



Universiteit Utrecht

[Faculty of Science
Information and Computing Sciences]

Benchmarking Bundling Practices in the Software Industry

Joey van Angeren – Utrecht University
Rick van Bommel – Utrecht University
Catherine Arupia – Utrecht University
Sjaak Brinkkemper – Utrecht University

Joey van Angeren, Rick van Bommel, Catherine Arupia & Sjaak Brinkkemper. Benchmarking Bundling Practices in the Software Industry. In Proceedings of the Sixth International Workshop on Software Product Management

Outline

- Introduction
- Research questions and hypotheses
- Research design
- Results
- Analysis of hypotheses
- Discussion
- Conclusion and future research



Bundling is ...

"The practice of marketing two or more products and/or services in one package at a special price."

(Gultinan, 1987)

"The selling of two or more products and/or services at a single price."

(Yadav & Monroe, 1993)

"The sale of two or more separate products in one package."

(Stremersch & Tellis, 2002)



Current state of research

- Other research domains
 - **Economics** – Determination of optimal product and service mix for a package
 - **Marketing** – Bundling as a tool to attract customers (e.g. through discount packaging)

- Software business
 - **Software bundling** – Bundling of multiple software components in a package
 - **Diversification** – Packages consisting of software, service and/or hardware components



Reasons for performing empirical research on bundling

- To enlarge the body of empirical research on bundling
- To conduct a small sample survey that provides a framework and directions for future research
- To enable software vendors, system integrators and service providers to benchmark their bundling practices with others in the industry



Research questions

“What is the influence of bundling on pricing mechanisms for components of a product package?”

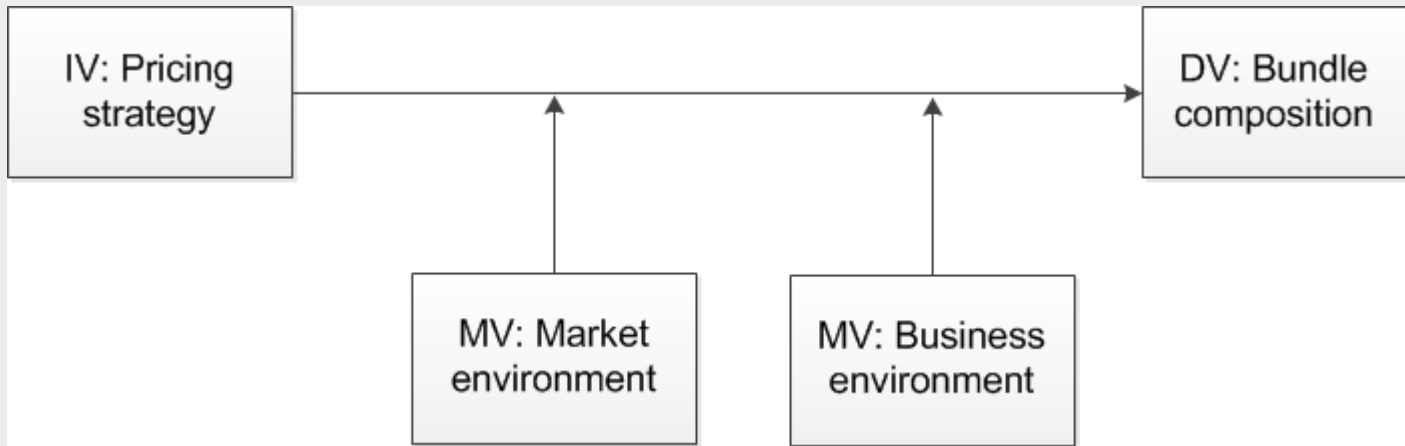
Sub questions:

1. How does the composition of a package relate to the revenue per component?
2. What is the relation between the composition of a package and over- or underpricing individual components?



Hypotheses

- H1:** The component being the core competence of the organization is the component that represents the highest annual revenue share. **(percentagewise comparison)**
- H2:** Software components as part of a package are purposely underpriced to stimulate sales of the total package. **(analysis of qualitative data)**



Survey design

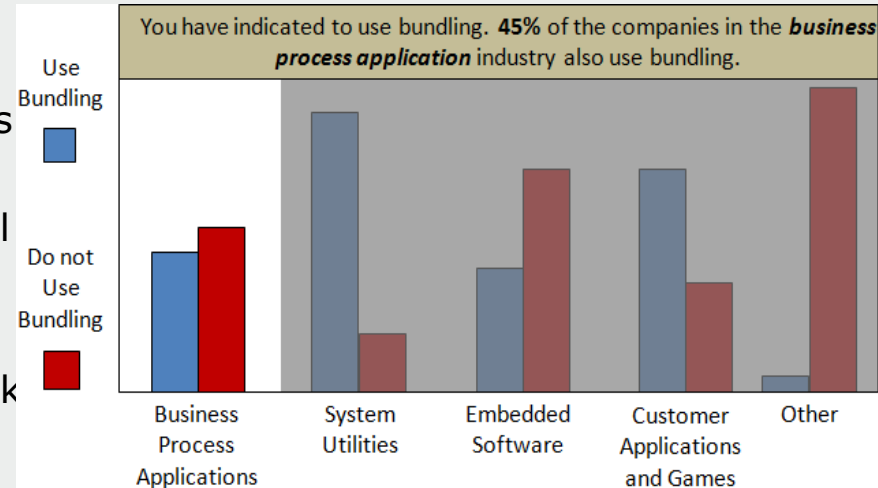
- Web survey
- Based on findings from previous research, questions adhere to survey heuristics as defined by Fowler, 1995
- Evaluated by two pilot cases
- **Company and market information** – Multiple choice, closed questions
- **Package composition** – Multiple choice, open questions
- **Rationales behind flexible pricing** – Open questions



Data collection and analysis

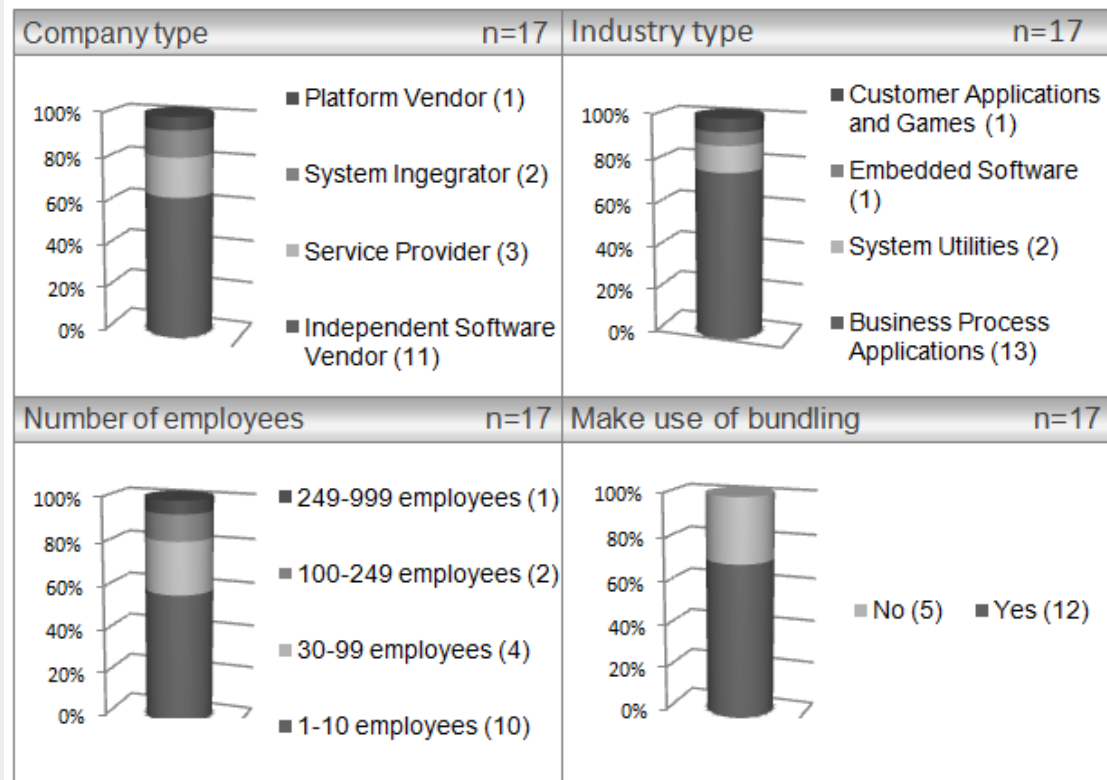
■ Data Collection:

- **Direct** – Around 20 companies were contacted by email
 - **Indirect** – Through professional network portals
 - Between the third week of December and the second week of January
 - In return for participation, participants received a benchmark report that compares their practices with their competitors
- ## ■ Data analysis:
- **Quantitative** – Percentagewise comparison
 - **Qualitative** – Pattern analysis of rationales behind under- and overpricing certain components within a package

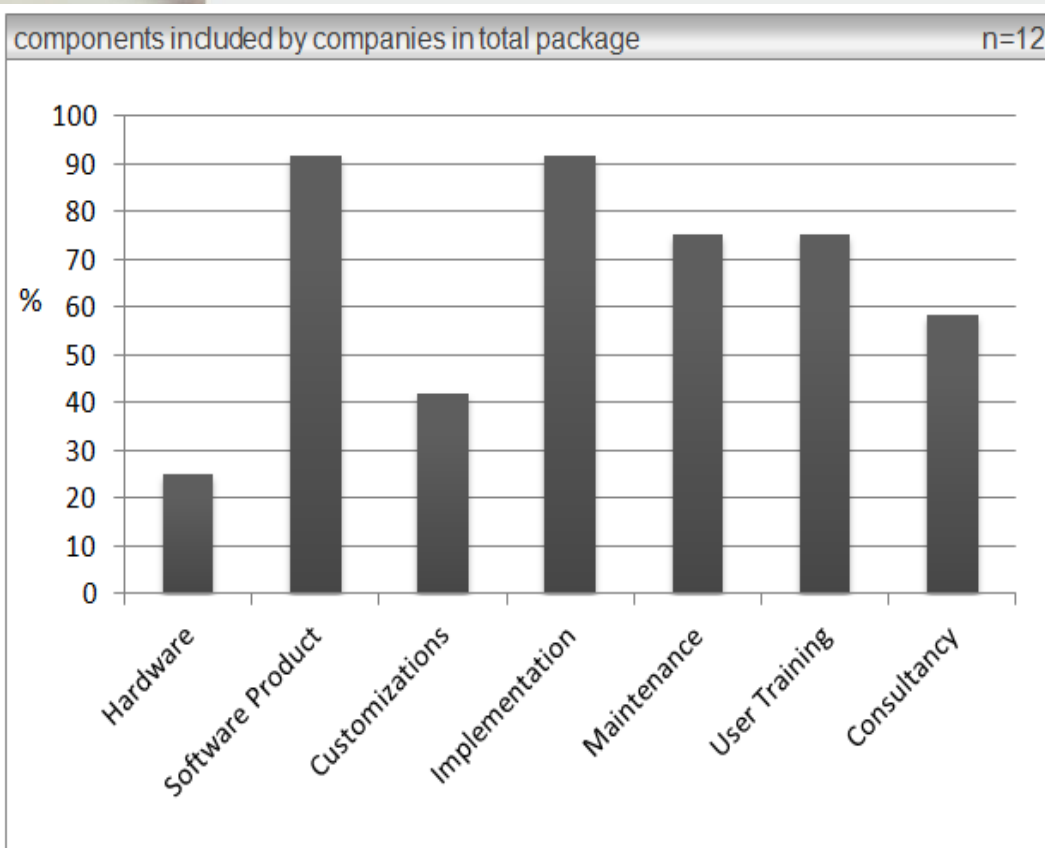


Respondents

- Out of 23 respondents 17 were included into the final dataset
- 71% indicates to employ bundling
- Only small companies indicate to not employ bundling
- The majority of respondents indicates to find bundling a useful pricing and sales mechanism



Package composition



- Software and implementation services are most prominent within packages
- The average indicated package size is 5 components
- High degree of package diversification
- Package composition provides for customized bundling (Hitt & Chen, 2005)



Pricing mechanisms

- Five out of twelve companies either over- or underprice within a package
 - Software products **often** subject to flexible pricing
- Respondents indicating to not employ flexible pricing indicate to have a relative high market share
- Underpricing rationale:
 - Increased market penetration
 - Tie-sales and recurring fees
- Overpricing rationale:
 - More revenue from core competence



H1: The component being the core competence of the organization is the component that represents the highest annual revenue share

- Test performed for the seven respondents belonging to the category “software vendors”.
- Percentagewise comparison based on weighted average annual package revenue contribution percentage
- Package is constructed around the core competence; software, accompanied by maintenance and implementation

Component	# times included in package	Avg contribution to revenue
Hardware	2	22,5%
Software product	7	41,50%
Customizations	2	2,5%
Implementation	7	19%
Maintenance	7	22%
Training	7	6%
Consultancy	4	9%



H2: Software components as part of a package are purposely underpriced to stimulate sales of the total package

- Tested by combining under- and overpricing strategies and the rationale behind these decisions
- 17% of respondents indicate to underprice its software
- Rationale behind underpricing are in correspondence with hypothesis
 - Benefit from recurring fees
 - Increase market share through increased sales



Discussion

- Limited generalizability due to small sample size
- Limited spreading of respondents over different categories
- No detailed data on response rate



Conclusions and future research

- Bundling is a prominent mechanism within the software industry
- Most packages consist of a large number of components to facilitate in package diversification and to stimulate customized bundling
- Flexible pricing is employed to:
 - Increase market penetration
 - Benefit from recurring fees
 - Maximize value from core competence
- Software vendors construct their bundles around their software, maintenance and implementation are ever present within the package
- The research presented, although coarse-grained, serves as a starting point for conducting similar studies
- Larger samples are needed to perform in-depth quantitative analyses

