

Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Cloud Computing Basics

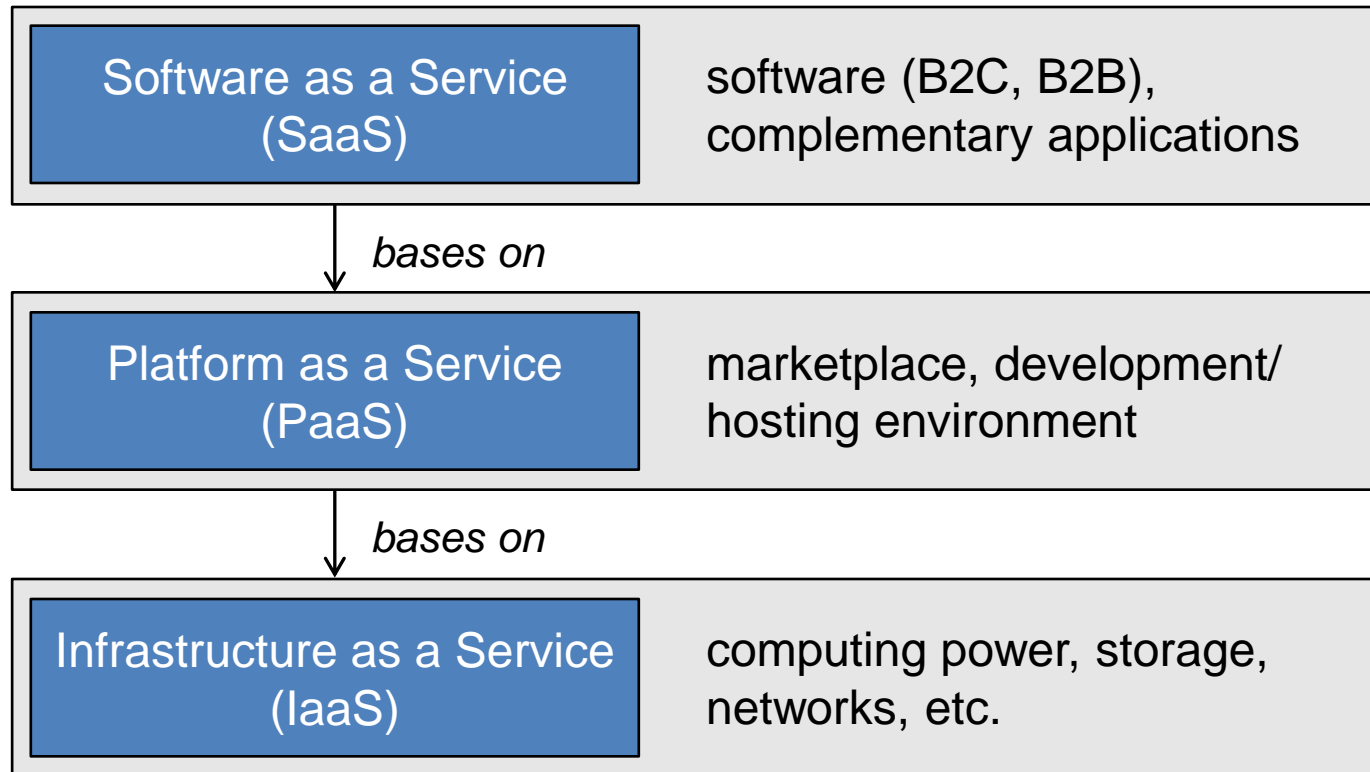


TECHNISCHE
UNIVERSITÄT
DARMSTADT

Cloud Computing := “a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction.”

National Institute of Standards and Technology (NIST)

Layers of Cloud Computing



Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”



Pricing example for the Amazon Simple Storage Service

Storage fees:

- \$0.14 per GB (until 1TB)

Data traffic fees:

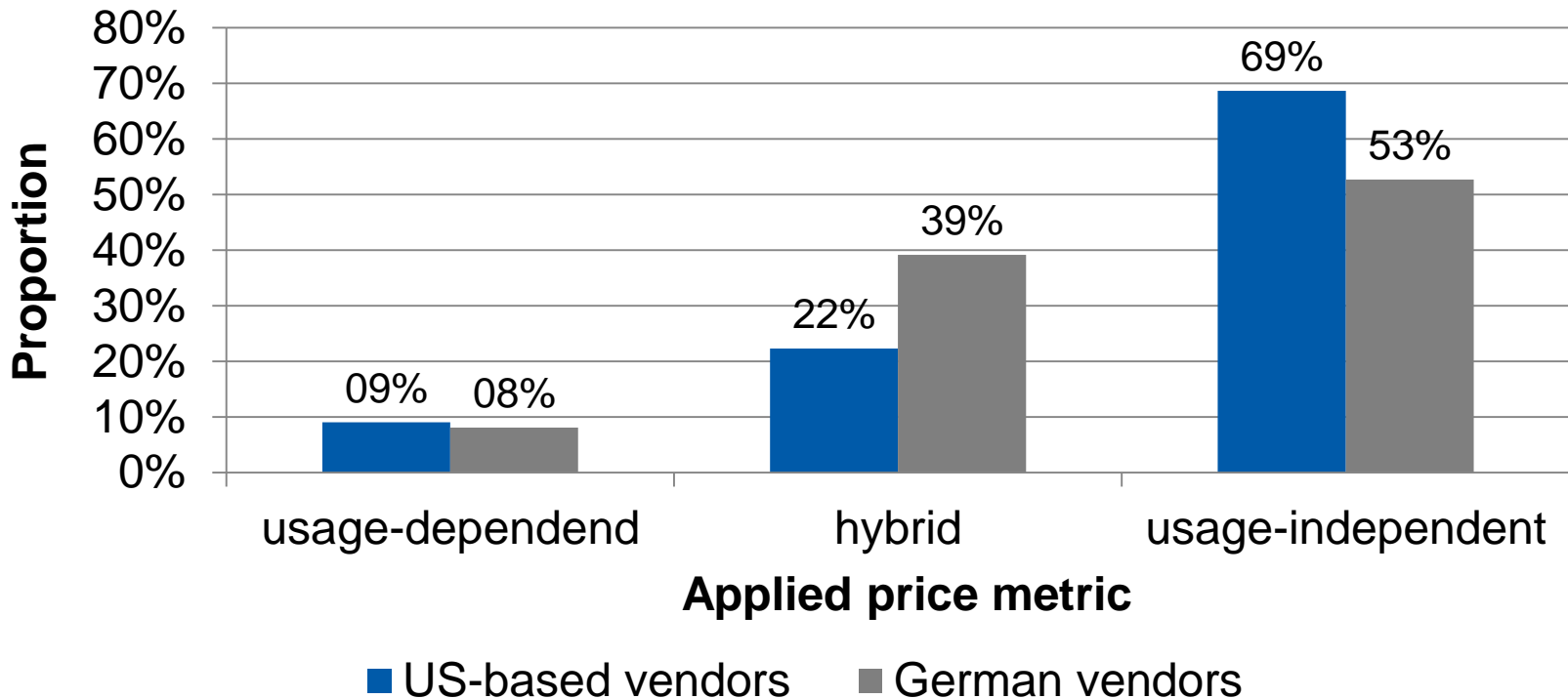
- \$0.12 per GB of outgoing traffic (from the first GB)

Query fees:

- \$0.01 per 1.000 queries (PUT, COPY, POST, LIST)
- \$0.01 per 10.000 queries (GET and all other queries)
- No fees for DELETE queries

Price Metrics for SaaS

Results of a content analysis with regard to the applied price metrics
(pricing details on websites of 67 German and 259 US SaaS providers)



➔ Usage-independent price metrics dominate in both markets

Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

- Network Effects play an important role on Software and IT Markets

Network effect := “The utility that a given user derives from the good depends upon the number of other users who are in the same network as he or she.” (Katz und Shapiro 1985)

Two-sided market := “1) two sets of agents interact through an intermediary or platform, and 2) the decisions of each set of agents affects the outcomes of the other set of agents, typically through an externality.” (Rysman 2009)

- Two-sided network effects are not a software-specific phenomenon

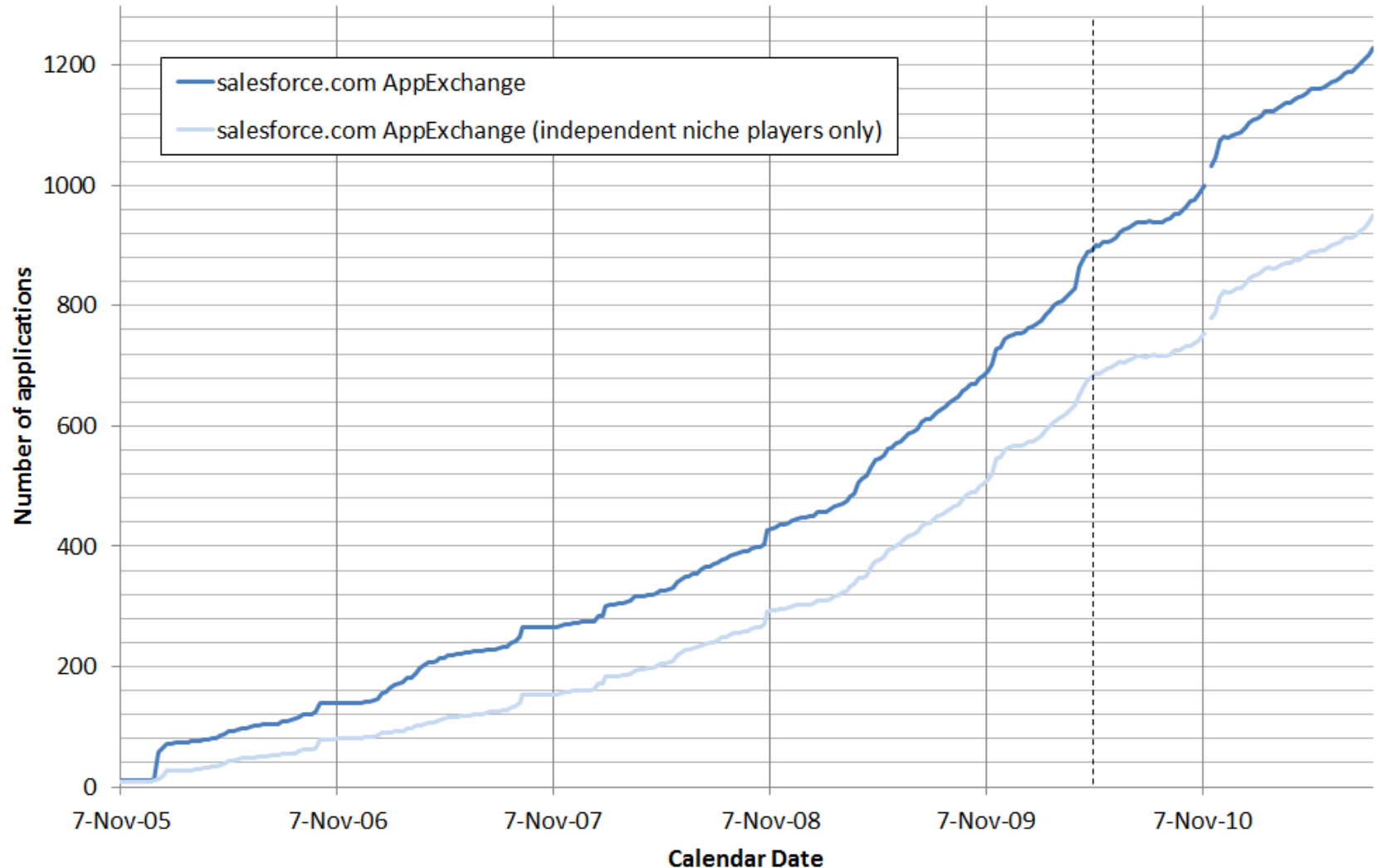


Chicken-and-Egg Problem in Two-Sided Markets

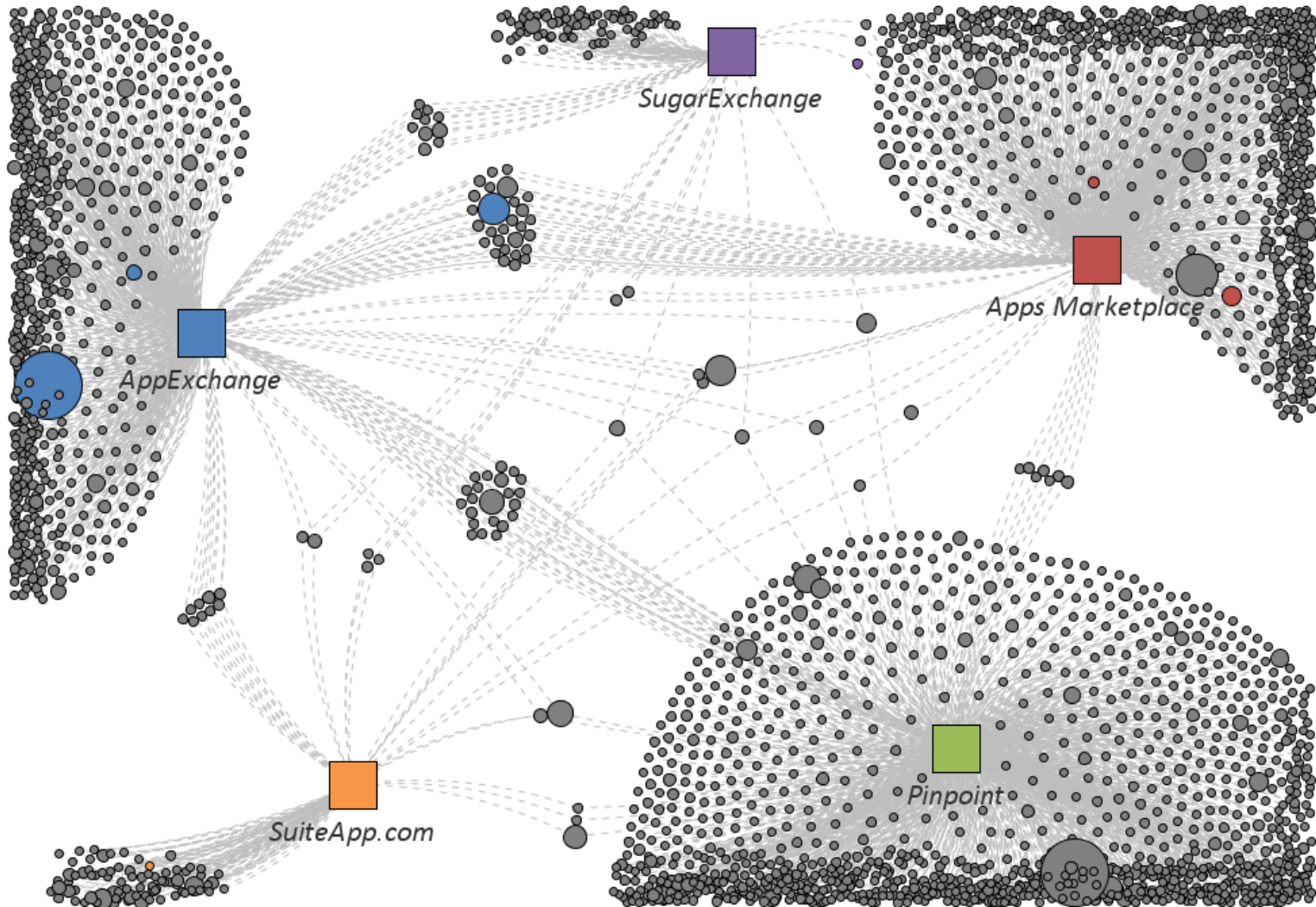
The Example of salesforce.com



TECHNISCHE
UNIVERSITÄT
DARMSTADT



Multi-Homing in Two-Sided Markets



Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Myth 3: “Cloud Computing is risky”

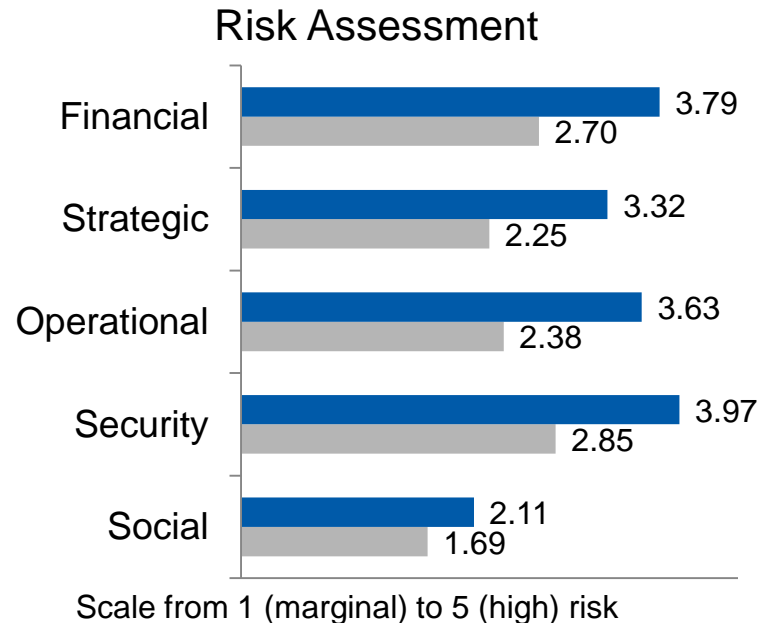
Perceived Risks of Cloud Computing

- Main goal: Determining perceived risks of Cloud Computing
- Approach: Two empirical surveys
 - 1st survey: Comprehensive risk analysis of Cloud Computing
 - 2nd survey: Detailed assessment of IT security risks



1st Survey: Comprehensive Risk Analysis of Cloud Computing

- Survey among 349 IT decision makers



- Main reason not to adopt → perceived IT security risks

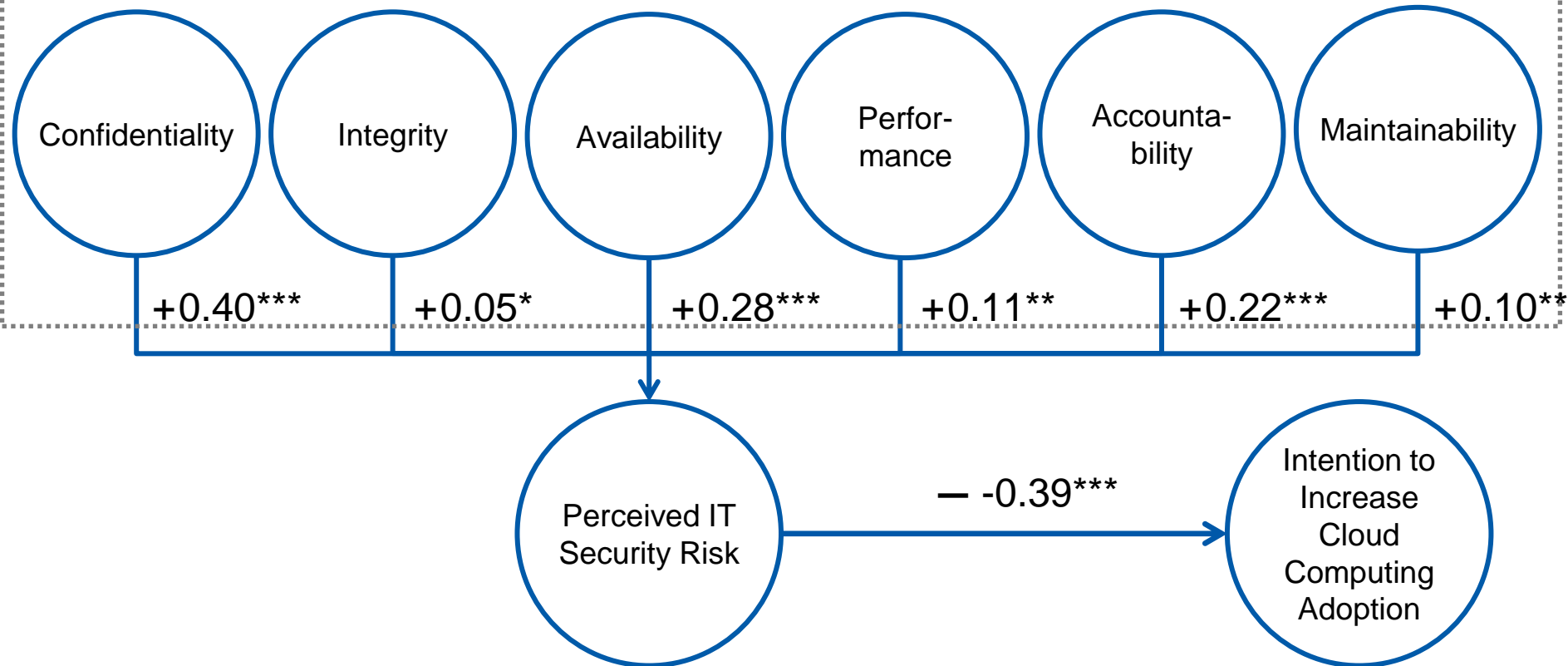
2nd Survey: Detailed Assessment of IT Security Risks

- First Step: On the basis of an extensive literature review and expert interviews, we derived the following dimensions of IT security risks:
 - Confidentiality
 - Integrity
 - Availability
 - Performance
 - Accountability
 - Maintainability
- Every Dimension consists of several IT Security Risks.
- Second Step: Empirical survey among 472 German IT decision makers
- Analysis still ongoing, only preliminary results



Research Model and Results

Dimensions of Perceived IT Security Risk



Cloud Computing Basics

Three Myths of Cloud Computing

Myth 1: “Cloud Services are paid on a flexible pay-per-use base”

Myth 2: “It’s great to be a platform leader” (Michael Cusumano)

Myth 3: “Cloud Computing is risky”

Conclusion

Conclusions and Further Research

▪ **First Myth: “Cloud Services are paid on a flexible pay-per-use base”**

- Empirical results: No, this is not true in particular for the field of Software as a Service
- Further research: Under which conditions and for which kinds of solutions are usage-dependent or usage-independent payment models reasonable?

PREMIUM|Services

▪ **Second Myth: “It’s great to be a platform leader”**

- Empirical and theoretical results: Yes, being a platform leader can be a competitive advantage due to network effects
- Further research: Can the success stories in the B2C sector be transferred to B2B vendors and which are these factors of success?



▪ **Third Myth: “Cloud Computing is risky”**

- Empirical results: We do not know yet, but we know that IT security concerns are one of the main reasons for not adopting Cloud Computing solutions
- Further research: Are the concerns of the users valid?



Thank You for Your Attention



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Wirtschaftsinformatik
Software Business & Information Management



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Prof. Dr. Peter Buxmann

buxmann@is.tu-darmstadt.de
Hochschulstraße 1, S1 | 02 - 242
64289 Darmstadt, Germany
www.is.tu-darmstadt.de

Phone +49 (0)6151 16-4826
Fax +49 (0)6151 16-5162