



# e-Business, Strategy and Business Models

Results of e-Business Watch  
studies 2008

Hannes Selhofer, empirica GmbH



Lisbon, Digital Business Conference, 22 October 2008

# Presentation outline

- **Introduction**
  - about empirica and "e-Business Watch"
- **The macro-perspective**
  - the evolution of e-business
  - the economic impact on productivity & growth
- **The micro-perspective**
  - e-Commerce – thinking beyond transactions
- **The road ahead**
  - ICT in times of uncertainty / economic crisis

# 1. Introduction

**empirica**


**The Sectoral e-Business Watch**



## ■ Research & consulting company

- Since 1998, about 35 people (25 fixed staff)
- Clients in public and private sector

## ■ Main fields of business:

- e-Health
  - e-Business
  - e-Inclusion
  - e-Work / e-Skills
  - ICT & regional development
- 
- Market research
  - Socio-economic research
  - Policy evaluation and guidance
  - Pilot projects

# About "e-Business Watch"



## ■ Background

- **Study programme of the EC, DG Enterprise & Industry, initially launched in 2002**
- **Framework service contract (until end 2010)**

## ■ Objectives

- **Monitor ICT adoption & e-business trends in different sectors**
- **Analyse ICT impact (firm / industry level)**
- **Identify policy implications**
- **Provide forum for debate**

# e-Business Watch: Work programme of 2007/08



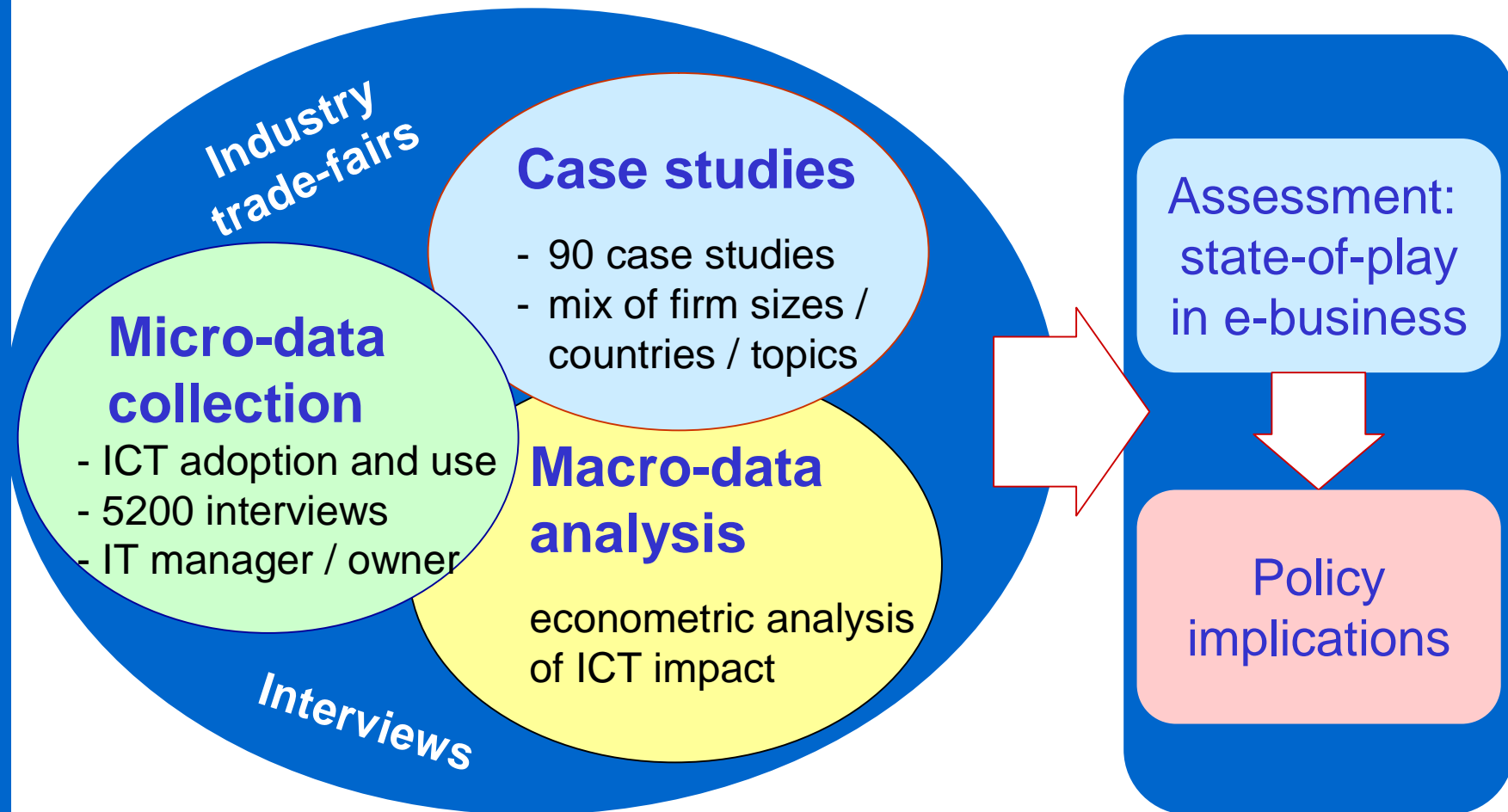
## Sector-specific e-business studies

- **Chemical, rubber and plastics**
- **Steel**
- **Furniture**
- **Retail**
- **Transport and logistics services**
- **Banking**

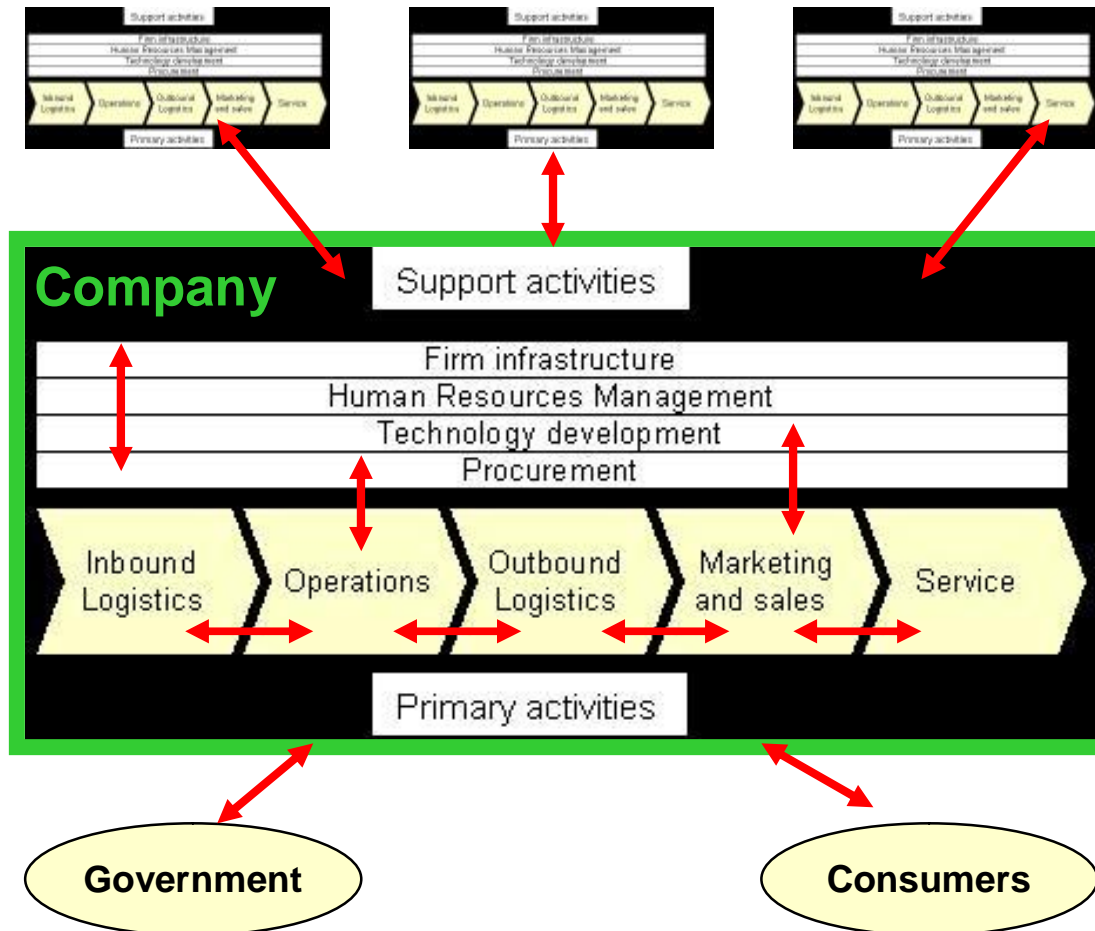
## Cross-sectoral ICT studies

- **RFID adoption and implications**
- **IPR for ICT-SMEs**
- **ICT implications on energy consumption**
- **An economic assessment of ICT adoption**

# e-Business Watch: Methodological approach



# Conceptual framework



**e-Business definition:**  
**"Automated business processes (intra- and inter-firm) over computer-mediated networks"**  
 (OECD)



## 2. The Macro-Perspective

**The evolution of e-business**  
**The economic impact on sectors**

# Impact of ICT investment at the industry level (i)

## ■ The productivity paradox:

- “Computers are everywhere but in the productivity numbers” (Robert Solow, 1987)



## ■ Mixed evidence in research since

## ■ e-Business Watch study of 2008:

- only moderate contribution of ICT capital to productivity and value added growth
  - Period analysed: 1995-2004
  - Sectors covered: chemicals, metals, retail, transport services, banking

# Impact of ICT investment at the industry level (ii)

- **ICT & value added growth**
  - analysis by means of growth accounting
  - no convincing evidence of for growth effects of ICT capital in most of the sectors studied
- **ICT & labour productivity growth**
  - only moderate impact of ICT capital
  - key driver was found to be: intermediate inputs intensity
  - indicates that outsourcing has been key to labour productivity growth

# Impact of ICT investment at the industry level (iii)

## ■ ICT & energy efficiency

- **econometric pilot study: impact of ICT capital on energy consumption**
  - 3 sectors: chemicals, metals, transport services
- **electricity intensity is reduced by communications devices ("CT"), but ...**
- **is increased by computers and software ("IT")**

# The economic impact of ICT: aspects to be considered

- **Embedded ICT**
  - **technical components in plants or other equipment possibly not fully accounted for in available data**
- **Effects of outsourcing**
- **ICT capital vs. business processes**
  - **"IT doesn't matter" – business processes do!**
- **Productivity is only one aspect of ICT use**
  - **market reach, linking with business partners**

# 3. The Micro-Perspective

**How companies use ICT today**

**How ICT matters for different  
types of companies**

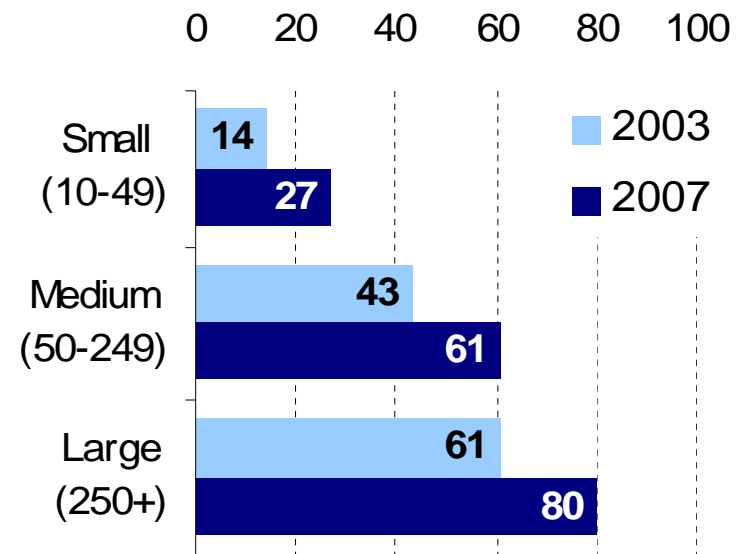
# Generic e-business objectives

- **To reduce costs**
  - **increasing the efficiency of business processes**
- **To better serve the customer**
  - **improved supply-chain – faster delivery**
  - **after-sales-services**
- **To support growth**
  - **facilitate access to markets through e-commerce**
  - **attract new customers in the existing market**

# "e-Maturity" has improved

- **Quality of ICT infrastructure in companies has improved**
  - **broadband adoption**
  - **software systems**
- **Companies are better prepared for "real" e-business activity**

## % of companies with an ERP system (chemical industry)

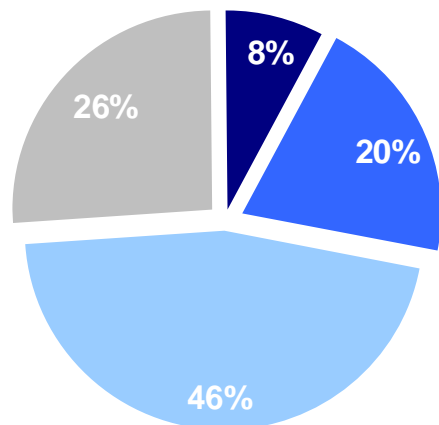


Base: 811 interviews, 7 EU countries.  
Source: e-Business Survey 2007  
by the Sectoral e-Business Watch

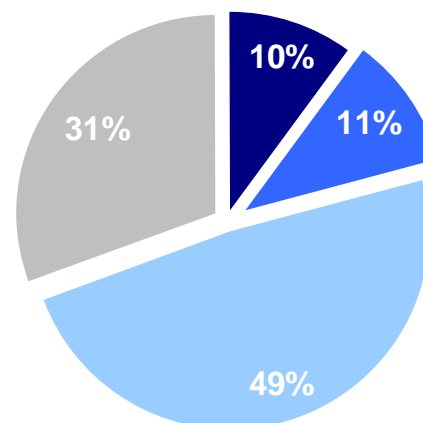


# Share of processes conducted electronically (2007)

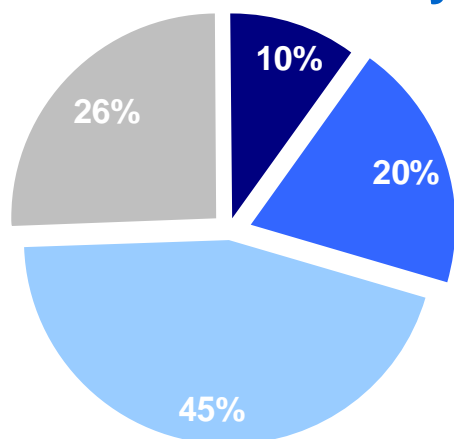
## Chemical industry



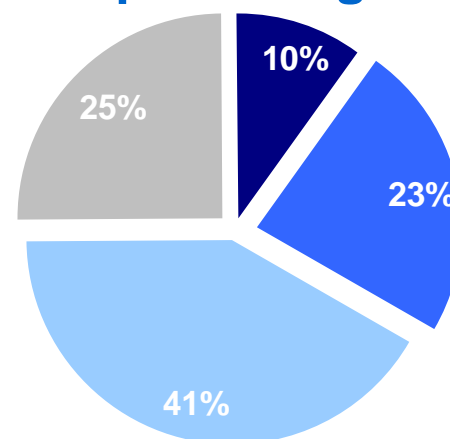
## Steel industry



## Furniture industry



## Transport & logistics



% of companies\* saying they conduct ...

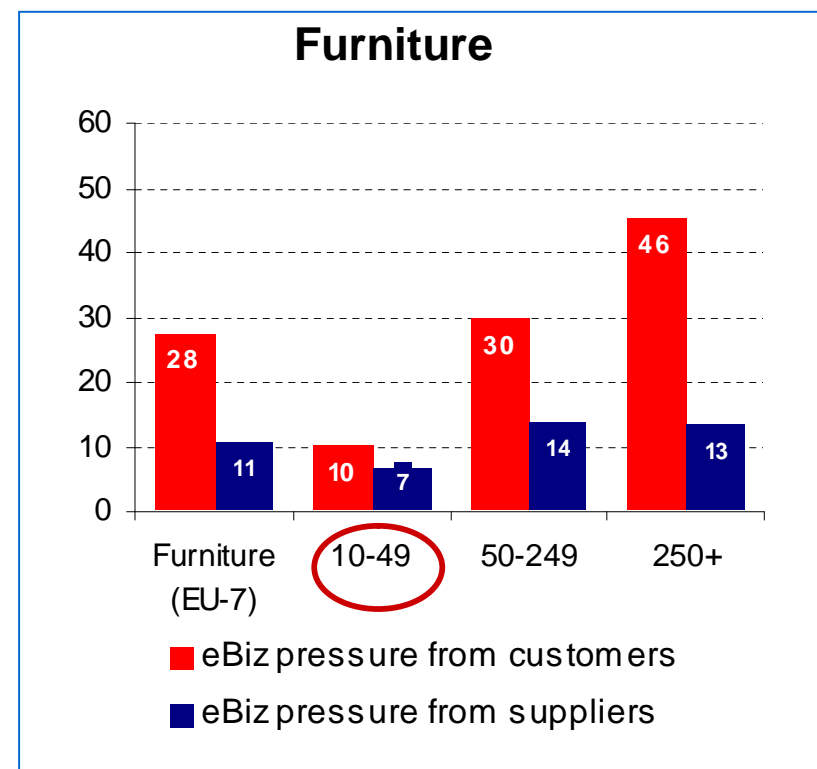
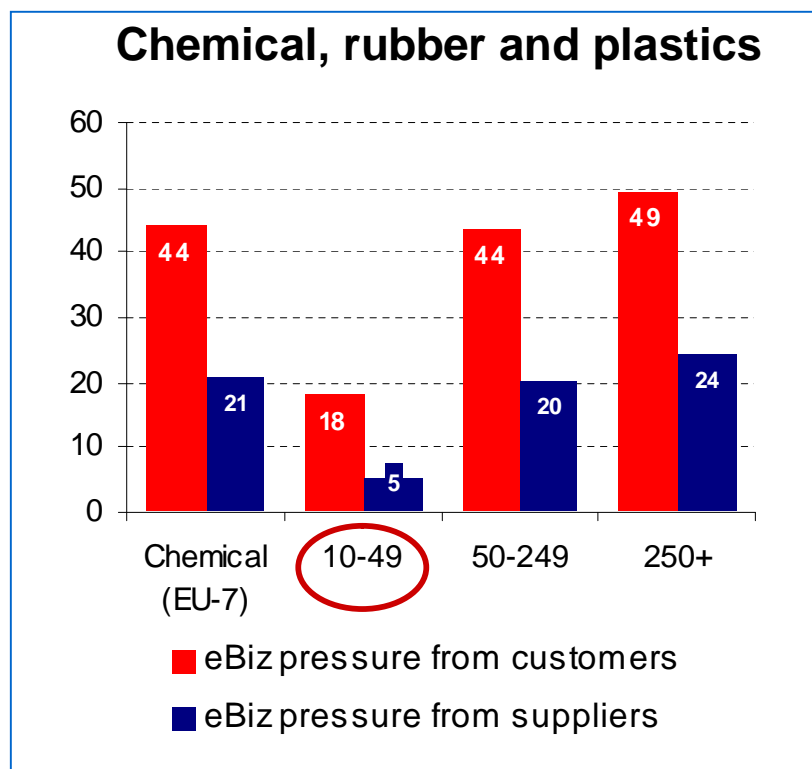


of their business processes electronically.

\* by their share of employment

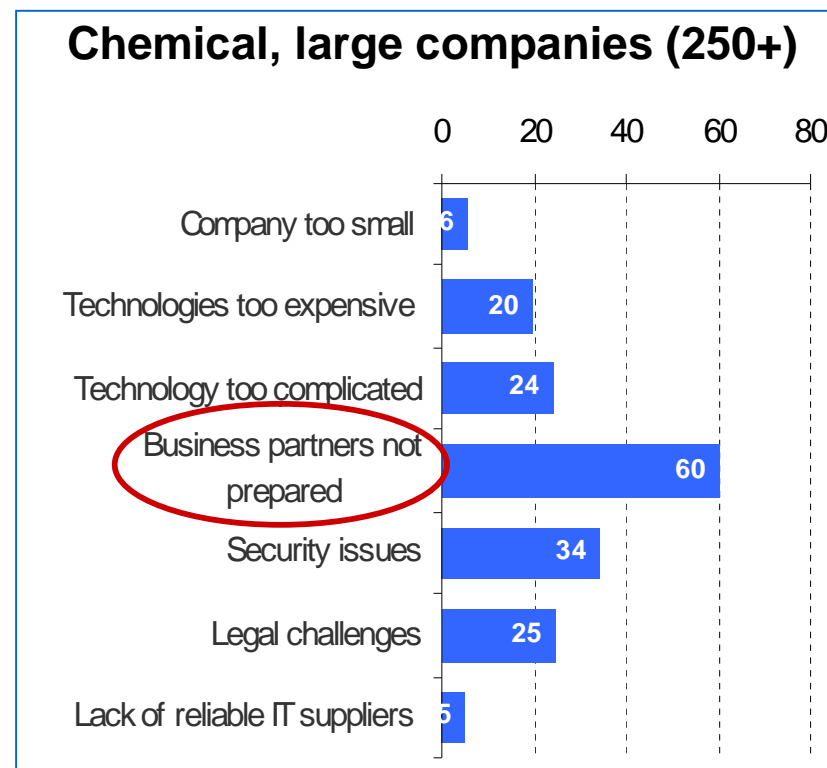
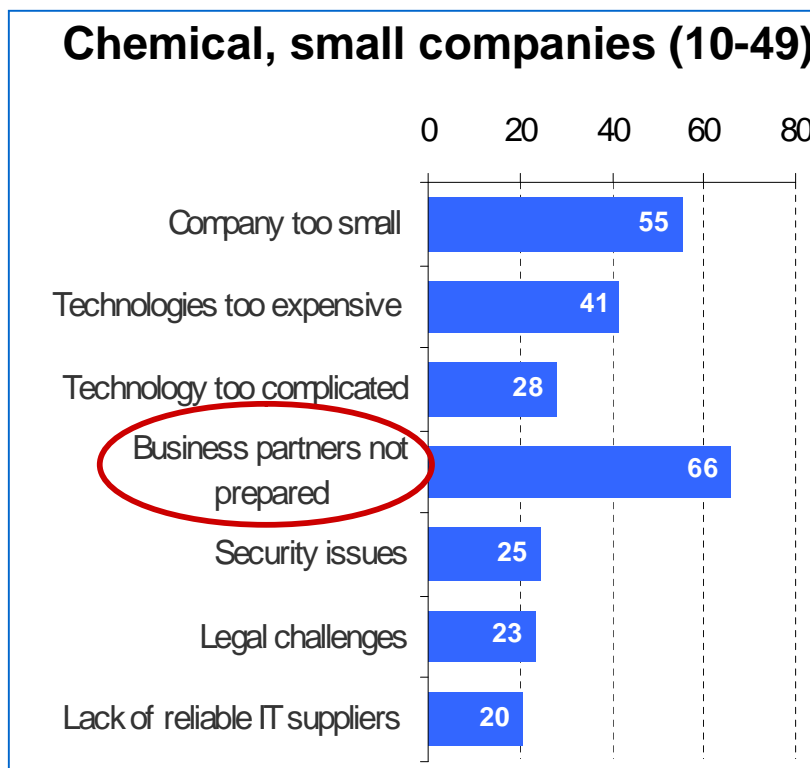
# Customer requirements drive e-business adoption

*"Has your company ever experienced pressure from customers / suppliers that your ICT solutions or data exchange formats should be adapted to comply with their requirements?"*



# The hen-and-egg problem

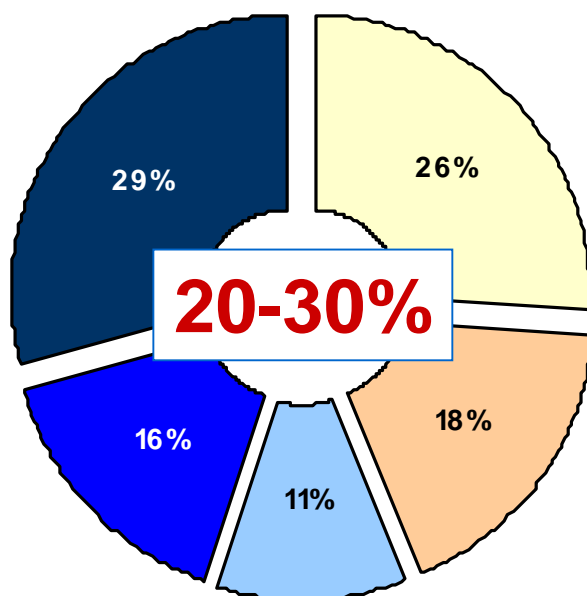
*"Please tell me if you think this is an important reason why your company does not use e-business more intensively."*



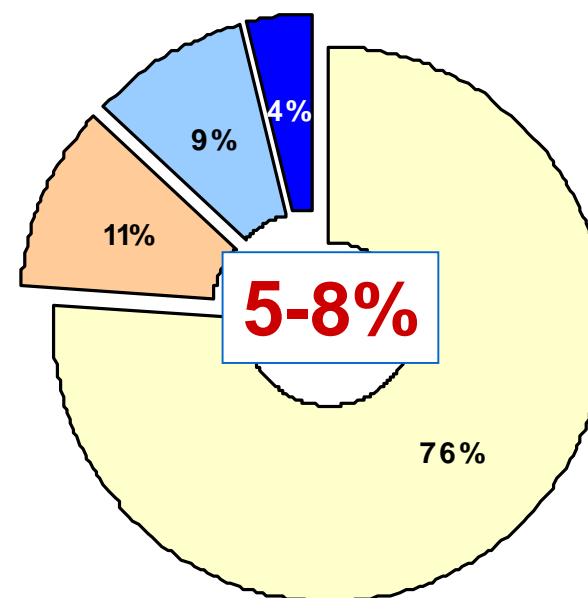
# Increased share of e-commerce as % of total sales

## Chemical, rubber and plastics industry

*Average % of orders received online (2007)*



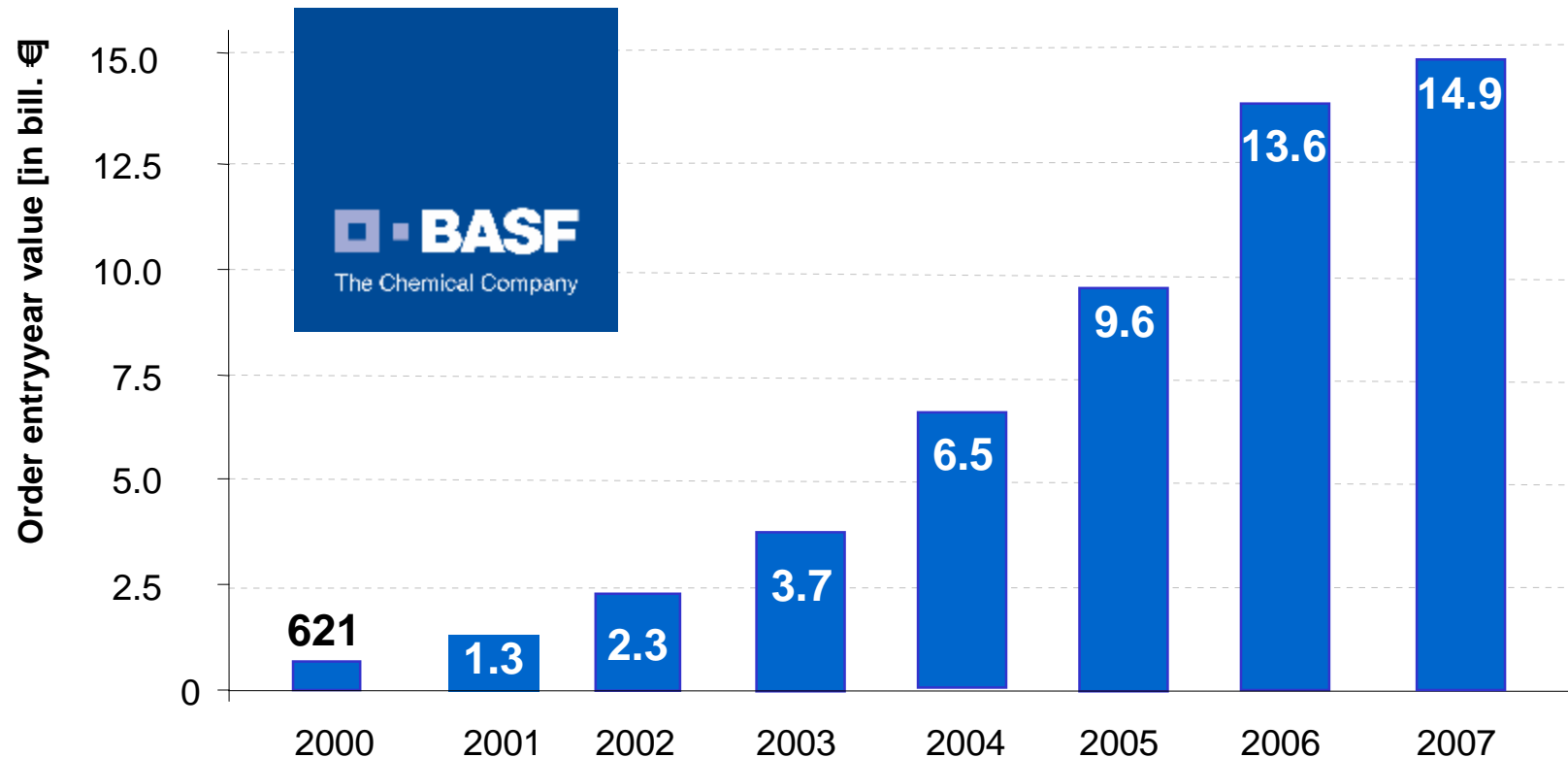
*Average % of products sold online (2003)*



- <5%
- 5-10%
- 11-25%
- 26-50%
- >50%

Source: e-Business Surveys 2003 / 2007 by SeBW

# BASF: Global development of e-business order entry value



Source: BASF

# "e-Commerce" is more than accomplishing transactions

2000



Orders

Orders  
Order Mgmt  
Order Information



Orders  
Order Mgmt  
Order Information  
Product information

Source: BASF  
empirica

2008

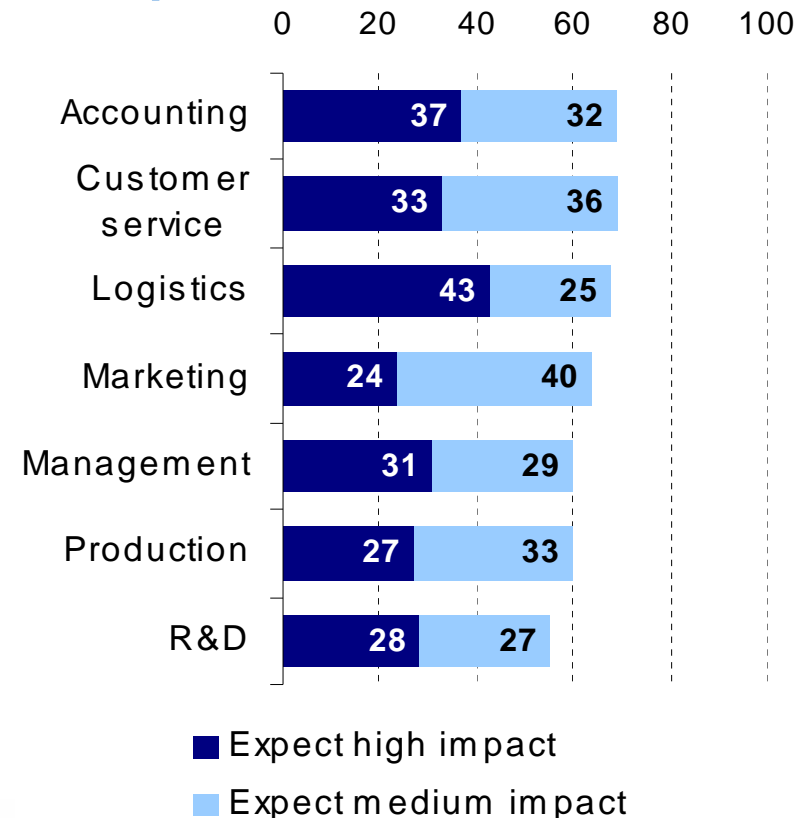


Orders  
Order Mgmt  
Order Information  
Product information  
Supply Chain, Logistics  
Customer Collaboration  
e-Marketing  
e-Invoicing  
Automated fax orders

# The e-strategy – a vital part of the overall company strategy

- ICT as a "general purpose technology"
- Companies expect ICT to have an impact on all business functions in the future
- Marketing and customer service highly relevant – both in manufacturing and services

## % of companies expecting that ICT will have a high/medium impact on ... in the future



# In summary: dynamic development of e-business

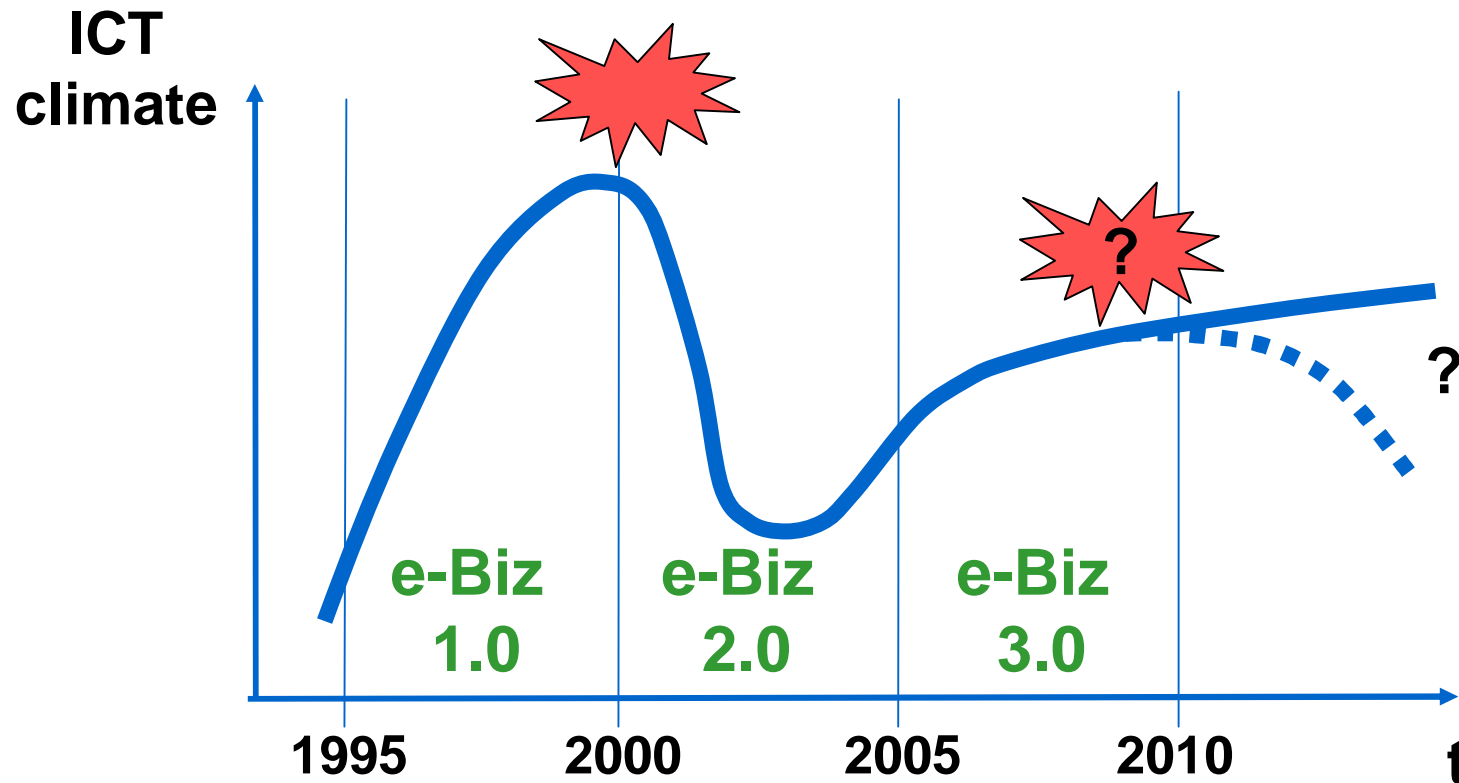
- **Improved ICT infrastructure as a basis for more advanced e-applications**
- **Dynamic growth of e-commerce**
  - not only for accomplishing transactions
  - also: service function!
- **Improving process efficiency remains an important objective**
  - Improved work-flows through improved transparency
  - **Faster decision taking**



# 4. The Road Ahead

**Scenarios for the near future**  
**The right strategy in times of  
uncertainty and economic crisis**

# ICT & e-Business cycles



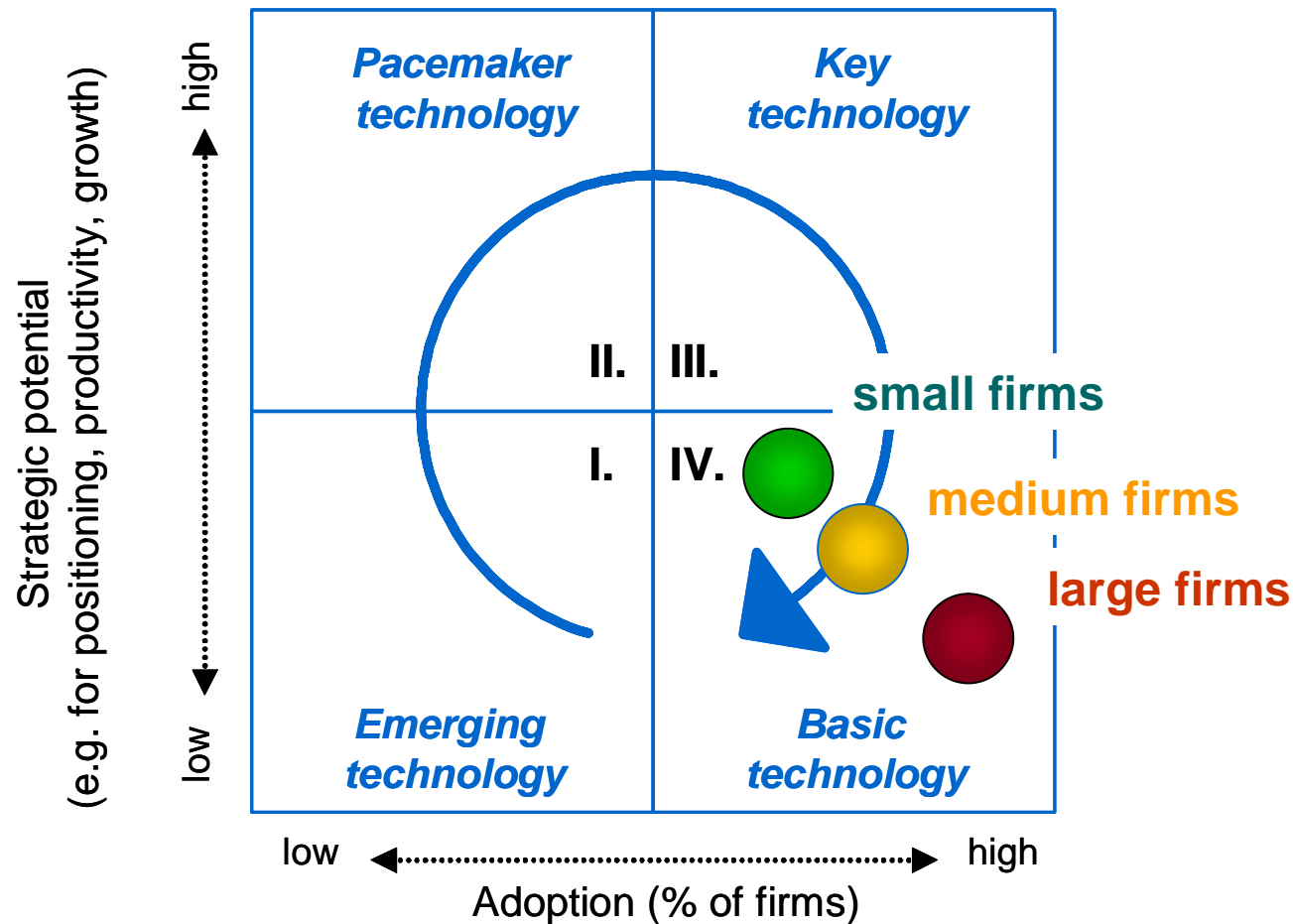
# Procyclical scenario

- **Reactive response by business**
- **Back to "e-Business 2.0"**
  - **Recession / downswing will lead to reduced ICT investments**
  - **Reducing company costs as the single most important objective**
  - **Innovative projects on hold / scaled down**
- **Impact**
  - **may pay off in the short term**
  - **but risk of losing comparative advantages**

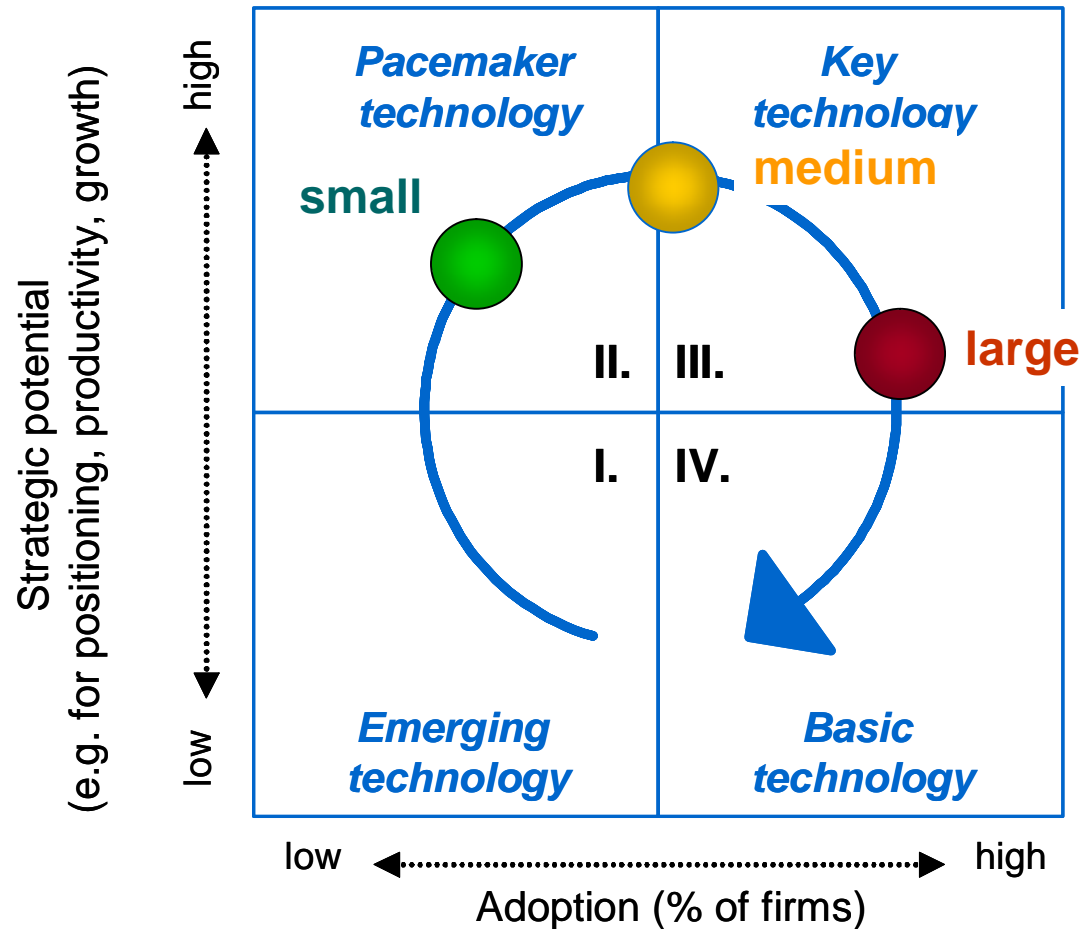
# Contracyclical scenario

- **Pro-active response by business**
- **Continue the "e-Business 3.0" approach**
  - **e-Business as a means to sustain business in a difficult market environment**
  - **Focus on supporting marketing and customer service, not just reducing costs**
  - **Innovative projects supported**
- **Impact**
  - **investment risk**
  - **but also high strategic potential**

# Basic ICT infrastructure – a commodity



# Advanced e-business practices – the digital divide



# Recommendations for businesses

## ■ Strategic approach:

- consider your "e-strategy" as a support of your overall strategy and business model
- take a critical look at your value chain – what could be improved?

## ■ Focus on your customers:

- What is important for YOUR customers?
- Think about how to use e-commerce as a service for your customers
  - and not just as a means to accomplish transactions

# Recommendations for innovation and industry policy

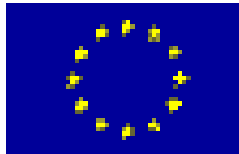
- **Support the development of e-skills:**
  - **ICT skills of employees**
  - **Sufficient supply of ICT practitioners**
  - **Managerial understanding of e-business**
- **Promote the wide adoption of globally accepted e-standards**
- **Support digital integration in value chains**
  - **pilot projects, stakeholder co-ordination**
- **Explore ICT potential for sustainable development**



# More information

e-Business  
W@tch @

[www.ebusiness-watch.org](http://www.ebusiness-watch.org)  
[info@ebusiness-watch.org](mailto:info@ebusiness-watch.org)

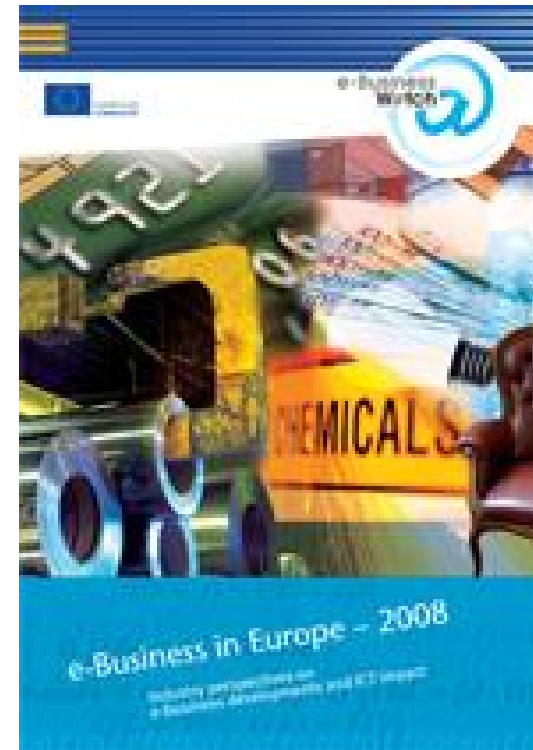


[entr.innov.ict.ebiz@ec.europa.eu](mailto:entr.innov.ict.ebiz@ec.europa.eu)

A Programme led by

empirica

[www.empirica.com](http://www.empirica.com)  
[hannes.selhofer@empirica.com](mailto:hannes.selhofer@empirica.com)



All sector studies of 2008 available at  
[http://www.ebusiness-watch.org/  
resources/by\\_sector.htm](http://www.ebusiness-watch.org/resources/by_sector.htm)