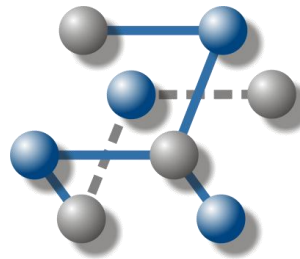


# INCREASING SERVICE PRODUCTIVITY BY CHARACTERISTICS DRIVEN RECOMMENDATIONS FOR ACTION

Michael Becker, Stephan Klingner, Martin Böttcher  
University of Leipzig



## Outline

1. Necessity for service productivity
2. Productivity challenges and our approach
3. Service characteristics
  1. Customer interface characteristics
  2. Process characteristics
  3. Service outcome characteristics
4. Ontology for service productivity
  1. Entities
  2. Relations
  3. Applications
5. Conclusion and future research

# 1. Necessity for productivity

- Changes in the service sector
  - Growing macroeconomic significance
  - Rising competitive environment
  - B2B services offered in addition to goods
- Small profit margins

Sources: Maglio et al. 2006, Johansson & Olhager 2004, Sundbo 1994

## 2. Productivity challenges and our approach

- Challenges in measuring productivity arises from service IHIP
  - Intangible: complicates quantifying influence factors
  - Heterogeneous: challenging for analysing different services as similar units
  - Inseparable
  - Perishable: impossibility to produce in advance
- Common understanding about service productivity is missing
- Interrelations between service productivity and quality
  - Increasing productivity may reduce perceived quality
- Different strategies for increasing productivity exist
  - Usually based on different service characteristics

Sources: Edvardsson et al. 2005, Klassen et al. 1998, Uhl & Upah 1979

### 3. Service characteristics

- Three different types of characteristics were identified
  - Customer interface characteristics
    - Interaction between customer and provider
  - Process characteristics
    - Services from a providers' viewpoint
  - Service outcome characteristics
    - Result of a service provision

## 3.1. Customer interface characteristics

- Common in marketing-oriented service classifications
- Describe interactions between providers and consumers
- Allow for analysing customer activities and decisions
  
- Examples
  - Customer contact intensity
  - Customer influence potentials
  - Customer-provider-relationship

Sources: Chase 1978, Verma 2000, Cunningham et al. 2004

## 3.2. Process characteristics

- Describe the service development and delivery process
- Mostly not transparent to customers (exception: collaborative processes)
- Great influence on local and temporal service constraints
- Examples
  - Complexity
  - Flexibility
  - Technology usage

Sources: Shostack 1987, Silvestro et al. 1992, Glückler 2007

### 3.3. Service outcome characteristics

- Describe the result of a service provision
- Examples
  - Tangibility
  - Variety, customisability
  - Service recipient

Sources: Bell 1986, Kellog & Nie 1995, Lovelock 1983

## 4. Ontology for service productivity

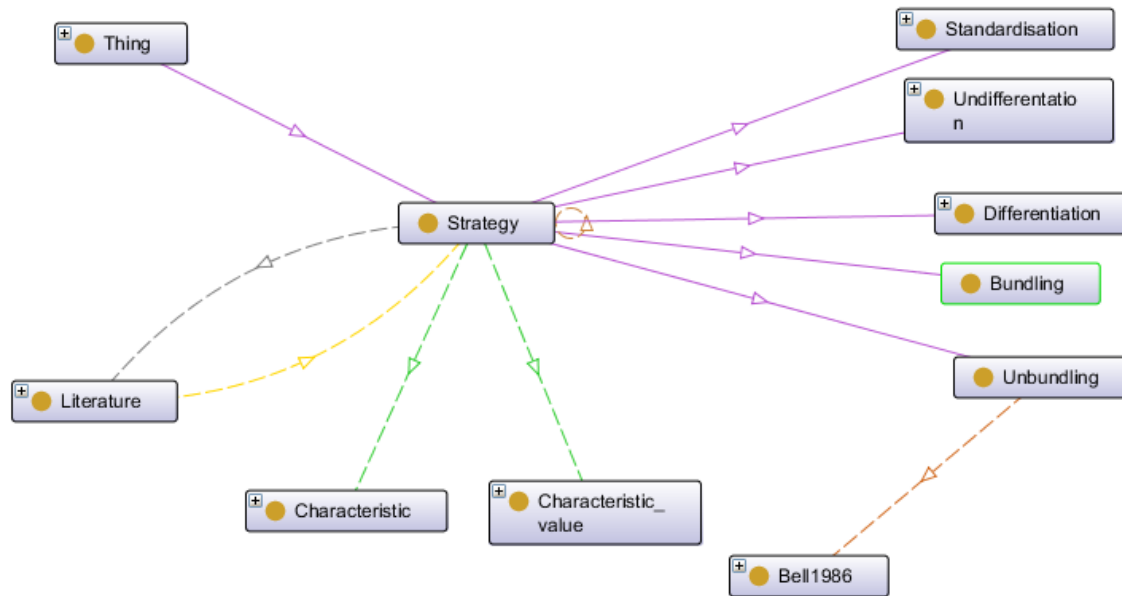
- Developed to support decision makers
- Based on service characteristics and their implications on productivity
- Developed using Protégé
- Available at <http://koproserv.uni-leipzig.de/publikationen>

## 4.1. Ontology: entities



- Characteristic: describe a specific service characteristic
  - Subclasses: customer interface, process, and outcome dimension
- Characteristic value: possible values for characteristics
- Strategy: strategic decisions mentioned in literature
  - Additional description how to implement a strategy and how characteristics are affected
- Literature: reference to academic literature for characteristics and strategies

## 4.2. Ontology: relations



- **HasSimilarStrategy**: relates similar strategies with each other
- **HasSource / isSourceOf**: link strategies and characteristics with their occurrence in literature
- **hasValue / isValueOf**: links characteristics and their values with each other
- **resultsIn**: links strategies with their implications to characteristics and their values

## 4.3. Ontology: applications

- Practical
  - Analyse business
    - Identify values of important service characteristic
    - Identify applicable strategies
    - Ontology gives information about implications of implementing a strategy
  - Select strategies according to a predefined plan
    - Transformation from product to service orientation
- Theoretical
  - Structure the field of service productivity
    - Foundation for analysing different impact factors

## 5. Conclusion and future research

- We have: ontology with strategies for increasing service productivity
  - Foundation: service characteristics influencing productivity
- Manual trade-off between productivity and quality necessary
  - Include results from empirical research in the ontology
- Identification of characteristics for complex services difficult
  - Modularisation to handle complexity (Böttcher & Klingner 2011)
- Establish bundled strategies for business goals
  - Transformation to service-oriented organisations

Thanks for your attention!

## Literature

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# Service characteristics – the big picture

Customer interface	#	Process	#	Outcome	#	Miscellaneous	#
Customer contact	32	Complexity	3	Variety	2	Goal incongruence	1
Customer interface	3	Workload	5	Materiality	14	performance ambiguity	1
Demand variety	1	Degree of routine work	4	Customisability	12	competitions stage	1
Relation customer, provider	5	Flexibility	8	Demand fluctuation	1		
Information asymmetry	4	Technology usage	5	Durability	3		
Participation willingness	2	Decoupling	3	Reversibility	1		
Customer type	2	Reaction time on fluctuating demands	1	Recipient: people, things, information	11		
Intended importance	2	Ability to digitise	1	Recipient: time, location	1		
Time and work investment	1	Expenditure of time	1	Recipient: physical, mental	1		
Concurrent demands	2	Provision frequency	1	Service distinctness	1		
		Capital intensity	1				
		Knowledge intensity	1				
		Continuous vs. discrete provision	1				