

EU-Taiwan Seminar on Best Practices in Public Procurement

How to develop a fair and reasonable technical specification;
how to use inside knowledge and invite outside expertise

Mike Weber | 2nd December 2010 | Lin Zi Hall, NTU, Taipei

Technical specification and knowledge

Agenda

- Theoretical considerations
 - Capabilities of public procurement
 - Importance of a fair and reasonable technical specification
 - Relevant aspects
- Empirical findings from Germany
 - Research project and data basis
 - Effects of and shortcomings in public procurement
 - Assessment of aspects to foster good practice
 - Empirical findings on important aspects
- The role of standards
- Three best practices from Germany

Basic ideas

Capacities of public procurement (I)

- High importance
 - Huge amount of money (estimated 2.160 billion Euro in EU27 in 2008; responding to 17,3 % of GDP)
 - A large proportion of public spending
- Economic effects
 - Approximately 10 % of the purchasing volume can be seen as relevant to procurement of innovations
 - Leveraging innovation through public procurement: The state as a “demanding” customer and “lead user”
 - Impact of public procurement on innovation activities of SMEs
 - Strengthen competition and competitiveness

Basic ideas

Capacities of public procurement (II)

- Effects on public services
 - Meet new and challenging demands
 - Improve efficiency and effectiveness of public services
 - Contribution to overcome great challenges (e.g. climate change)
- High potential for impact on
 - Economic development,
 - Public services, and
 - Contribution to societal needs

Fair and reasonable technical specification

Functions and requirement

- Functions: Guarantee...
 - equal access to public contracts; avoid unjustified obstacles
 - equal understanding of the requested goods and services
 - a stable calculation basis for bidders
 - state-of-the-art of the procured solution
- Comprehensive and exhaustive description
 - Detailed technical specification of products and services or detailed description of the functions
 - Use of “common language” of the relevant industry sector
 - Avoid national technical rules and proprietary solutions
- Need for comprehensive knowledge about...
 - technical details
 - ways to use internal knowledge and gather external

Fair and reasonable technical specification

Relevant aspects of knowledge transfer and production

- Organisation
 - Internal cooperation; especially between
 - procurement department (legal and economic knowledge) and
 - requesting department (technical knowledge)
 - Professionalization
 - Use of instruments of business administration
 - Centralisation of procurement departments
- Market observation
 - Education and training of employees
 - Conferences and technical publications
- External cooperation
 - Joint procurement with other public entities
 - Cooperation with potential suppliers
 - External consultants to specify the product (e.g. architectural work)

Research project and data basis

“Einkäufer Staat” and the survey of German procurement agencies

Research project “Einkäufer Staat” (“procuring state”) with a general perspective on innovative procurement and the procurement of innovations

- Co-operation partners:

- Berlin Institute of Technology (university)
- Wegweiser GmbH Research & Strategy (market research)
- Orrick (law firm)

- Funded by the Federal Ministry of Education and Research, Germany

Data basis – own survey of German procurement agencies

- Conducted in April 2009

- Sample: 2,306 agencies

- Responses: 265 agencies (response rate: 11.5 %)

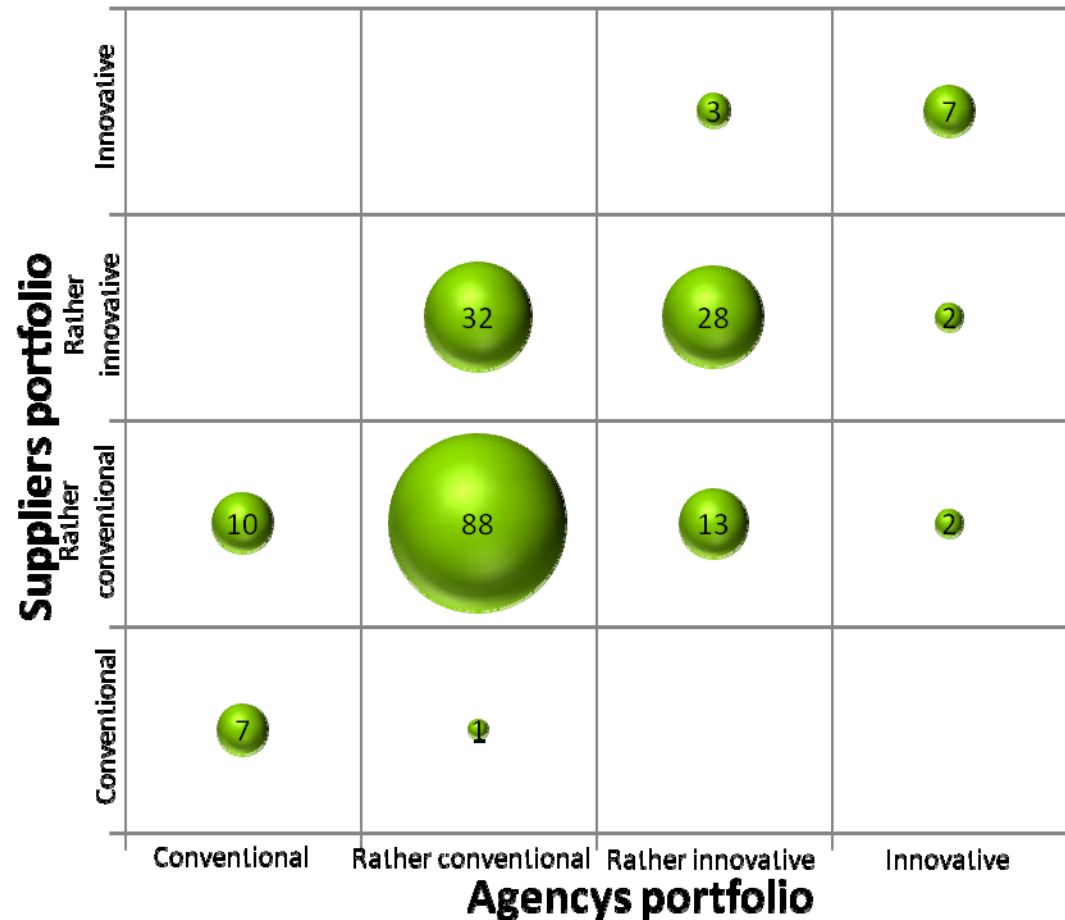
- Questions concerning strategy, organisation, award procedure, and procured products and services

- Additional survey of companies (sample: 1,000; responses: 86, rate: 8,6 %)

Relation between buyer and supplier

Assessing the degree of innovation

- Portfolio:
 - How do you assess your own portfolio?
 - How do you assess your suppliers portfolio?
- Nearly perfect correlation between own portfolio and suppliers portfolio
- Innovative demand leads to innovative supply from innovative suppliers!
- But: Most of the agencies have a “rather conventional” portfolio

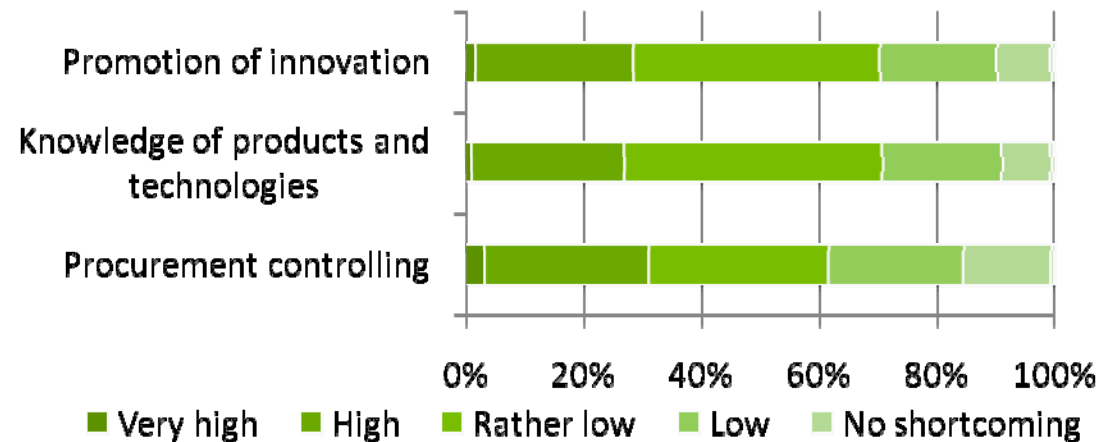


Source: own survey, 193 valid cases

Shortcomings in the procurement practice

In which fields do you identify an important shortcoming in your own agency?

- Public Agencies:
Two of the three most important shortcomings are close related to innovation aspects and knowledge



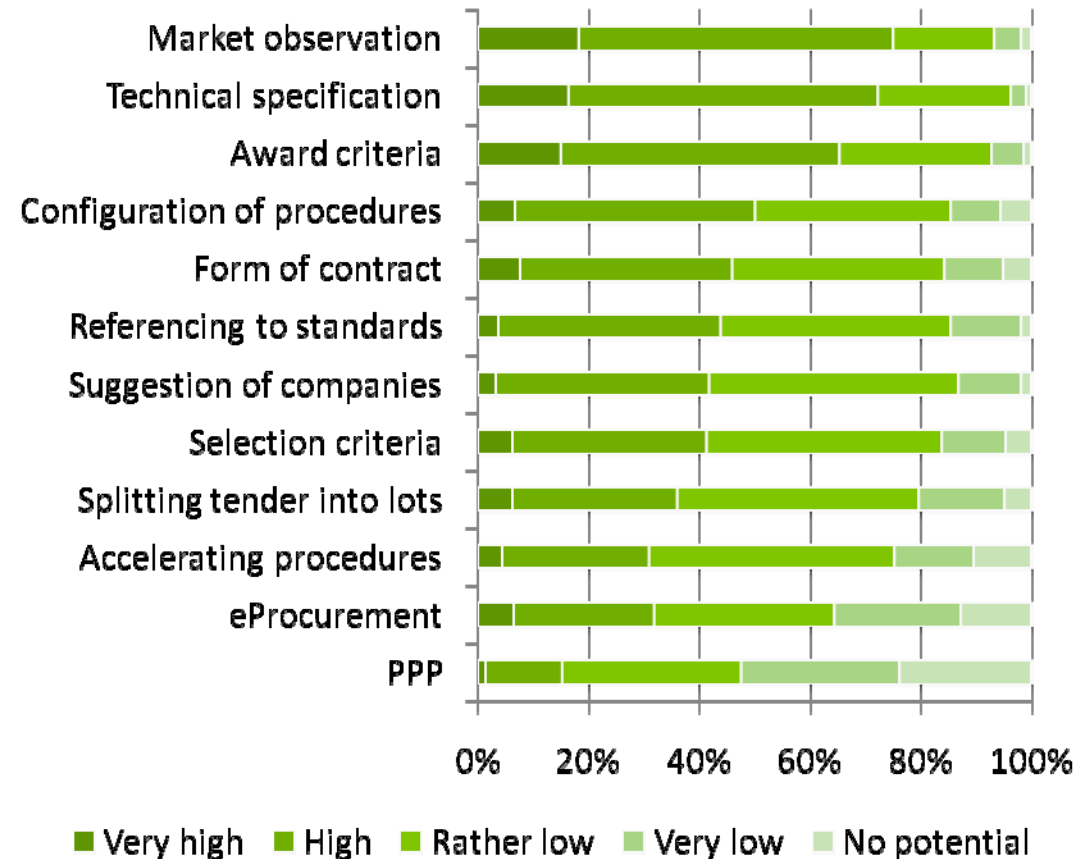
Source: own survey, 240 - 251 valid cases

- The most important shortcoming from the view of bidders:
 - Knowledge of products and technologies
- Conclusion:
 - Knowledge is essential to procure proper solutions
 - Lack of technical knowledge in German procurement agencies

Fostering good practice in public procurement

How do you assess the innovation potential of the following aspects?

- Knowledge:
Knowledge building about new technical solution (**market observation**) to develop detailed **technical specifications**
- Procurement procedure:
Award criteria



Source: own survey, 210 - 230 valid cases

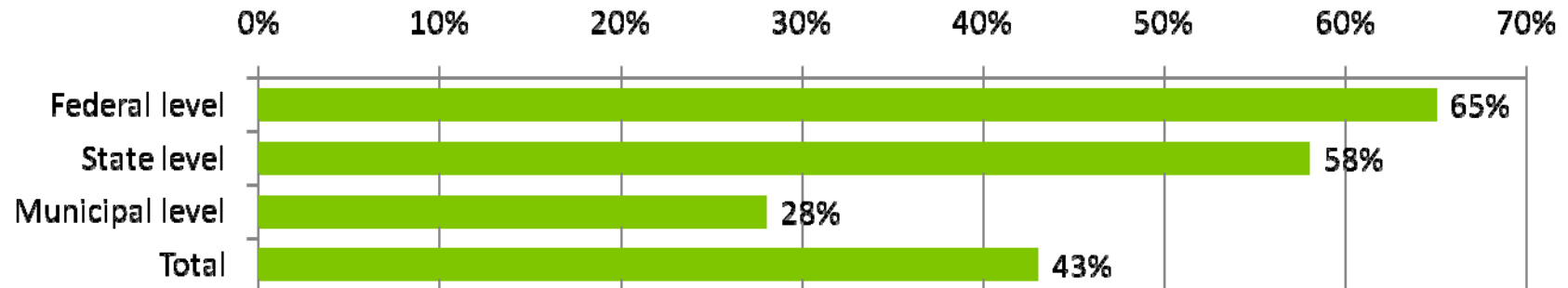
Knowledge production and transfer in German procurement agencies

Overview

- Organisation
 - Education and training
 - Structure
- Internal and external cooperation
 - Players involved in the preparation of tender documents
 - Coordination between departments with requirements and procurement departments
 - Forms of cooperation
- Ways to explore the market
- Elements of technical specifications
- The role of standards

Empirical findings

Training of procurement staff for purchasing products and services

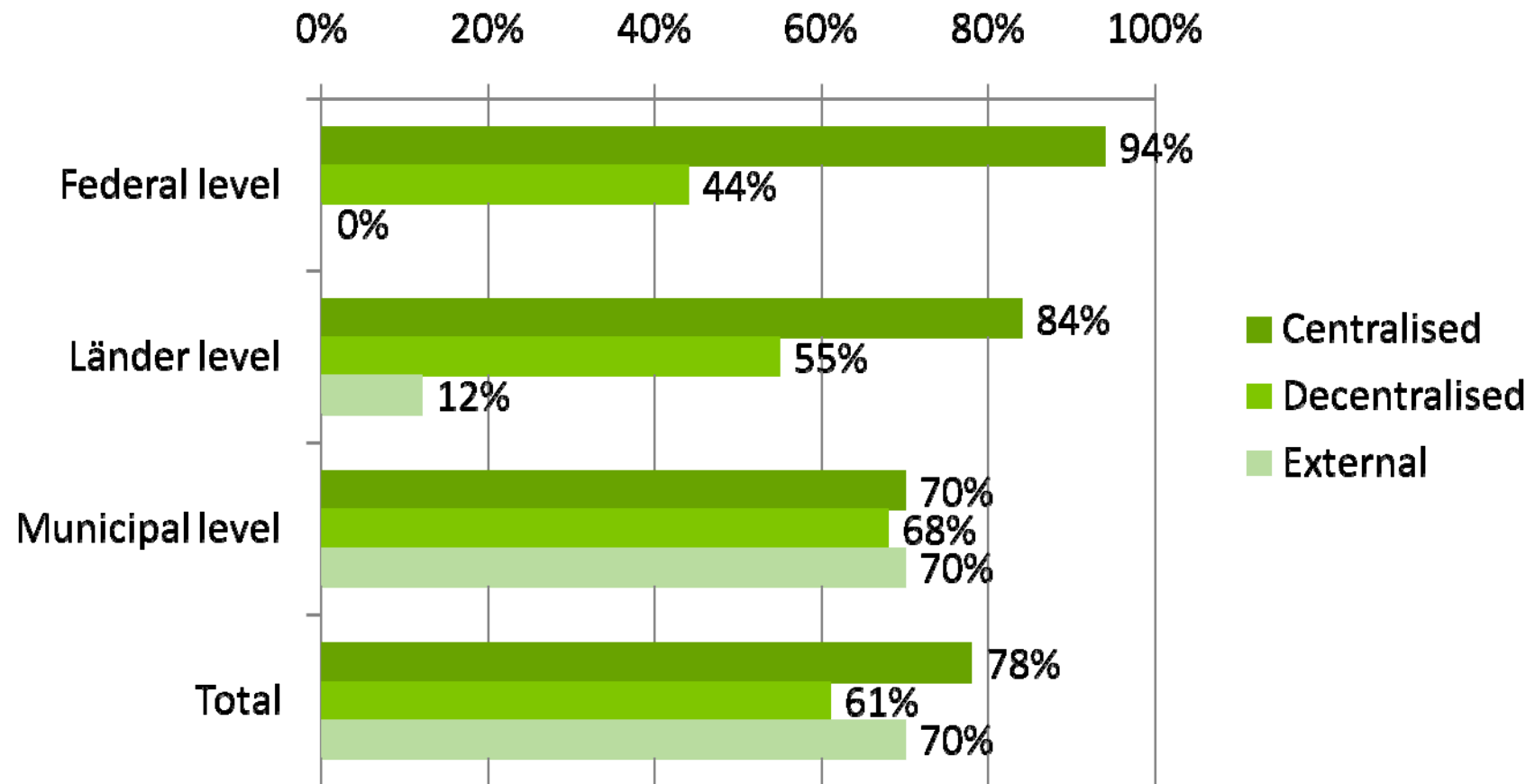


Source: own survey, 246 valid cases

- Education and training for procurement staff is essential for good practices
- Need for training in
 - legal aspects
 - instruments of business administration
 - basic technical aspects

Empirical findings

Structure of public procurement in Germany

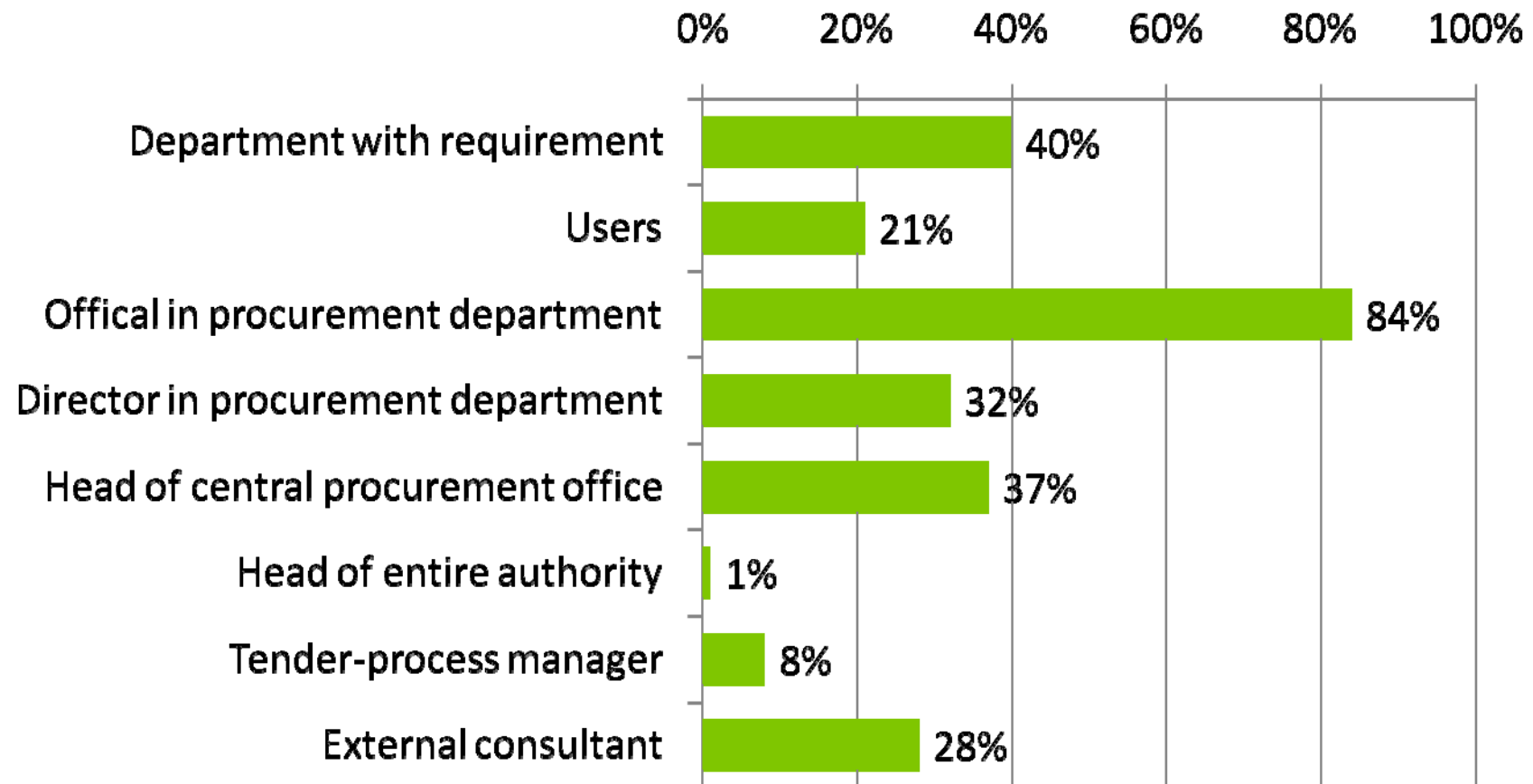


Multiple mention permitted

Source: own survey, 259 valid cases

Empirical findings

Players involved in the preparation of tender documents

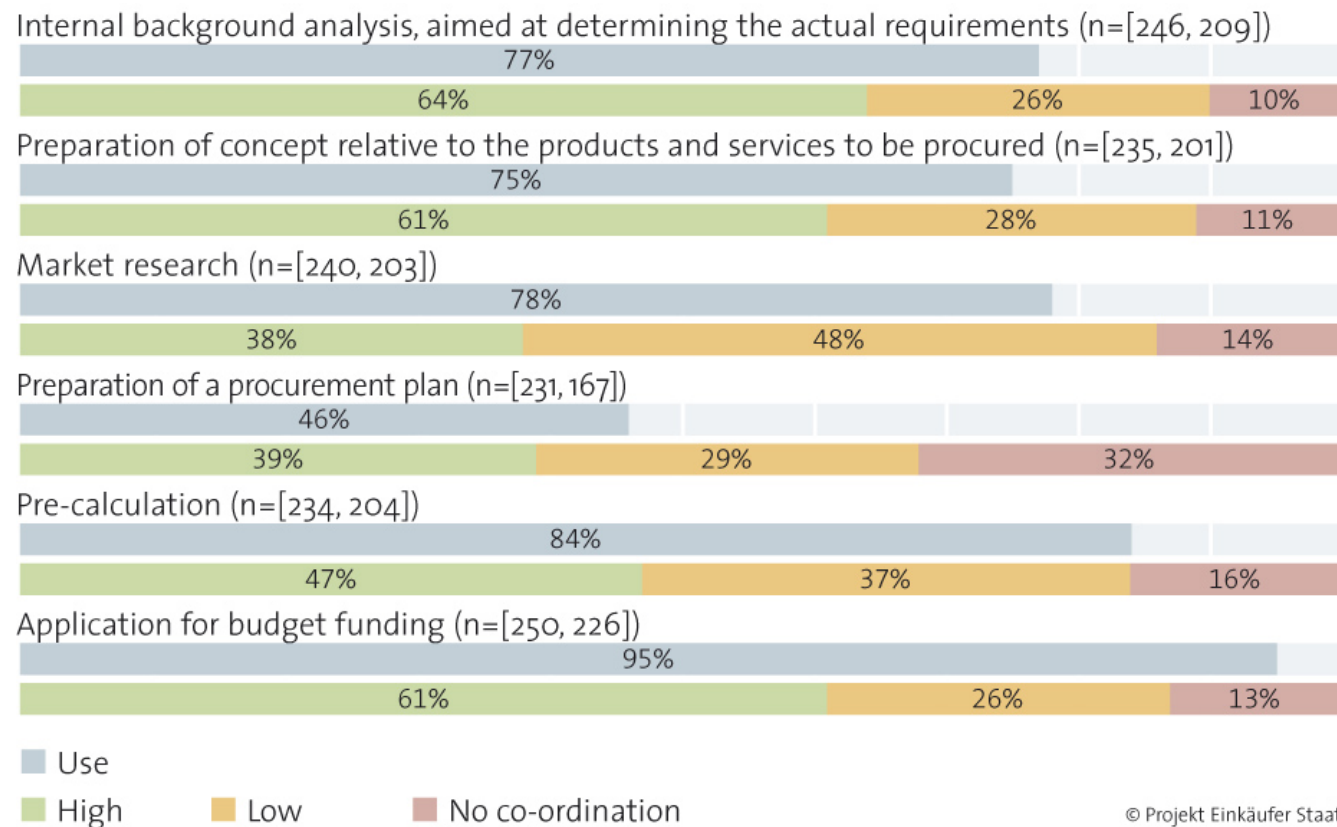


Multiple mention permitted

Source: own survey, 261 valid cases

Empirical findings

Use of procedures during the run-up to preparation of enquiry documents and levels of coordination between entities with requirements and procurement staff



Empirical findings

Forms of co-operation practiced in the procurement process

Areas/departments/entities with requirements (n=243)



Users (n=240)



Other procurement offices

Consolidation of requirements via joint procurement (n=234)



Exchanges of experience (n=238)



Companies

Joint purchasing of products and services (n=217)



Public-private partnerships (n=220)



Development and production (n=217)



Law offices (n=229)



Standardisation bodies (n=229)



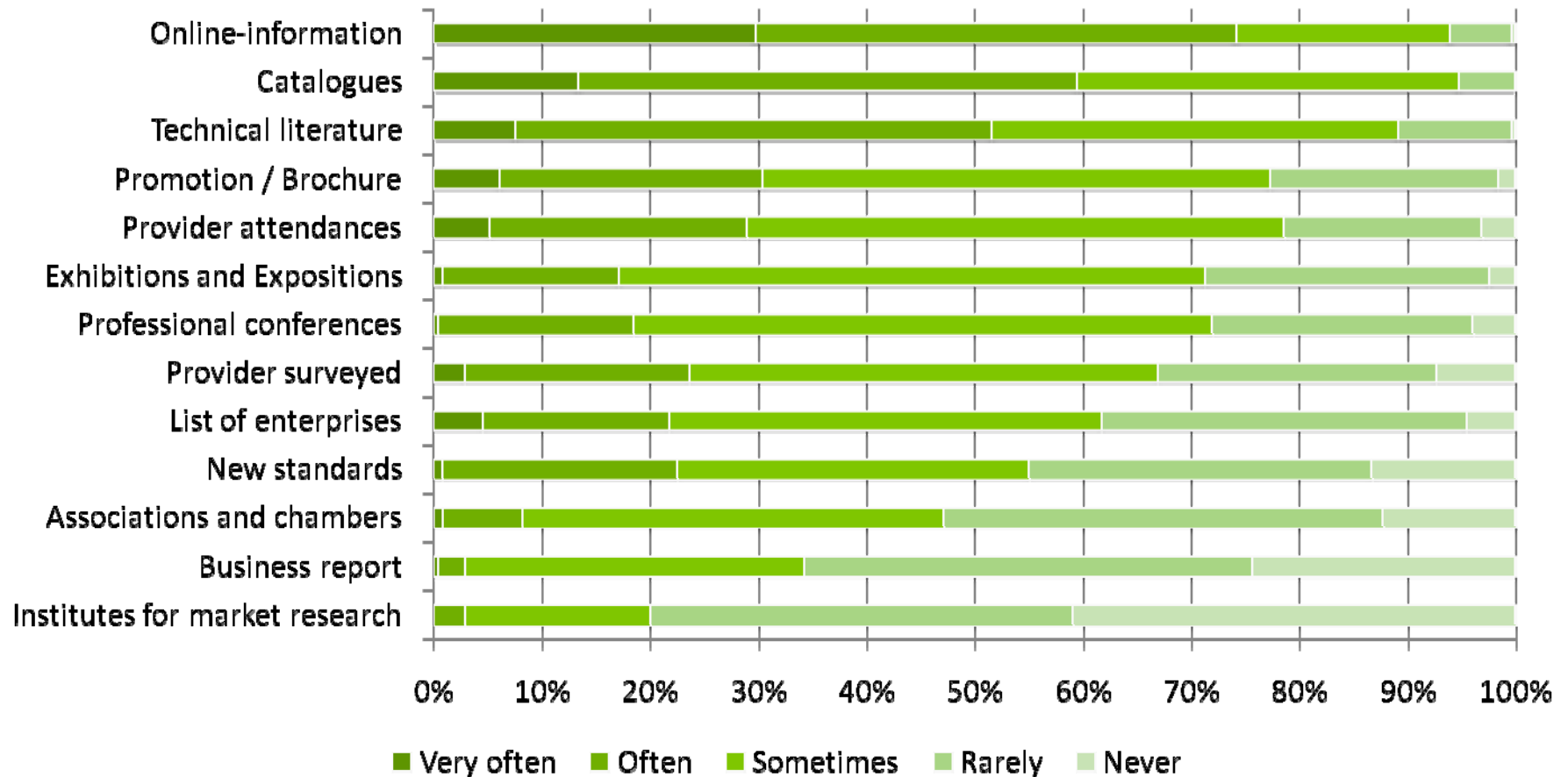
Business consultants (n=227)



© Projekt Einkäufer Staat

Empirical findings

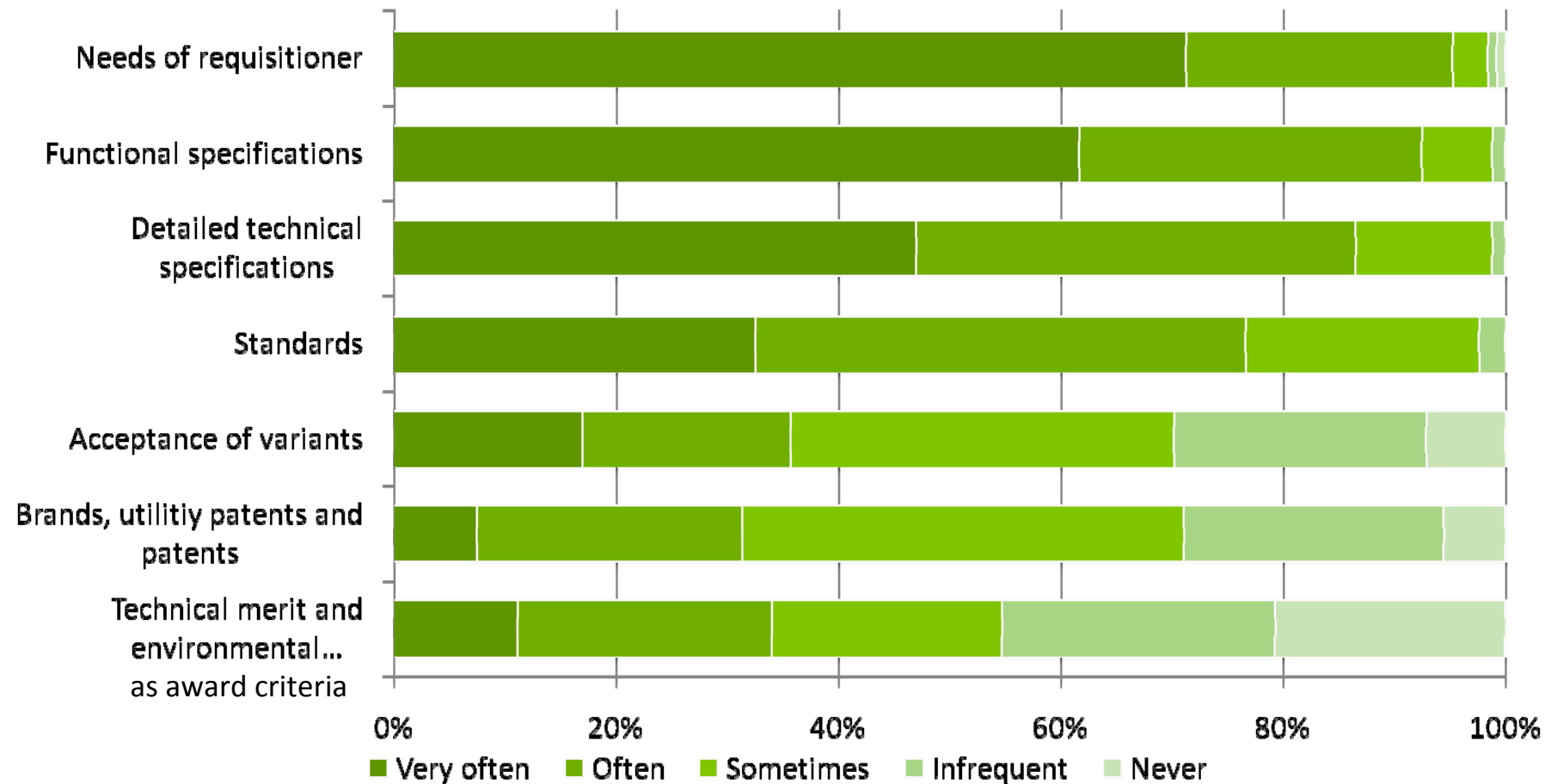
How often do you make use of the following sources to obtain information about new products and services?



Source: own survey, 240 - 252 valid cases

Empirical findings

How often are the following elements part of technical specifications?

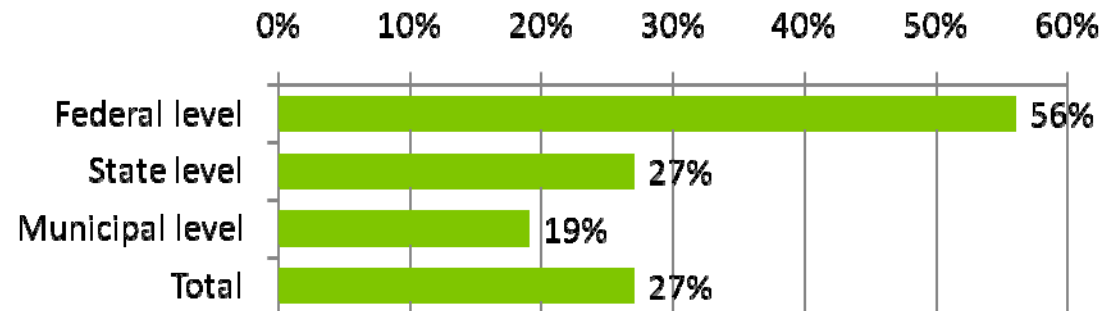


Source: own survey, 232 - 253 valid cases

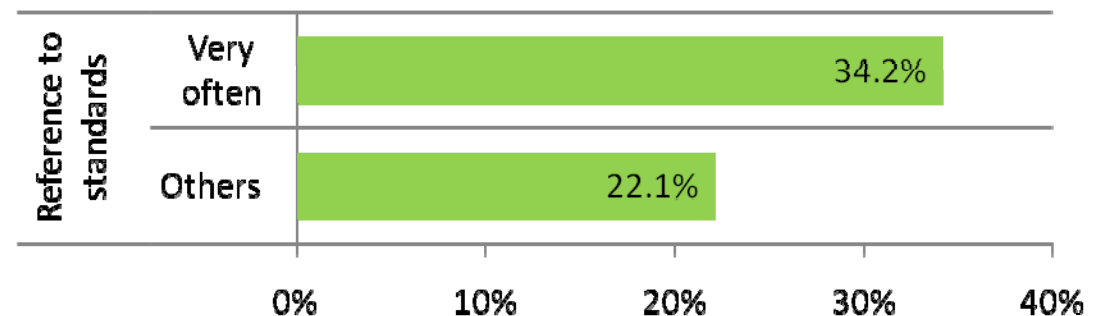
Empirical findings

Reference to standards depending on procurement of new-to-the-market-products

- Have you ever procured a product, which was new to the market?



- Reference to standards is an instrument to procure new goods and services



Source: own survey, 232; 228 valid cases

The role of standards

Main functions of references to standards

- Advantages of standards
 - Standards are (more or less) state of the art
 - Standards are detailed technical specifications
 - Standards reflect the interests of the supply side
 - Standards are well known in the relevant industry sector
- Thus, references to standards help to
 - avoid outdated technical solutions
 - guarantee a common understanding of the objective
 - mention security aspects
 - avoid incomplete technical specifications
- Referencing standards is a way to use external knowledge to develop a fair and reasonable technical specification

The role of standards

How to make references to standards

- Standards to describe the requested product
 - Depending on the product
 - Broad range different standards offered by national and international standardisation bodies
 - Many public standards repositories in Germany
- Standards to describe the capacities of bidders
 - ISO 9000 series: Quality management system
 - ISO 14000 series: Environmental management system
 - ISO 26000: Guidance on socially responsible behavior and possible actions
- Alternative approach to make use of external knowledge:
 - Exchange of technical specifications from successful procurement projects carried out by other agencies
 - Online platform in Germany (www.ondux.de)

Best practices (1)

Energy efficiency

- Municipality of Neuenhagen (small town close to Berlin):
Construction of a sports hall for a primary school in passive house standard
- Challenges:
 - Challenging aim to build a low-energy hall
 - Need for sophisticated construction planning
 - Lack of planning capacities in the small administration
- Solution:
 - Procuring of the planning services from a specialised agency
 - Second procurement procedure to realise the planning and construct the hall by conventional building companies
- Advantages:
 - Requirements to get financial support from the government are fulfilled
 - Reduction of CO₂ emissions
 - Savings on energy; cost savings in the long run
- Conclusion: Buy knowledge you need!

Best practices (2)

Green energy

- Municipality of Waldshut-Tiengen (small town in south-west Germany)
Aluminium roof covering with photovoltaic laminate
- Challenges:
 - Need to renew the roof of the town hall
 - Political will to use solar electricity
 - Static of the town hall did not allow the use of conventional photovoltaic cells
- Solution:
 - Close cooperation between municipality (renewing the roof) and local utility (production of solar electricity)
 - Integration of thin solar cells into a aluminium roof covering
 - New-to-the-world innovation at the time of installation
- Advantages:
 - New rainproof roof covering
 - Profitable production of solar electricity
- Conclusion: Use knowledge of cooperation partners and share risk!

Best practices (3)

New materials

- Municipality of Landshut (town in Bavaria)
Renovation of a rail overpass
- Challenges:
 - Need to renovate a rail overpass
 - High burden through braking trucks
- Solution:
 - Knowledge about new materials due to technical literature and conferences
 - Description of the works contract by common technical specification, especially standards
 - Integration of newly developed carbon-glass lattice for reinforcement of asphalt
- Advantages:
 - High load capacity due to integrated carbon-glass lattice
 - Low risk because of the reference to standards
- Conclusion: Use existing “nuggets of knowledge” like standards to secure innovative elements within innovative projects.

How to develop a fair and reasonable technical specification

Conclusions and recommendations

- A fair and reasonable technical specification is a major instrument to improve procurement practice
- Developing a fair and reasonable technical specification is all about knowledge
- Expanding knowledge about legal, technical, and administrative aspects due to:
 - Education and Training
 - Market observation
- Make use of internal and external knowledge:
 - Cooperation between departments; especially between procurement department and department with requirements
 - Buy / procurement of external expertise
 - Cooperation with companies and public authorities
 - Reference to standards

**Thank you very much
for your attention!**

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