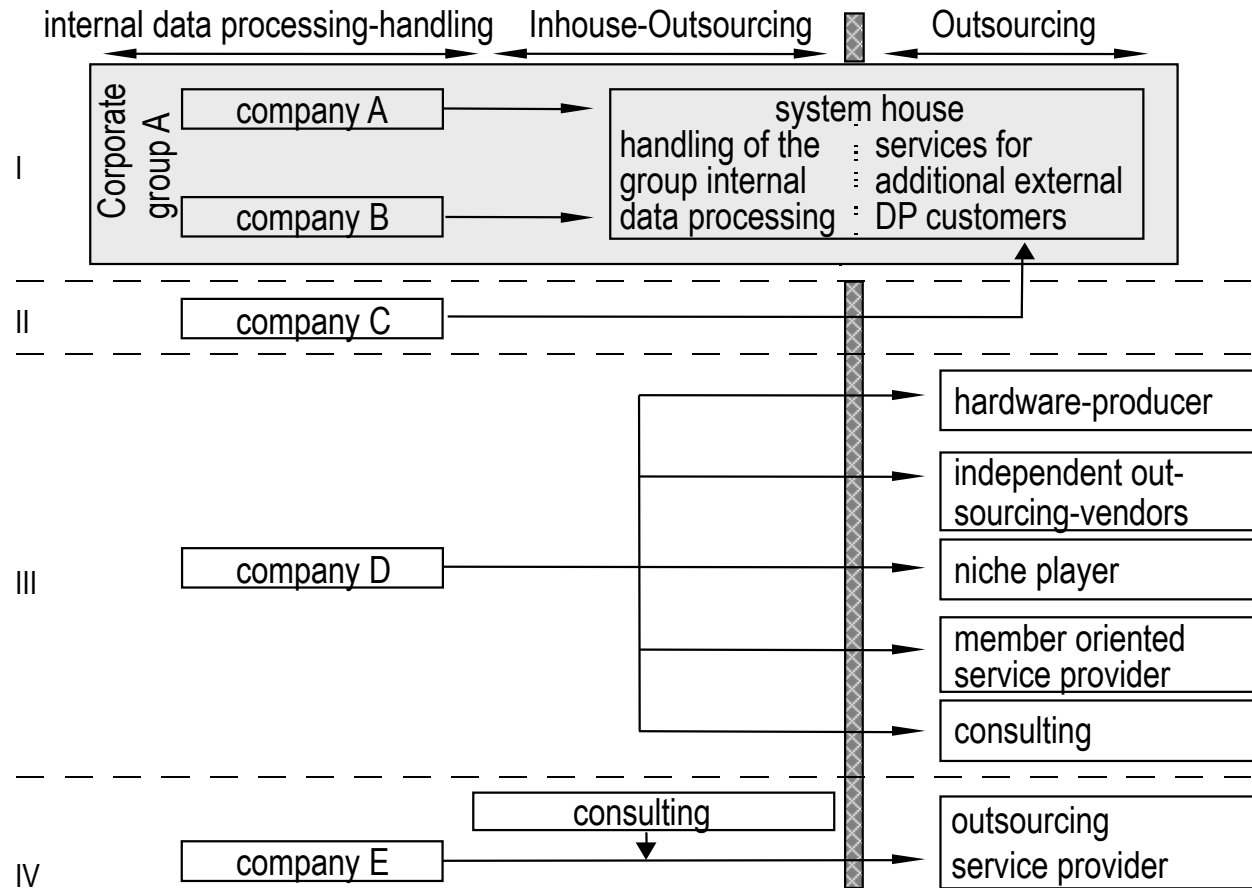© Prof. Dr. H. Krcmar

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Example: Deutsche Bank & IBM

	Deutsche Bank AG		IT -Service Provider (IBM)
Management			
Management	100% Management		
Development			
Requirements Specification*	100% Concept		
Functional specification	80% Functional Design	20%	
Detailed Requirements / Design check		Detailed Design 100%	
		Development 100%	
		Product - / Integration test 100%	
		Functional Test 100%	
Acceptance Test: preparation and execution	90% acceptance test	10%	Test and Environment Support
Rollout	90% Rollout	10%	„Rollout" Support
Maintenance			
Requirements, funktional Design and acceptance		Product enhancement 100%	Development, Test, Implement.
Acceptance and Implementation		Tech. improved Versions 100%	Technical Changes, no new functionality
Accptance and Implementation		productivity enhancement 100%	
Prioritization, Escalation		„Fix on Fail" 100%	

Menke-Südbeck (2003)

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Possible Customer-Vendor-Relationship in Outsourcing

Bongard (1994), p. 97

Fixed-price

Service is priced with a flat charge (lump sum)

Example

2.000.000 € per year for running a call center

Pro

- Easy to budget and control costs

Contra

- Only feasibly if costs are easy to forecast

- Higher costs (service provider needs to account for cost and demand variance)

- Risk for conflicts (ambiguity of what is included in the contract and what not)

- Additional services are charged separately

Cullen et al. (2005)

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Cost-based / Time and Material Pricing

Service Provider bills costs (time + material) + profit margin

Example

Service costs + 5 % profit margin

Service costs + 1.000.000 € profit

Pro

- Beneficial if demand varies

- Beneficial if costs for service delivery are difficult to forecast

Contra

- High costs for controlling to ensure that service provider works cost-efficient

- Important to know the costs of the service provider (information asymmetry)

Cullen et al. (2005)

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Transaction-based / Unit-based Pricing

Service fee per transaction or unit

Example

5 € per call to the Call Center

Pro

- Flexibility regarding demand variance

- Possibility for volume discounts

- Cost transparency and accountability (by user / department / SBU)

Contra

- Need for demand forecast and management to manage costs

- Potentially infinite resource availability (high availability costs)

Cullen et al. (2005)

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Pricing Models
Performance-based Pricing

Pricing is based on a pre agreed business outcome.

Normally a fixed + a variable component

Example

5.000.000 € + 30 % of cost savings compared to status quo

Pro

- Encourages collaboration and creative problem-solving

- Affords vendor greater freedom to determine how best to achieve the results

Contra

- Hard to determine performance (influence of external factors)

- Hard to find service vendors for high objectives / efficient IT services

- Potentially high downside risk of over-ambitious solutions ➔ need for risk-sharing

Cullen et al. (2005)

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Outsourcing Location

Onsite: on own company premises

Onshore: same country

Nearshore: same continent

Offshore: other country or typically continent

Headquarter Location

Krcmar (2015), p. 435

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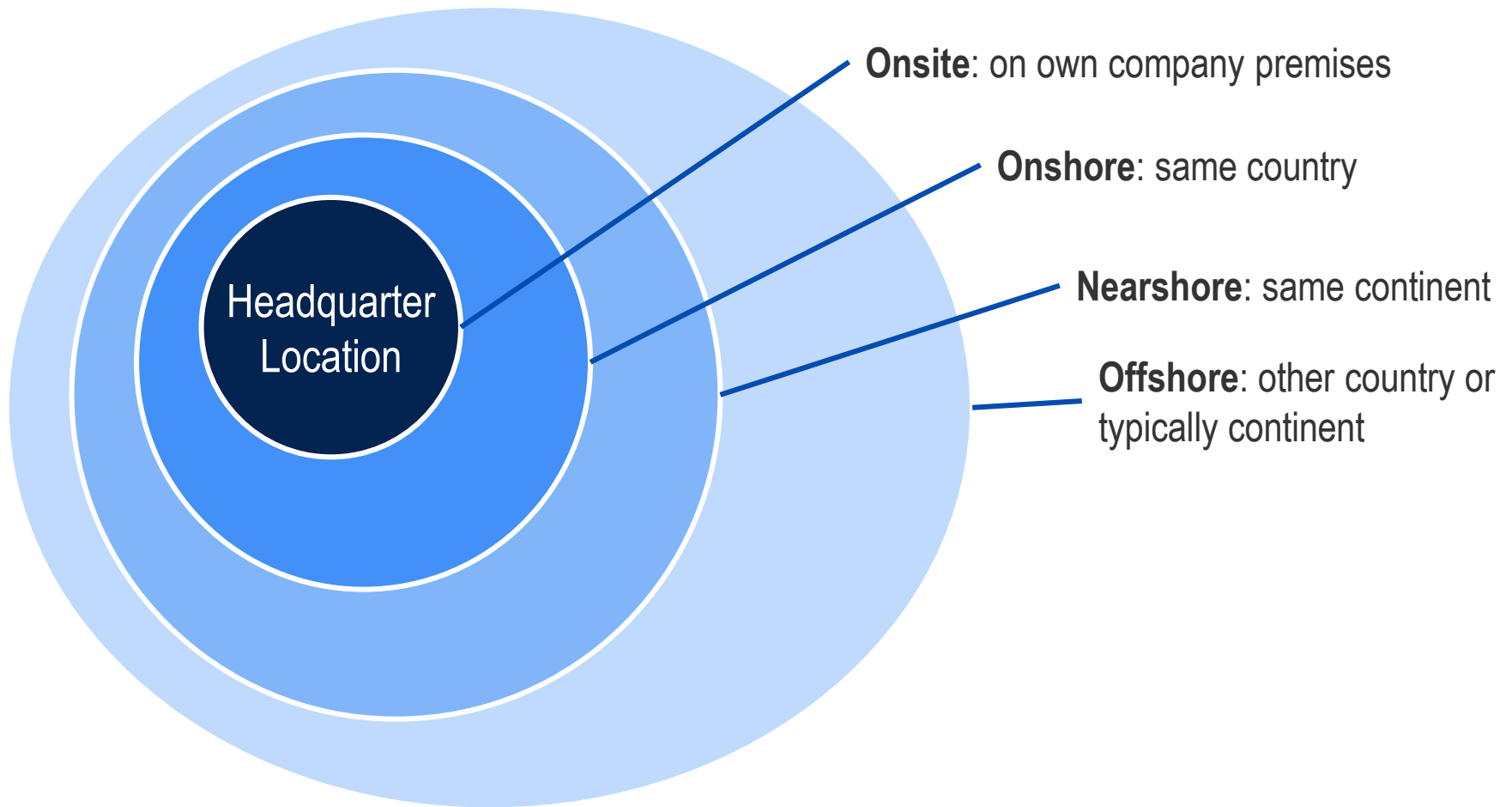
Stage Model of IS Outsourcing – Client Perspective

Dibbern et al. (2004)

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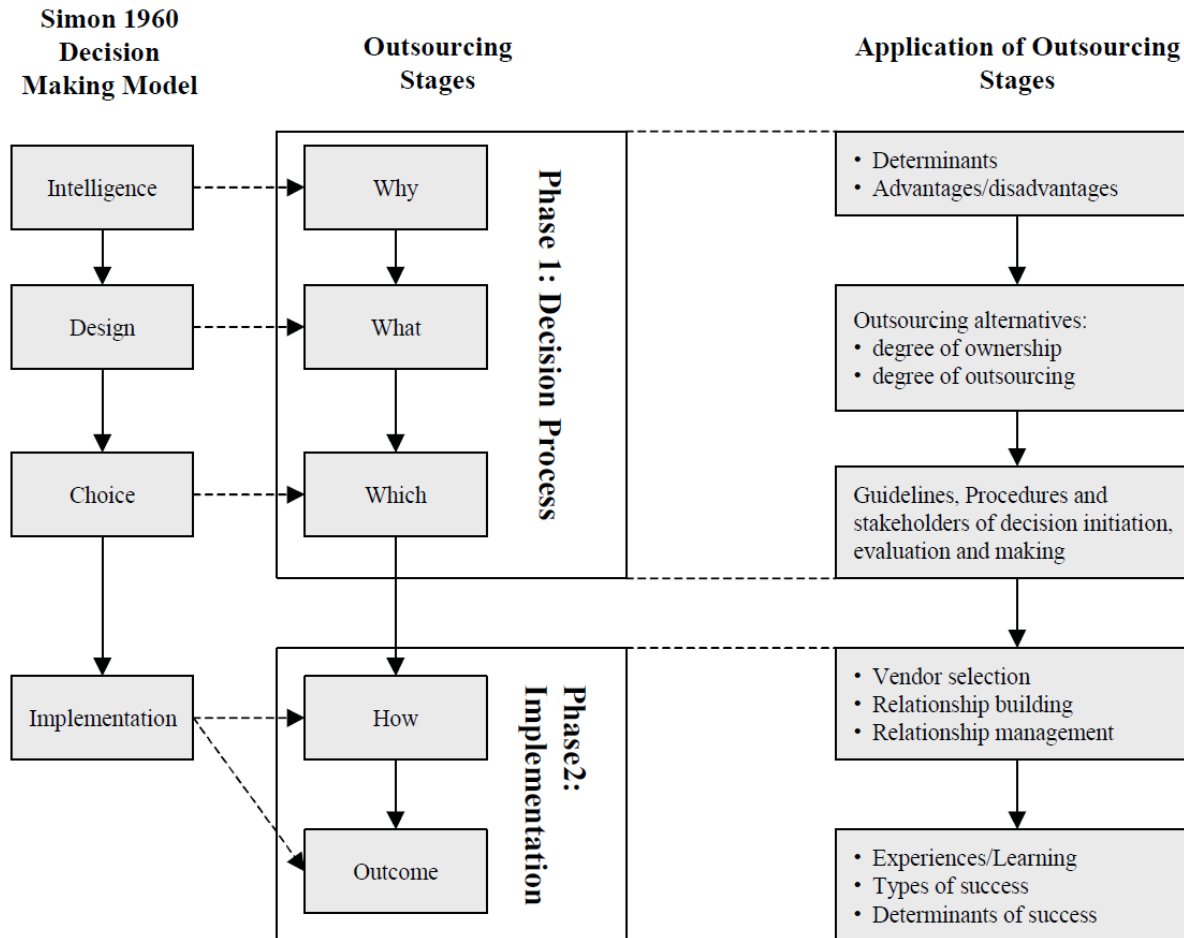
Vendor's Outsourcing Process Model

Phase	I. Discovery	II. Definition	III. Confirmation	IV. Transition	V. Execution and Management
Sub-Stages	1. Pre-Sales 2. Initial Study	1. Team Formation 2. Pre-Due Diligence	1. Negotiation 2. Contract	1. Post-Due Diligence 2. Change Management	1. Contract Mgt. 2. Value Improvement
Scope	Discover market opportunities and understand customers' requirements	Conduct feasibility study and understand customers' situation	Negotiate for outsourcing project and make the contract	Develop transition plan by conducting post-due diligence and institute the outsourcing environment	Provide outsourcing services and improve their processes
Main Activities	. Develop market opportunities . Receive and analyze RFI . Conduct initial feasibility study . Develop business strategy	. Form a formal project team . Define the scope of work . Study customer's situation and systems . Do benchmarking . Write and submit RFP	. Sign MOU . Define negotiation strategy . Prepare performance measures . Do negotiation . Develop contract sheet . Make a contract	. Develop transition plan . Define transition objects . Decide transition method and schedule . Transfer the selected assets . Set up working environment for outsourcing	. Execute outsourcing services . Measure performance and customer satisfaction . Propose alternatives for improvement . Improve processes
Main Parties involved	. Outsourcing project group . Enterprise outsourcing support group	. Outsourcing project group . Enterprise outsourcing support group . Review board in parent organization	. Outsourcing project group	. Outsourcing project group . Enterprise outsourcing support group	. Outsourcing project group

Lee (2008)

Quiz Time!

Go to kahoot.it

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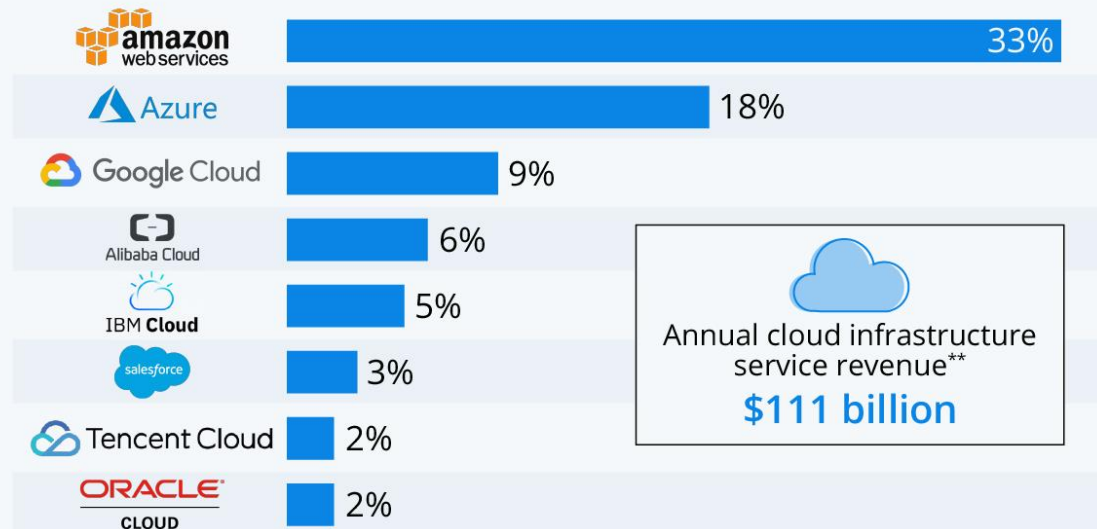
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Amazon Leads $100 Billion Cloud Market

Worldwide market share of leading cloud infrastructure service providers in Q2 2020*

- amazon web services — 33%
- Azure — 18%
- Google Cloud — 9%
- Alibaba Cloud — 6%
- IBM Cloud — 5%
- salesforce — 3%
- Tencent Cloud — 2%
- ORACLE CLOUD — 2%

Annual cloud infrastructure service revenue**
$111 billion

* includes platform as a service (PaaS) and infrastructure as a service (IaaS) as well as hosted private cloud services
** 12 months ended June 30, 2020
Source: Synergy Research Group

statista

Statista (2020)

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Cloud Computing
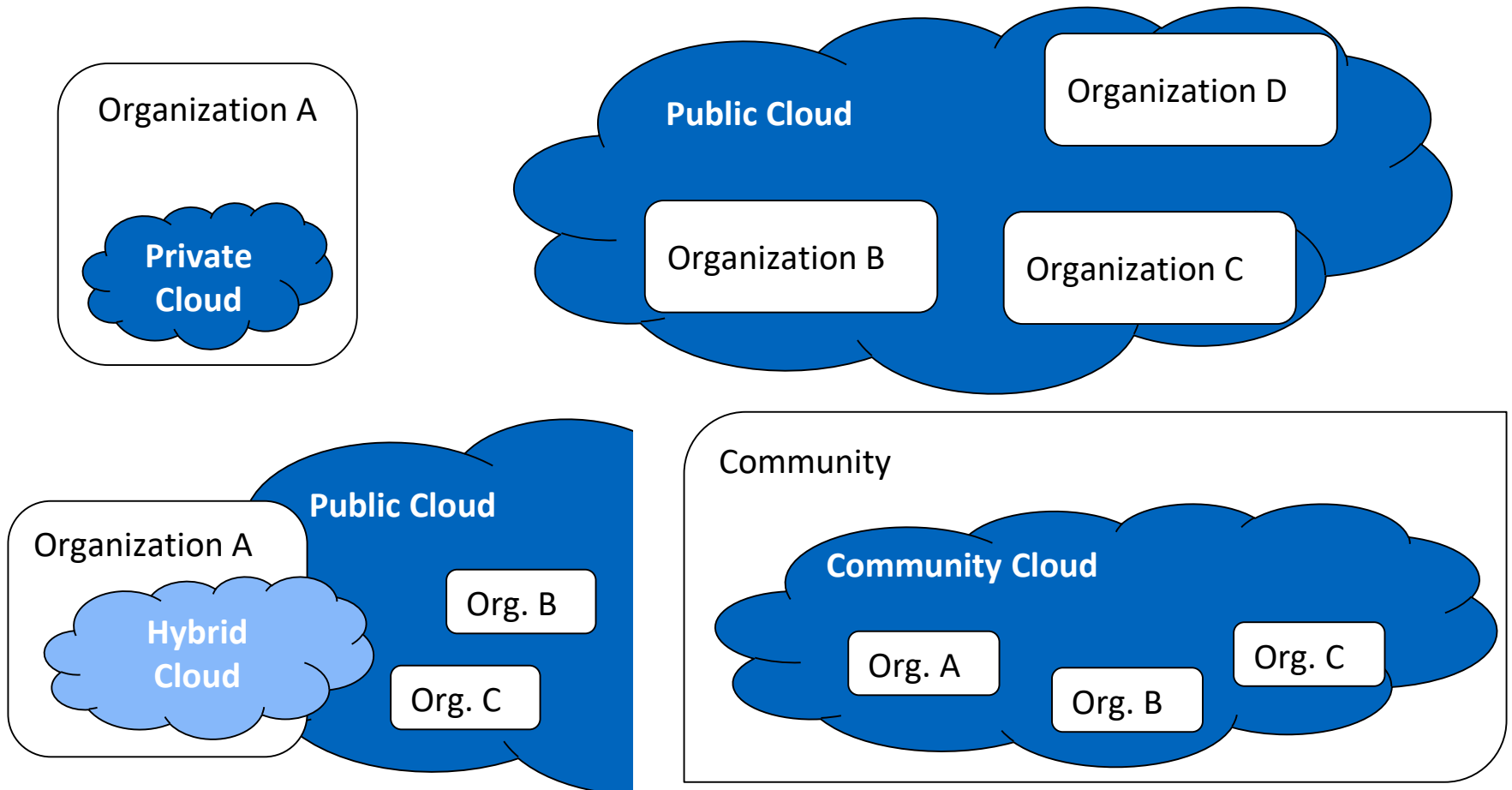
Cloud Computing is an IT **deployment model**,

- based on virtualization,
- where resources in the form of infrastructure, applications and data are deployed via the internet as a **distributed service**
- through **one or several service providers**.
- These services are **scalable on demand** and
- can be priced on a **pay-per-use** basis.
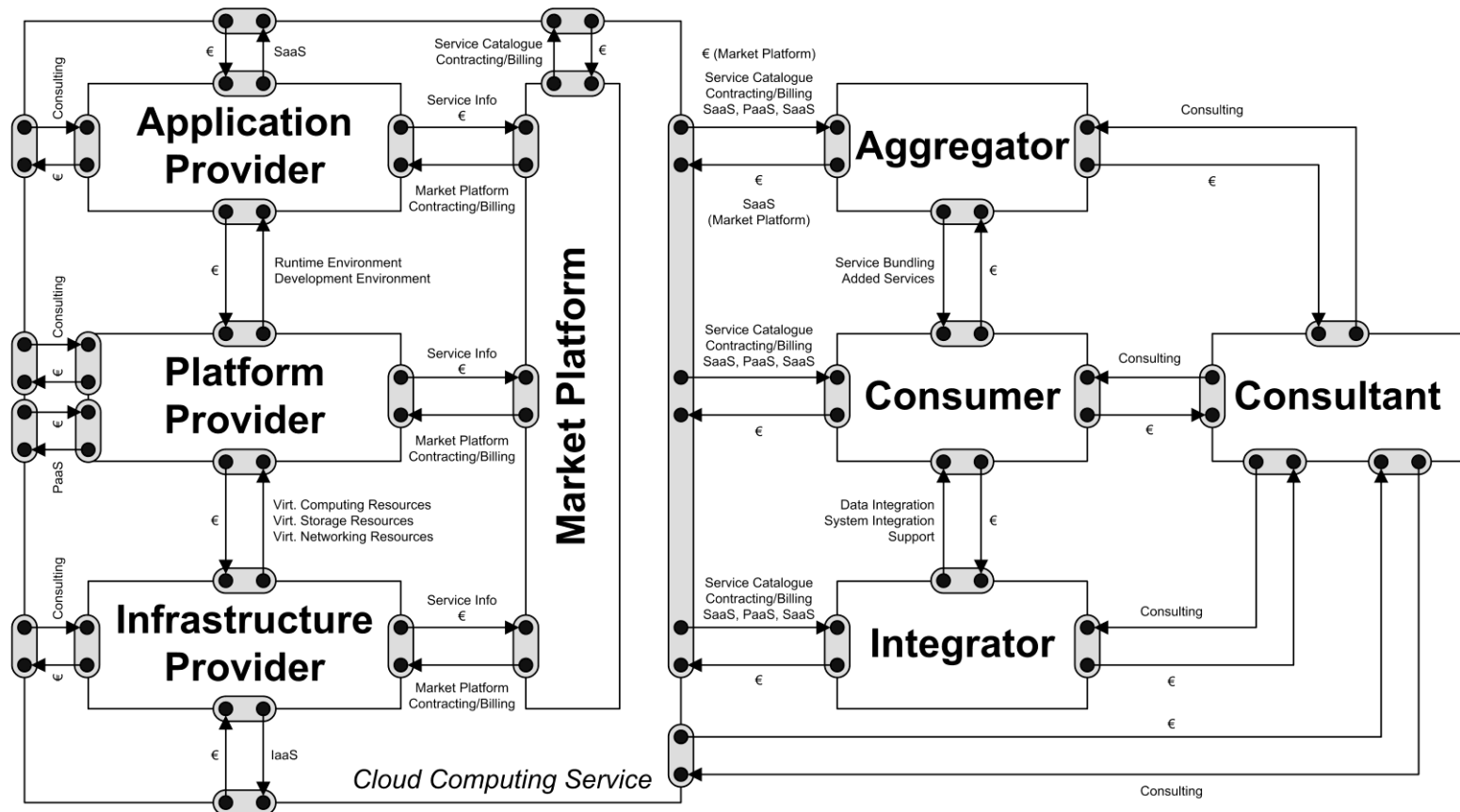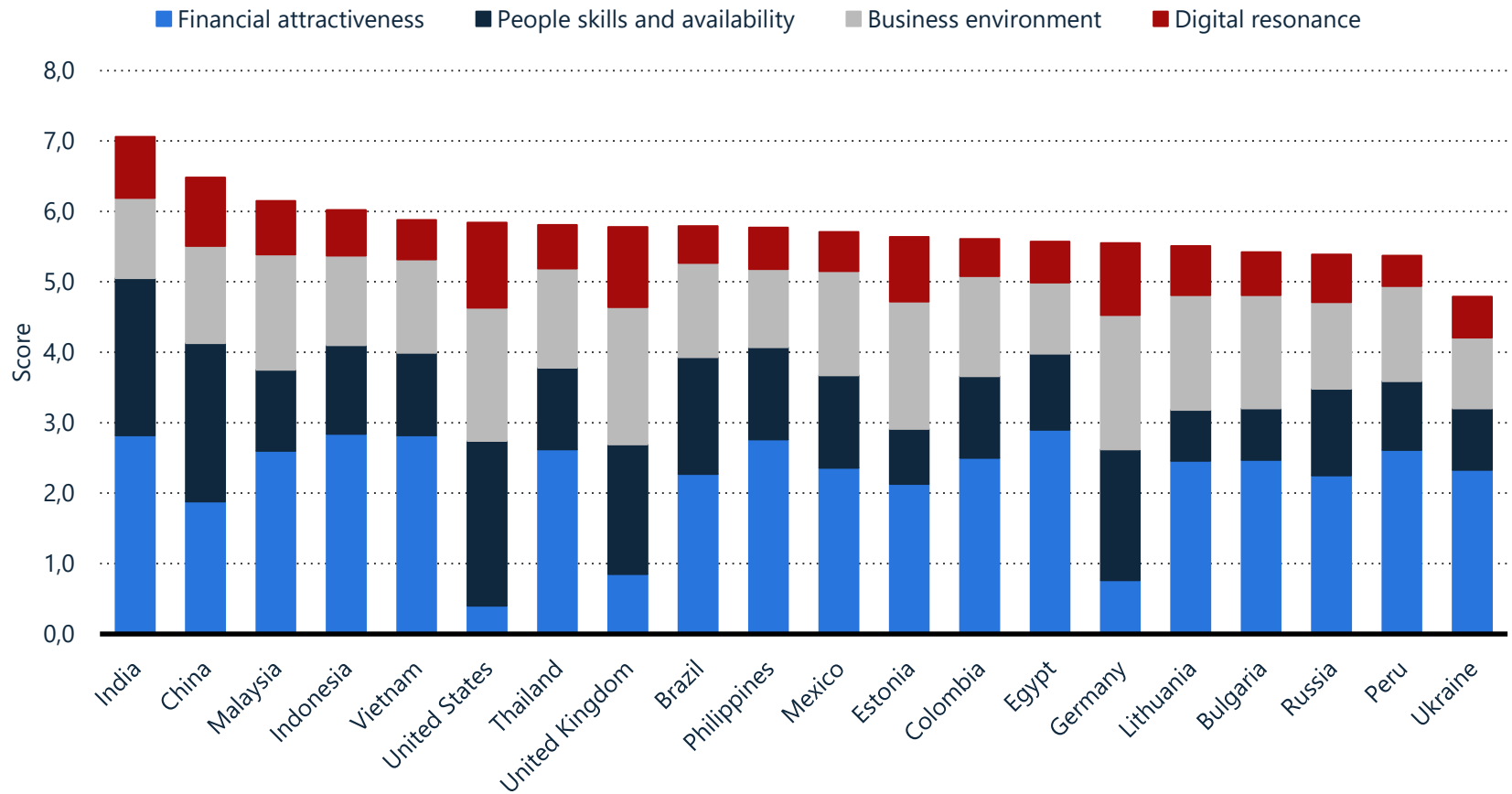
Böhm et al. (2011)

Youseff et al. (2008)

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Types of Cloud Computing

Organization A

Private Cloud

Public Cloud

Organization D

Organization B

Organization C

Public Cloud

Organization A

Hybrid Cloud

Org. B

Org. C

Community

Community Cloud

Org. A

Org. B

Org. C
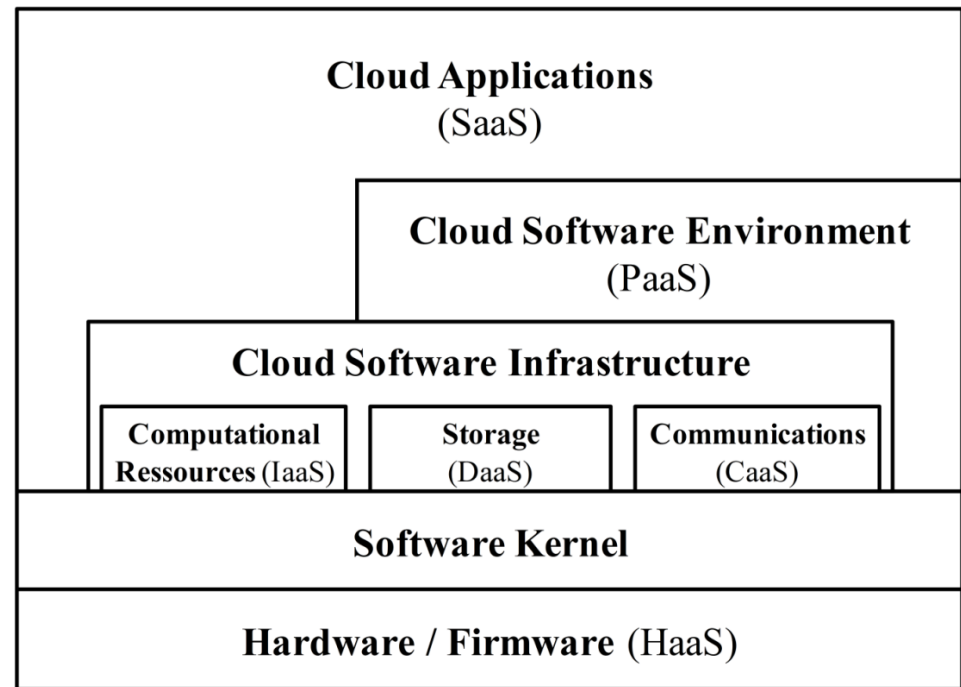
Armbrust et. Al (2009); Briscoe & Marinos (2009)

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Cloud Computing can lead to Complex Outsourcing Relationships

Böhm et al. (2010)

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Location attractiveness for Offshoring

A. T. Kearney (2019)

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Reminder: Outsourcing Location

Headquarter Location

Onsite: on own company premises

Onshore: same country

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Krcmar (2015), p. 435

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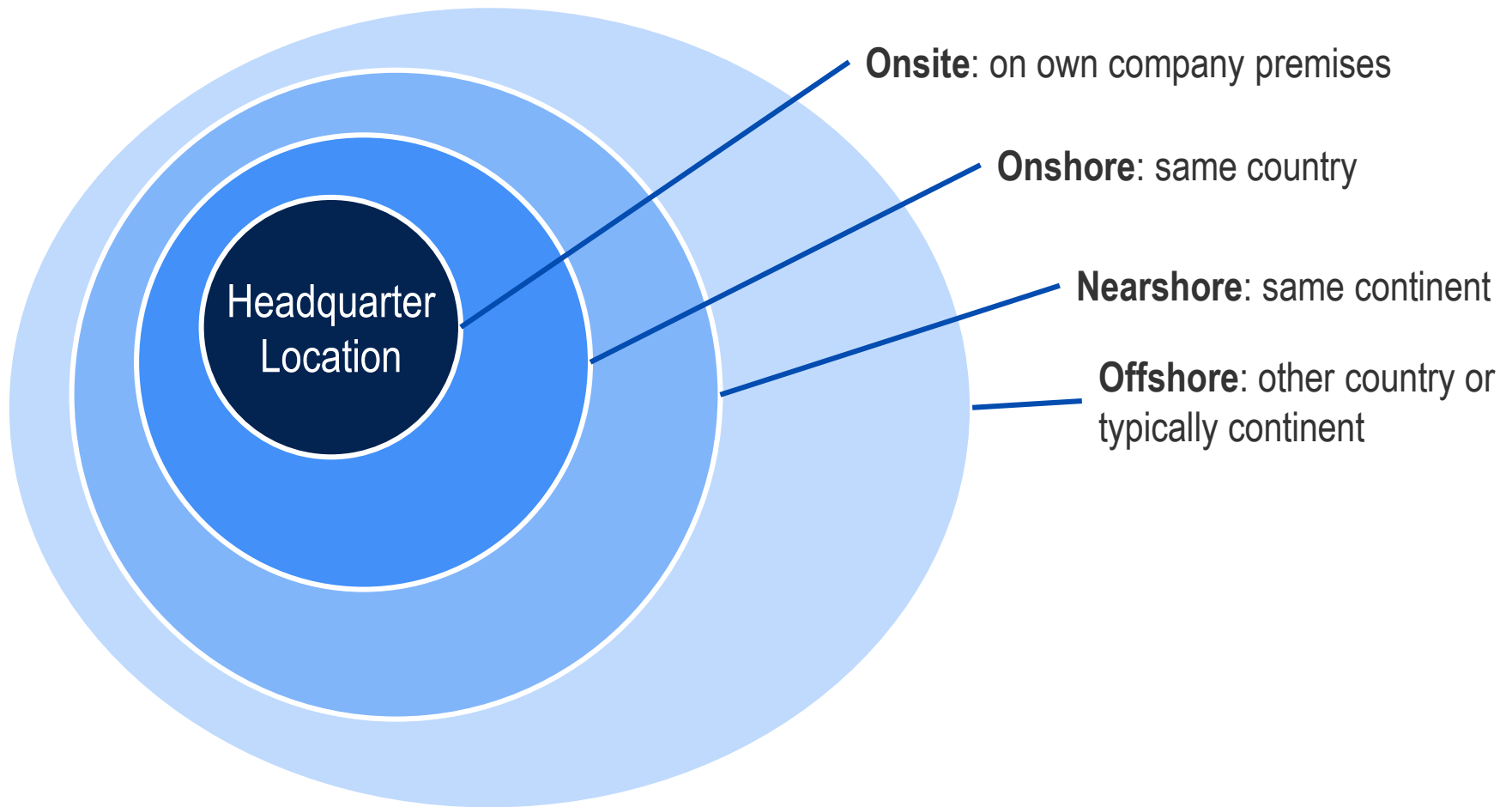
Offshoring as Special Form of Outsourcing

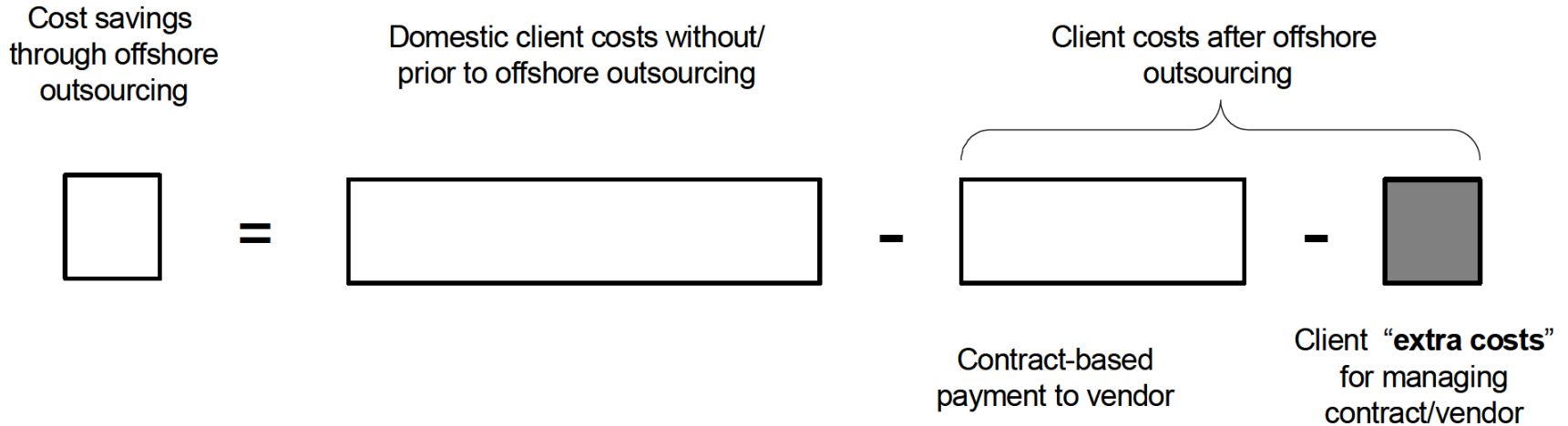|	Offshoring	Outsourcing
Definition	Offshoring means getting work done in a different country or typically **continent**.	Outsourcing refers to contracting work out to an **external** organization.
Risks and criticism	Offshoring is often criticized for **transferring jobs** to other countries. Other risks include **geopolitical** risk, **language** differences and poor **communication** etc.	Risks of outsourcing include **misaligned interests** of clients and vendors, increased **reliance** on third parties, lack of in-house **knowledge** of critical (though not necessarily core) business operations etc.
Benefits	Benefits of offshoring are usually lower **costs**, better availability of **skilled people**, and getting work done **faster** through a global talent pool.	Usually companies outsource to take advantage of **specialized skills**, **cost** efficiencies and labor **flexibility**.

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Drivers for Offshoring

External Drivers

- **Lower trade barriers** and **global offering** of services

- Significant **labor cost advantages** in offshore regions compared to western markets

- Internet and communication technologies enabling **global collaboration** in real-time for digital products and services

Company-internal Drivers

- **Shorter product life cycles** require faster time-to-market

- **Limited IT budgets** and need for **cost reduction**

- Increasing degree of **IT-service standardization**

- Increasing experience with **IT outsourcing** and partnering models

Offshoring Growth

- *24x7*
- *Service Quality*
- *Cost-Advantage*

A.T. Kearney

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Risks of Offshoring: Client Extra Costs

Cost savings through offshore outsourcing

=

Domestic client costs without/ prior to offshore outsourcing

−

Client costs after offshore outsourcing

Contract-based payment to vendor

−

Client "**extra costs**" for managing contract/vendor

		Degree of Client-Specific Knowledge		
		High	**Medium**	**Low**
Level of Absorptive Capacity of Vendor	High	*Medium level of extra costs*	*Low to medium level of extra costs*	*Low level of extra costs*
	Medium	*Medium to high level of extra costs*	*Medium level of extra costs*	*Low-medium level of extra costs*
	Low	High level of extra costs	Medium to high level of extra costs	Medium level of extra costs

Dibbern et al. (2008)

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Risks of Offshoring: Client Extra Costs (2)

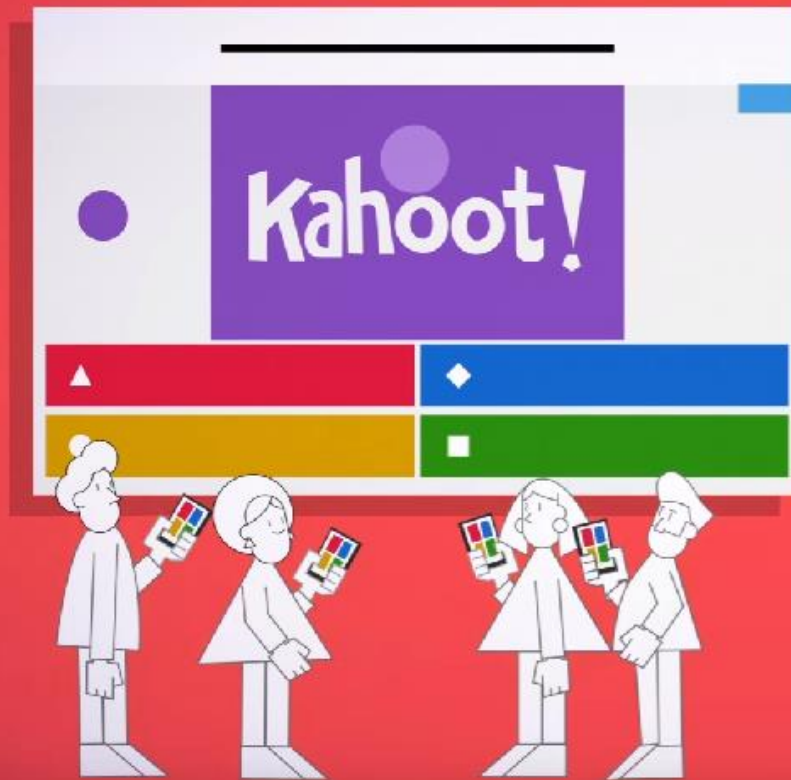| Table 1. Definition of Extra Cost Categories		
Cost Category	**Definition**	**Source**
Specification costs	Client costs associated with the process of explaining and defining what services are required from the system and identifying the constraints on systems operation and development.	Based on Sommerville (2004, p. 75)
Design costs	Client costs associated with the "description of the structure of the software to be implemented, the data which is part of the system, the interfaces between the system components, and, sometimes, algorithms used."	Sommerville (2004, p. 76)
Knowledge transfer costs	Costs associated with the communication of knowledge from the client organization so that it is learned and applied by the offshore vendor.	Based on Ko et al. (2005, p. 62)
Coordination costs	Costs for integrating and linking together client and vendor resources to accomplish a collective set of tasks.	Based on Van de Ven et al. (1976, p. 322)
Control costs	Costs for ensuring that the vendor acts and performs in a manner that is consistent with achieving the desired objectives of the client.	Based on Choudhury and Sabherwal (2003, p. 292)

Dibbern et al. (2008)

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Risks of Offshoring: Client Extra Costs (3)

Dibbern et al. (2008)

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Quiz Time!

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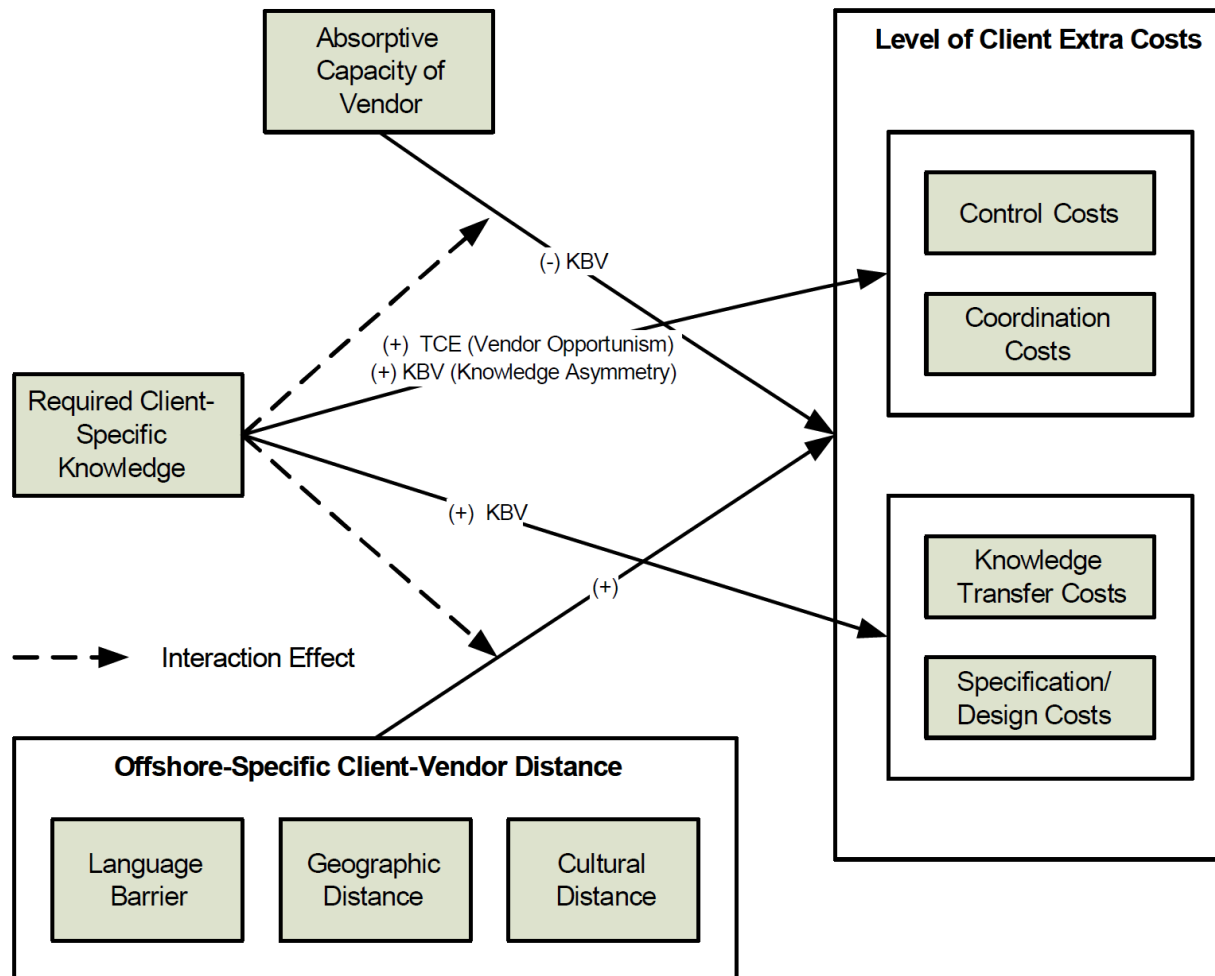
Core Literature: Krcmar, Informationsmanagement (2015)

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Literature

Additional Reading

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