

Benefits of standardization and areas to be improved

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EUROSHNET

Safer products for competitive workplaces

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Topics

- Background
- Economic Functions of Standards
- Standards in the Innovation Process
- Strategic Potential of Standardization
- Challenges



Background

- Focus on public funding of research and development as instrument of innovation policy
 - Commercial implications from research only possible through successful transfer to innovative products and processes
 - Neglectance of standardization as a powerful technology transfer tool
 - Standards as important elements in the framework and foundation for future research, development and innovation
 - Recent promotion of demand driven innovation policy, but little focus on standardization as a tool for coordinating demand
 - Large potential of standards and standardization to promote innovation and therefore competitiveness, but still inefficient exploitation of the opportunities,
 - **But:** Recent Lead Market Initiative of the EC and the Hightech Strategy in Germany focus on Standardization as crucial innovation policy instrument
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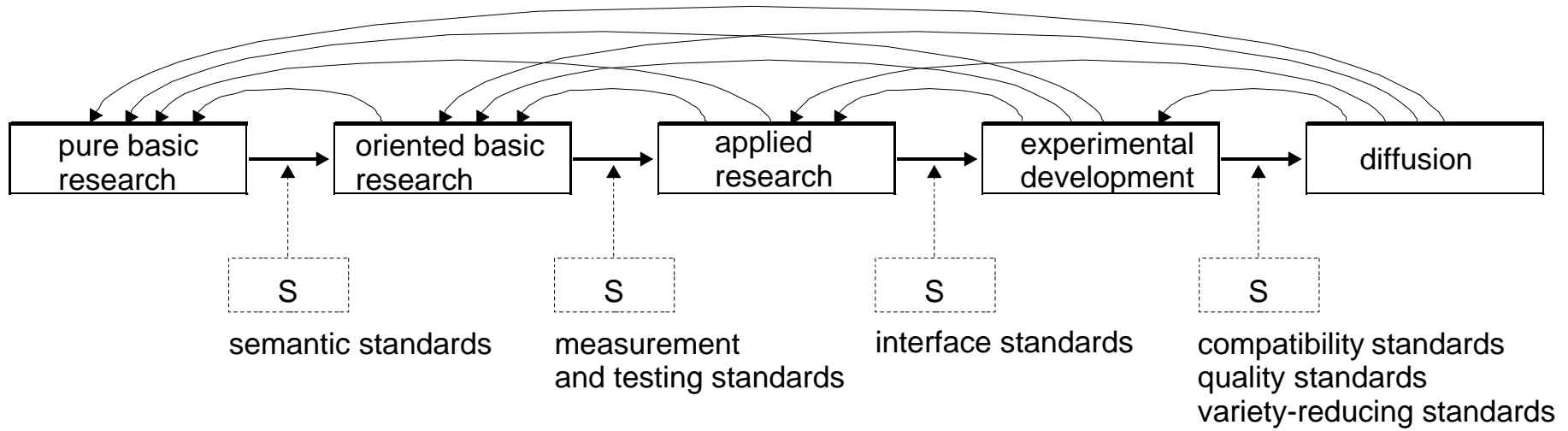
Economic Functions of Standards

Type of Standard	Economic Impact
Quality, Safety, Environment	Reducing information asymmetries, transaction costs and negative externalities
Compatibility and Interface	No adapter costs; Increase in combination possibilities
Variety Reduction	Reduction of variances; returns to scale and cost reduction in production
Terminology and Classification	Reduction of transaction and communication costs

Source: based on Swann (2000) and Blind (2004)



Standards in the Innovation Process



Function of Standards

Reduction of information cost
Reduction of transaction cost

Interoperability between components

Savings in adaption cost

Increased quality
Reduced health, safety, privacy risks
Building critical mass
Economies of scale
Creation of network externalities
Interoperability between products

Source: Blind, Gauch 2008 published in Journal of Technology Transfer



Strategic Potential of Standardization

- Knowledge and technology transfer
- Creating networks of relevant actors
- Increasing competition intensity
- Increasing exportability
- Strengthening innovative demand
- Creating a flexible and innovation friendly framework



Knowledge and Technology Transfer via Standardization

- Standards are a channel for knowledge and technology that were made in consensus
 - Accessible to actors in industry, science and research, government and society
 - Increase of expertise and knowledge of companies through effective knowledge transfer from fundamental and applied research to development of innovative technologies and services
 - Selection and prioritization of specific technologies to concentrate resources
 - Maximal economic efficiency of government funded R&D if result is a public good
 - De facto maximal economic utility because standards are accessible to everyone for minimal costs. In addition, a favorable specification is selected, which makes a realization in practice highly probable
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Using Standardization to Link relevant Actors

- Improved connections among actors in research, industry, users and government by sharing standards as a common platform
- In addition to codifying knowledge into standards, standardization processes among actors stimulate exchange of tacit knowledge, which is especially relevant for user knowledge
- As a tool to integrate heterogeneous knowledge with input by end-users
- Standardization is a transfer process with participation by and benefits for all interested stakeholders
- Mutual standards facilitate cooperation between companies, especially between suppliers and consumers



Increasing Competition Intensity via Standardization

- Standards create platforms for more intensive competition among companies through equal access to scientific and technological know-how, but also user requirements
- Standards make competition in downstream markets possible (e.g. for specific applications or services)
- Interface and compatibility standards prohibit dependence on dominant suppliers, thus increasing competition intensity



Increasing Exportability via Standardization

- Early standardization increases competitiveness of domestic research in European research programs
 - Through codetermination of terminology, classifications, measurement and testing processes
 - Through increase in attractiveness as cooperation partner for future research cooperations
- Early standardization increases national positioning in international standardization processes and competitiveness of national companies in international markets
 - Through effective codetermination of preferred and cost-effective technical specifications
 - Through creation of economies of scale and network effects
 - Through implementation of sophisticated quality and security standards



Strengthening Innovative Demand via Standardization

- Significant governmental demand for innovative technologies and services
- Through development and referencing of relevant standards in public tendering procedures (EU project STEPPIN www.steppin.eu; final conference in Amsterdam 13th of October 2008)
 - Creation of significant market volumes, also through subsequent innovative private demand
 - Reduction of risks for public procurers and private buyers
 - Reduction of production costs, increasing international competitiveness
 - Increase in domestic competition intensity, thus increasing competitiveness internationally



Creating a Flexible and Innovation Friendly Framework via Standardization

- Standardization can include agreements that stipulate frameworks for future research activities
- Standards can supplement governmental regulation, or be developed complementary
- Self-regulation: especially in early phases of research field development participants can agree on a framework that might be converted into governmental regulations later
- Increased flexibility and acceptance compared to governmental regulation



Challenges

- Development and implementation of a systemic approach involving many institutions and actors
- Knowledge and technology transfer
 - Potential of standards as cooperation and transfer process largely unknown to researchers, but also to companies looking for innovative ideas
 - Difficult and unsystematic transfer of results from public research activities into standards largely due to free-rider phenomenon and non-existent incentives
 - Methodological difficulties in identifying future standardization topics
- Network of relevant actors:
 - Dominance of well-organized and well-equipped actors
 - Lack of resources and capacities of several stakeholders groups, like consumers, environmental groups, but even small and medium enterprises



Challenges

- Increase in competition intensity: tendency to establish proprietary solutions as de facto standards by dominant players, but increasingly by standardization consortia puts pressure on the development of open standards by official standardization bodies
- Increase in exportability: lack of powerful and active presence in European and international standard setting bodies, especially by representatives of new member states
- Increase of innovative demand: lack of usage of standards in public procurement processes due to little awareness and to strong focus on low price solutions and insufficient participation of public procurement organizations in standardization
- Flexible and innovation-friendly framework: despite the success of the New Approach latent tendency to make use of regulations instead of standards and to reduce the independency of official standardization bodies and and insufficient participation of regulatory bodies in standardization



**THANK YOU
FOR YOUR ATTENTION !**

