

# Entrepreneurship: Basics and Processes



## Mafex: Marburg Center for Entrepreneurship and Innovation

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# Entrepreneurship 1 – Introduction

- Famous Entrepreneurs
- Relevance of the Topic
- 6 Basic Problems
- Facets of Entrepreneurship
- The Start-up Process
- Entrepreneurship vs. Intrapreneurship

# Famous Entrepreneurs



# Famous Entrepreneurs

## Bill Gates

- Breaks his study of law at Harvard
- 1975 Foundation of Microsoft
- 1978 13 Employees, Microsoft earns his first \$ million and doubles ist revenues compared to the previous year
- 1990 Breakthrough with Windows 3.0
- 2004 Richest man on earth for a decade then (Forbes)

## Oliver Samwer

- Finishes his studies of business administration
- 1999 Foundation of alando in analogy to ebay together with brothers and friends
- 1999 Sells alando to ebay after only 100 days
- 2000 Foundation of Jamba!
- 2004 Sells Jamba! for a sum of \$273 mio. to Verisign

## Ehssan Dariani

- 2004 Fails to establish a retail chain for male cosmetics
- 2005 Foundation of StudiVZ
- 2006 30 employees
- 2007 Sells StudiVZ to Holtzbrinck Networks for a sum of 85 Mio. €

## Michael Dell

- 1984 Foundation of PCs Limited, that later on was renamed to Dell Computer Corp., with a sum of \$1,000 of start-up capital
- 1985 Development of his first own PCs
- 1988 Dell goes public (initial public offering)
- 2004 Market capitalization of Dell summed up to 100 billion USD

# Do we really need Entrepreneurs?

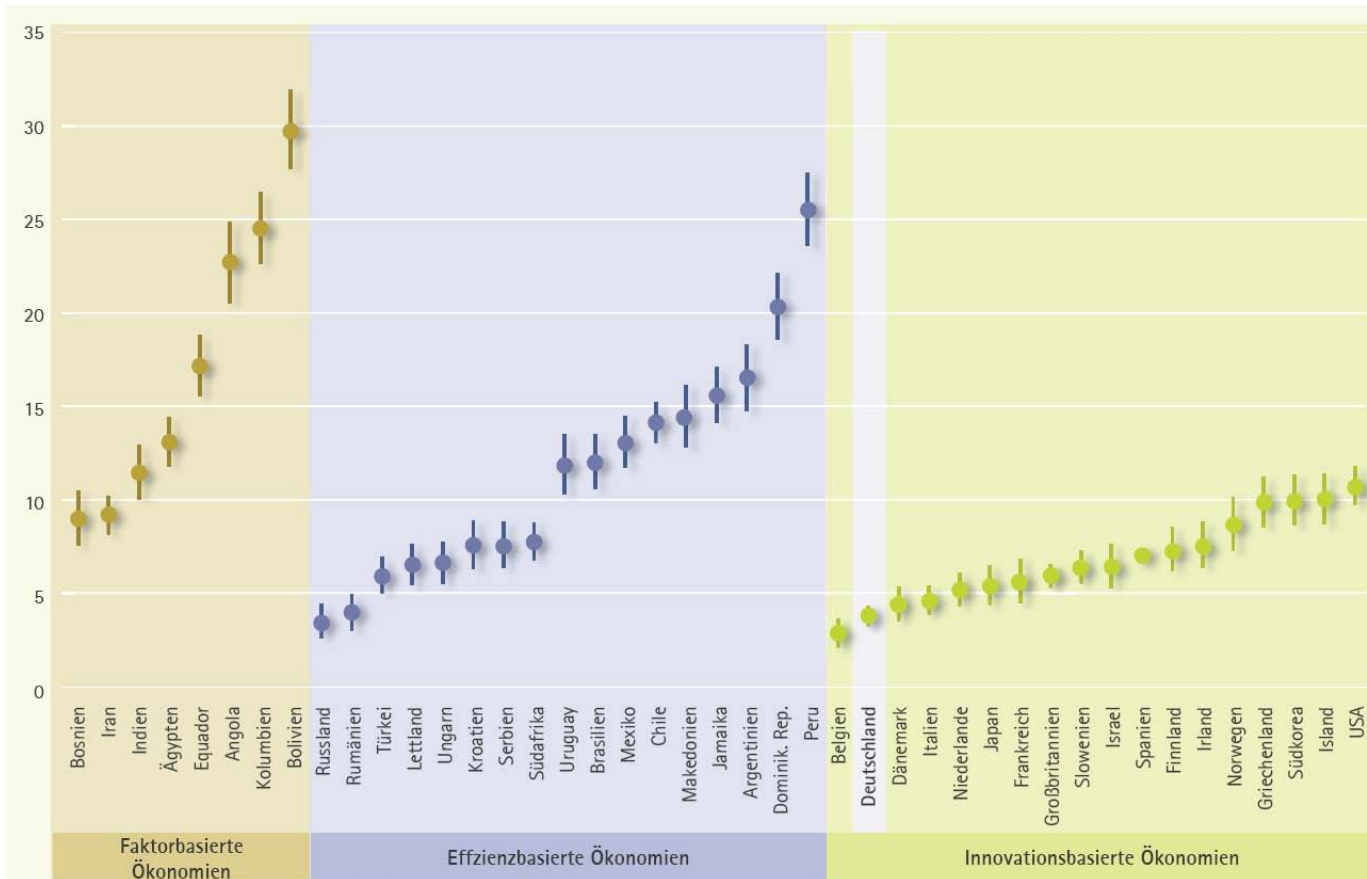
- Germany is country with a relatively high wage and income level – Off-shoring leads to a continuous outflow of jobs to foreign countries, especially in low tech industries
- Germany NEEDS Entrepreneurs and Innovation to save its high standard of living.
- In Germany the Entrepreneurs and Start-ups are the players in the economy who create the new jobs (NOT the big incumbents).
- Start-ups are important for the Economy, not only in Germany, but also in other developed AND developing economies.

# Germany lags behind other countries in Entrepreneurship Activities and Start-up Dynamics

## Global Entrepreneurship Monitor (Survey among the Population:

- In Germany about 1.95 Mio. people indicated that they are planning to launch a Start-up or already have launched a Start-up (3,8% of the working population).
- 3.8% is a really low level! One of the lowest in all of the OECD countries.
- But: The Start-up-propensity in Germany is on the rise, in the long run. However there are strong fluctuations (5,4% before the economic crisis in the mid 2000s compared with 3,8% today).

# Total Early-Stage Entrepreneurship in a Cross Country Comparison



Die vertikalen Balken markieren den Bereich, in dem sich der Mittelwert (Punkt) der Grundgesamtheit mit einer Wahrscheinlichkeit von 95% befindet (95%-Konfidenzintervall). Die Unterschiede zwischen zwei Ländern sind nur dann statistisch signifikant, wenn sich ihre Balken nicht überlappen (d. h., wenn sie keinen gemeinsamen y-Wert haben). Hier gilt das z. B. für Bosnien und Ägypten, Russland und die Türkei etc.

Quelle: GEM-Bevölkerungsbefragung 2008.

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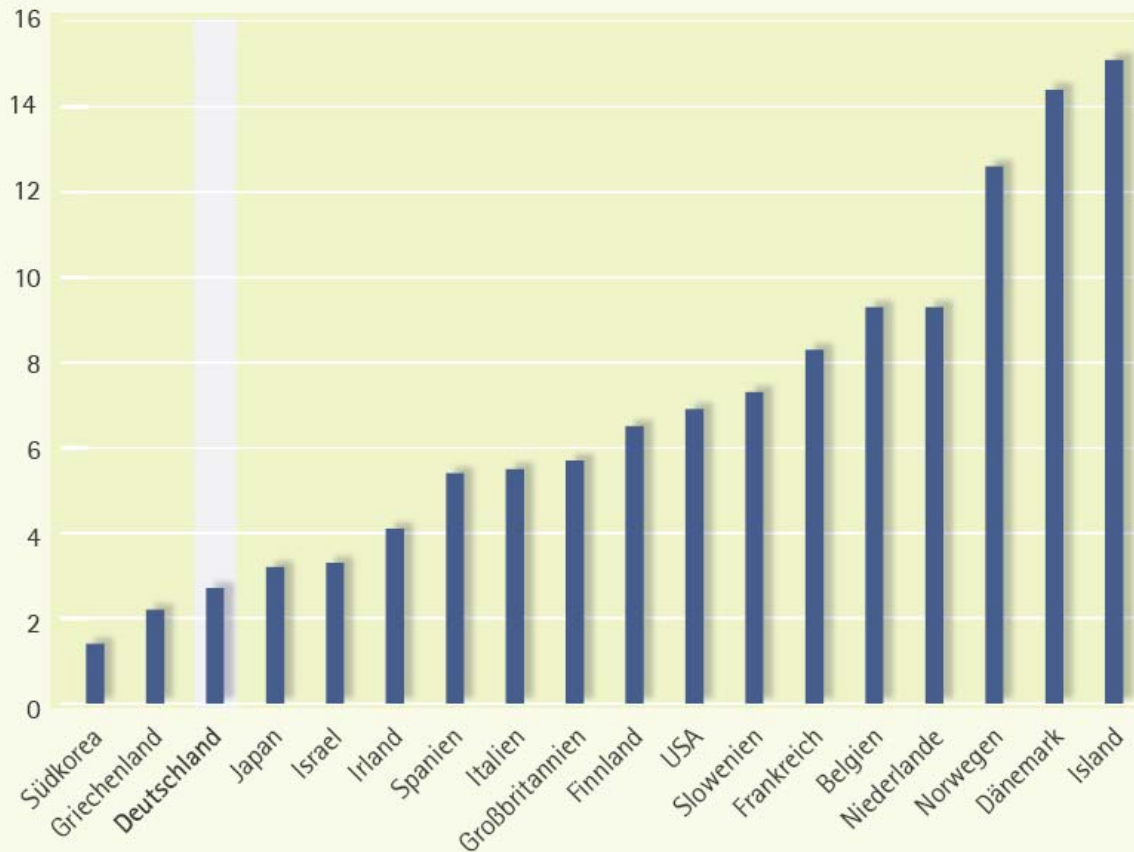


# High Percentage of Entrepreneurs that are „forced“ into Start-ups (Entrepreneurship as an emergency exit)

- The percentage of entrepreneurs, who consider their start-up as an emergency-exit (due to a lack of alternatives) is comparatively high in Germany: 1 : 2.7  
  
1 Founder who acts from necessity  
2.7 Founders with classic entrepreneurial spirits
- The percentage of entrepreneurs who are driven into entrepreneurship is much higher in Germany than in other OECD countries (average value: 1 : 7.1)



# „Free Entrepreneurial Spirits“ versus „Emergency Exits“



Number of „Free  
Entrepreneurs“ per  
„Emergency Exist  
Entrepreneurs“

\*„Klassische“ Gründer geben an, eine Geschäftsidee ausnutzen zu wollen, während „getriebene“ Gründer keine bessere Erwerbsalternative für sich sehen.

Quelle: GEM-Bevölkerungsbefragung 2008.

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# The German Population is Risk Averse

- In comparison with other OECD countries, the German population is risk averse. The „Angst“ to fail is prominent and prevents people to start a new venture.
- Many people in Germany believe, that they do not possess all competencies necessary to successfully start a new venture. Only 1/3 of the people are confident to be competent enough to succeed as an entrepreneur.
- Only 20 % of the relevant German population indicated in a survey, that they have participated in trainings and entrepreneurship education (e.g. to sensitize for start-ups)

# Four Core Issues in Entrepreneurship

## Four Core Issues/Problems in Entrepreneurship Management and Research:

1. What is the Subject Matter?
2. Appropriate Entrepreneurship Theories?
3. Management Deficiencies of Entrepreneurs
4. The Challenge of Innovation Management

# Four Core Issues: 1. The Subject Matter

## Definitions of Bygrave und Hofer (1991):

- The ***Entrepreneurial Event*** „... involves the creation of an new organization to pursue an opportunity“;
- The ***Entrepreneurial Process*** „... involves all functions, activities, and actions associated with the percieving of opportunities and the creation of organizations to pursue them“;
- The ***Entrepreneur*** „... is someone who percieves an opportunity and creates an organization to pursue it“

# Four Core Issues: 1. The Subject Matter

## 1. Definition of the problem field and subject matter of start-up management and the broader field of entrepreneurship

- The definition of the subject matter is important to identify typical problems and challenges (success factors and factors of failure)
- Definition of the subject matter:
  - **New Venture Management** is focussing on the establishment of new firms (including the foundation of subsidiaries/affiliates of existing companies),
  - **Entrepreneurship** addresses the specific problems and solutions in the management of new start-up companies



Our focus is on Entrepreneurship

# Four Core Issues: 2. An Appropriate Theory

## 2. An appropriate theory on Start-up Management and Entrepreneurship

- Should be able to explain, under which circumstances and conditions and with which measures and actions start-ups are successful
- A „good“ entrepreneurship theory should be valid for all kinds of start-ups and branches / industries → numerous variations of the theory would be required
- Unfortunately: Up to date there exists no universal theory of entrepreneurship that integrates all universal success factors and factors of failure, the problem area is too complex
- However, there are numerous empirical studies that explore individual success factors and factors of failure of start-ups

# Four Core Issues: 3. Management Deficiencies

## 3. How to overcome **Management Deficiencies of Entrepreneurs?**

- In many cases, entrepreneurs are technical experts in their respective technological domain, like in engineering, natural science, software and computer technologies, medicine etc.
- Unfortunately, many entrepreneurs suffer from a lack of management and marketing know-how
- However, management and marketing know how is necessary to ensure the survival and profitable growth of the start-up business
- This gap with regard to management knowledge and expertise has to be closed!
- Management mistakes increase the probability of start-up failure



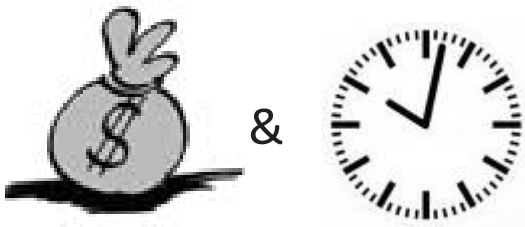
Education of entrepreneur in management and business plan coaching is of critical importance



# Four Core Issues: 4. Challenge Innovation Management



# Four Core Issues: 4. Challenge Innovation Management



## Scarce resources require efficiency...

- Cut budgets and streamline innovation processes
- Implement planning and management control systems
- Create transparent structures

## Creativity requires Freedom...

- ...to operate
- ...to take risks
- ...to make mistakes
- ...to experiment
- ...for accidents and luck!

Formal structures and too much bureaucracy block creativity and innovation

## Four Core Issues: 4. Challenge Innovation Management



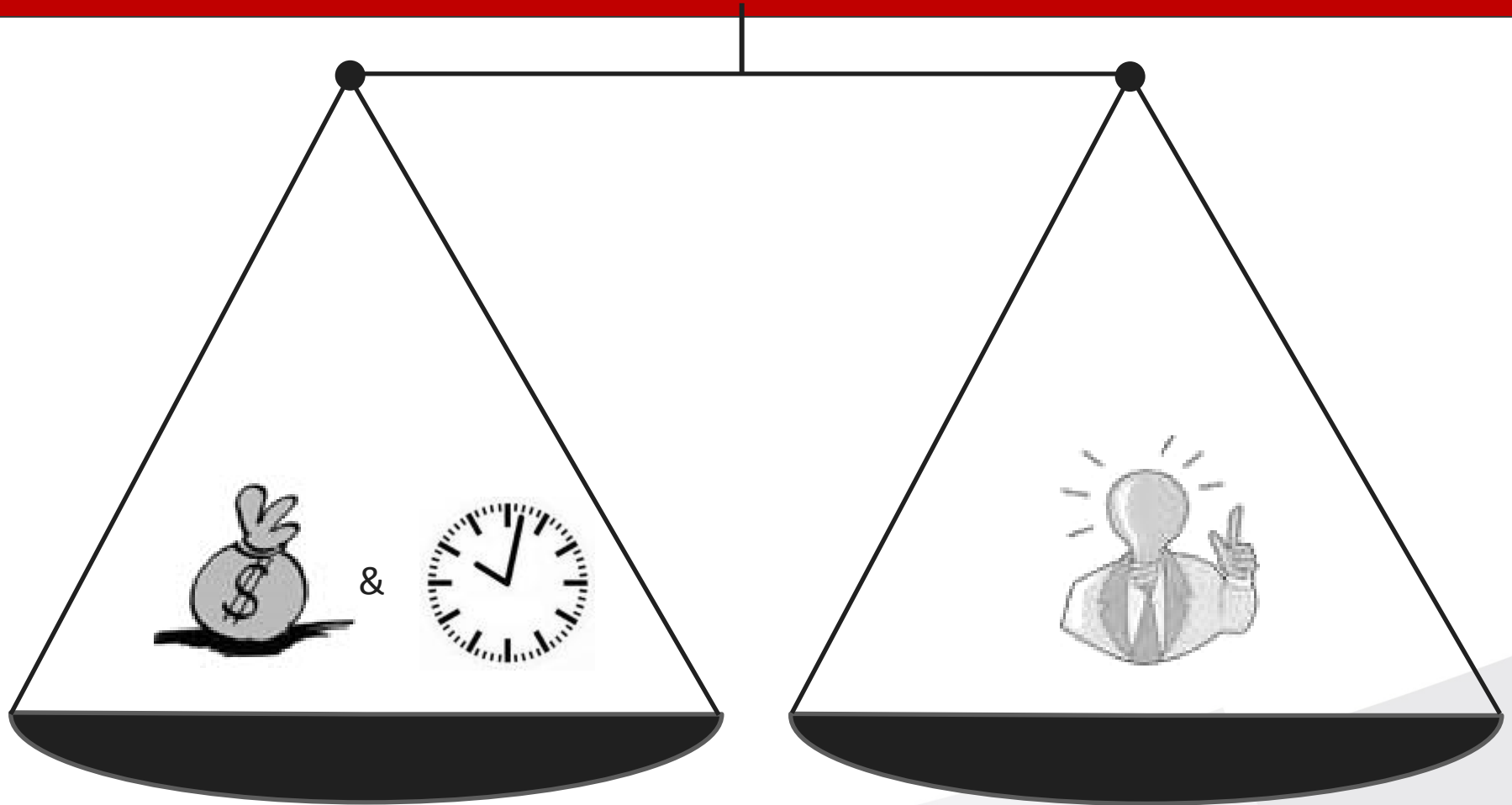
Too much freedom (to operate) bears risk – “Over Engineering”

## Four Core Issues: 4. Challenge Innovation Management



**„The model is not really cheap, but the performance is excellent –  
You can fill the bathtub within twelve seconds...”**

# Four Core Issues: 4. Challenge Innovation Management

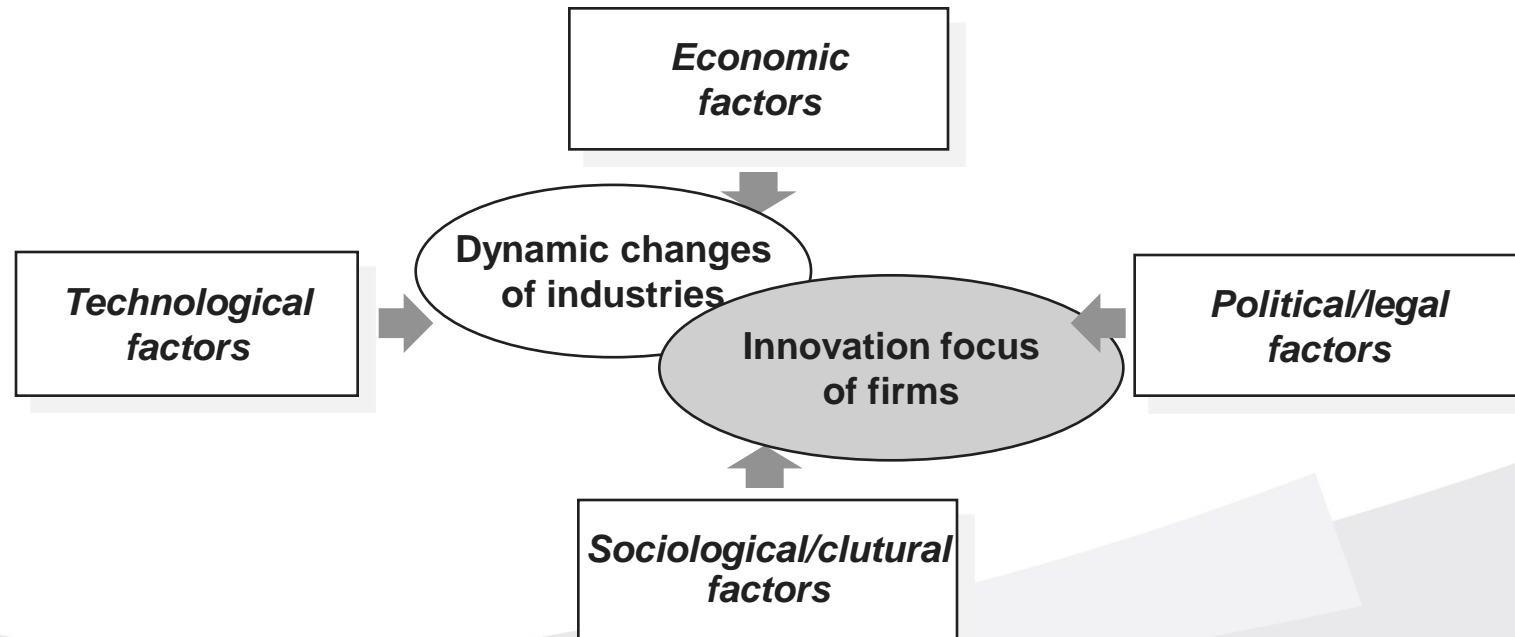


**Finding the right balance is the Core Core Challenge in Innovation Management**

# Four Core Issues: 4. Challenge Innovation Management

## New competitive situation for firms/companies: Focus on innovation!

- ▶ Innovations are a prerequisite for most start-ups & companies to survive.
- ▶ Firms can stand and maintain their market position only with permanent product and service improvements (→ Innovation !).
- ▶ Innovation-based competition (innovating ahead) today is the most prominent business model for firms (in contrast to traditional cost leadership strategies).



# Four Core Issues: 4. Challenge Innovation Management

## *Technology & Innovation Leadership as Dominant Competition Strategy*

**Technological innovation is now the single most important driver of competitive success in many industries AND for Start-ups**

- ▶ An important consequence of the shift towards competition in innovation leadership: Product and technology life cycles are getting shorter and shorter
- ▶ Firms introduce an increasing number of new products to the market in much shorter time spans / intervals → rising time pressure in innovation management.
- ▶ Exploding R&D costs: Products are getting more and more complex; in most industries R&D costs „explode“ (Pharma: 7.5 Mio. US-\$ versus 400 Mio. U.S.\$).

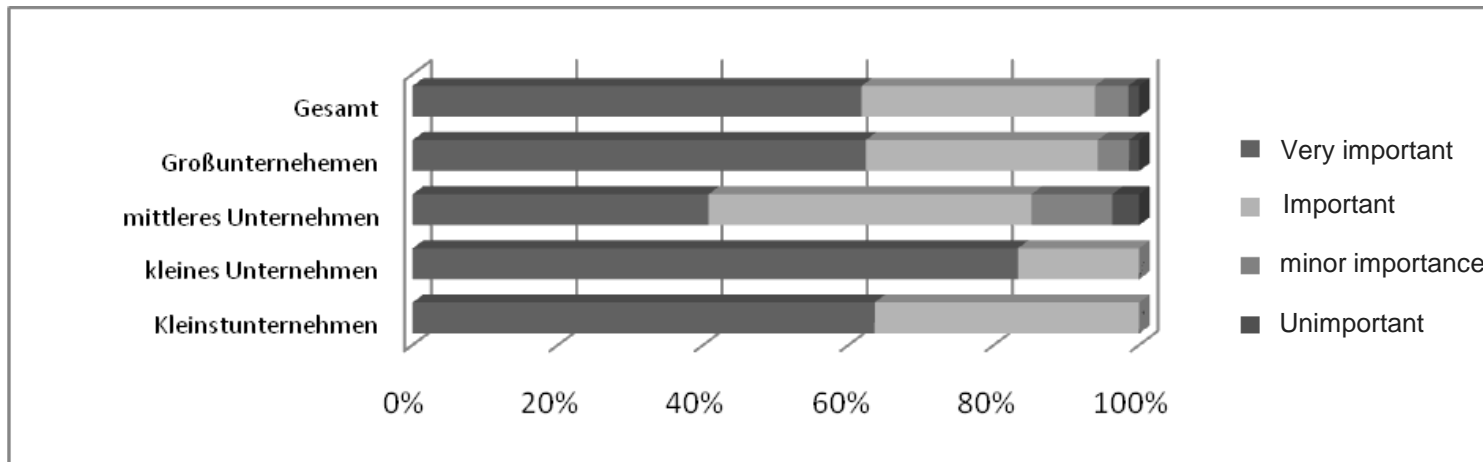
## **Specific implications for product innovation management in companies (globally)**

- ▶ Imitation or small innovations (incremental changes) are not enough to sustain the competitive advantage.
- ▶ Firms must differentiate themselves with superior product performance or a better cost/quality ratio in the eye of the customer.
- ▶ „Happy Engineering“ is not adequate any more! Innovation should be planned carefully, innovation must be a core subject/focus in strategic management.
- ▶ “Technology and Innovation Management” is a new subject at the intersection of Strategic Management, Marketing, Finance, Controlling, Engineering etc.

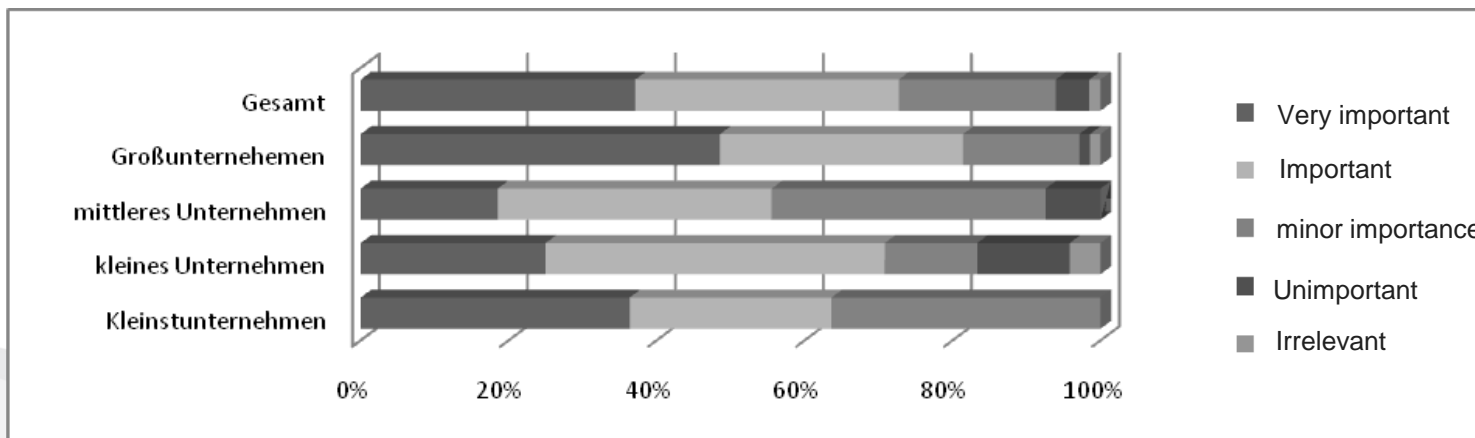


# Four Core Issues: 4. Challenge Innovation Management

## *Survey on the Importance of Innovation in European Firms & Start-ups*



## *Relevance of Implementation of Innovation Management in Firms & Start-ups*



# Four Core Issues: 4. Challenge Innovation Management

## *Innovation and Firm Performance – General Empirical Evidence*

### **Results of the PIMS-Study**

- ▶ Innovation activities have a positive impact on firm performance
- ▶ Background: The PIMS-study has identified the 18 prime drivers (out of 37) of corporate success (Return-on-Investment)
- ▶ Innovation success can be traced back to the positive correlation of product innovations and R&D expenditures on ROI.

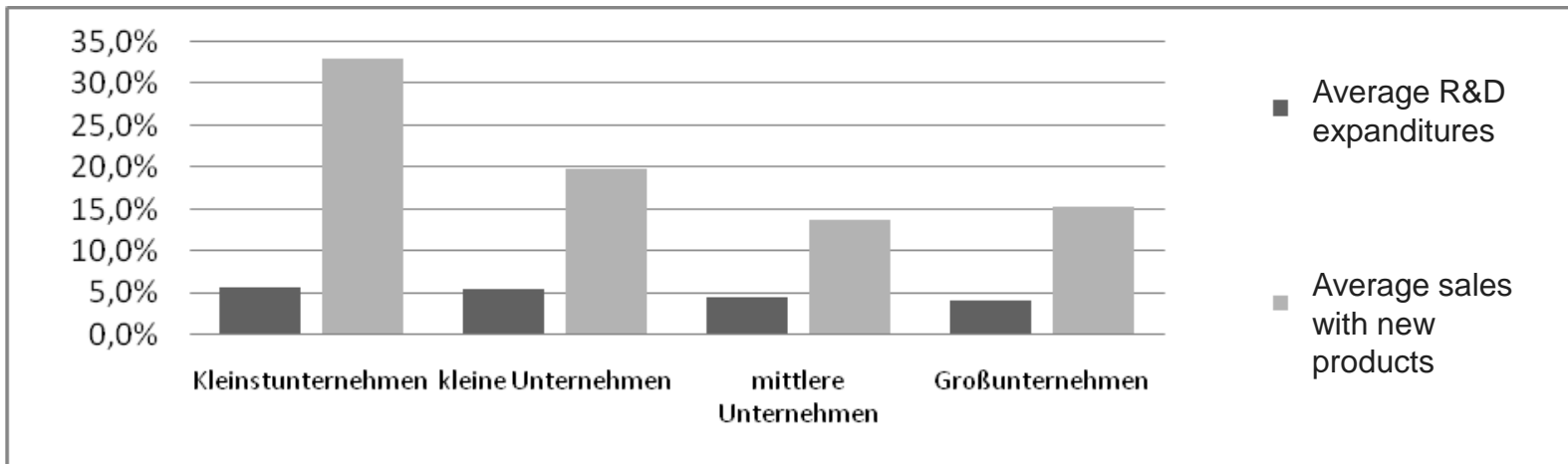
### **Results of the ZEW-Study (Center for European Economic Research)**

- ▶ *What is the impact of innovation on the firm level?*
- ▶ *Result I: Improvement of product quality, increasing market share and diversification/ exploration of new market segments (Blue Ocean Strategy)*
- ▶ *Result II: Process improvements, cost savings (both material and staff costs), quality improvements → increases in efficiency („Rationalisierungseffekte“)*
- ▶ *Result III: Improvements in ecological and social performance of firms („Greening“ the corporation“); firms meet regulatory standards etc.*

**Prerequisite: Permanent investments in R&D and corporate implementation of innovation management**

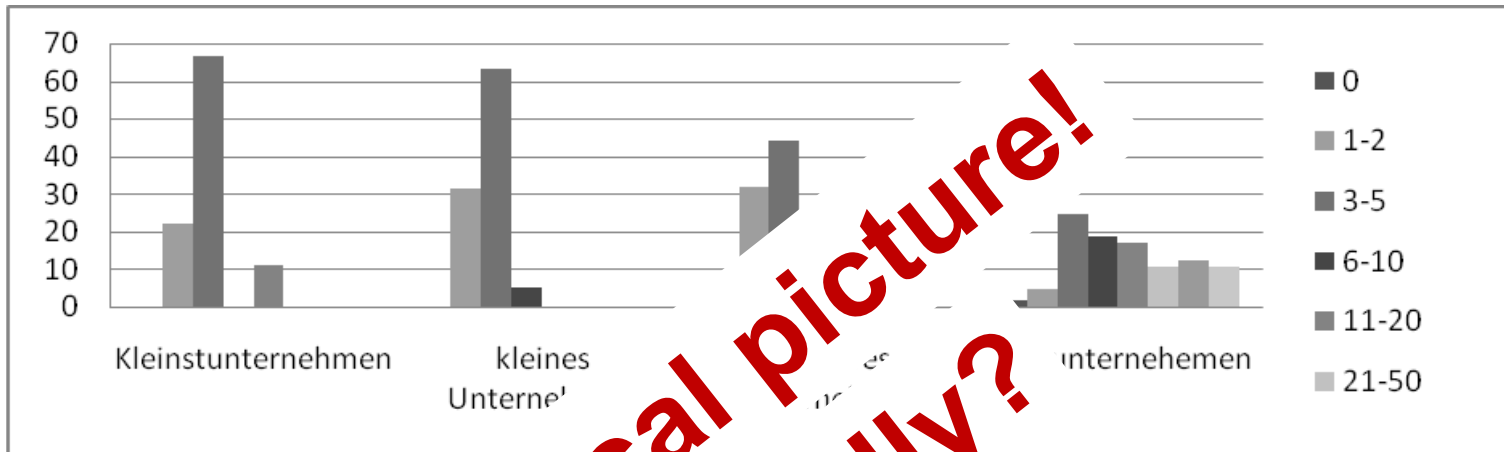
# Four Core Issues: 4. Challenge Innovation Management

*R&D Expenditures and Sales with New Products in 2009 in European Companies & Start-ups: **A nice picture!***

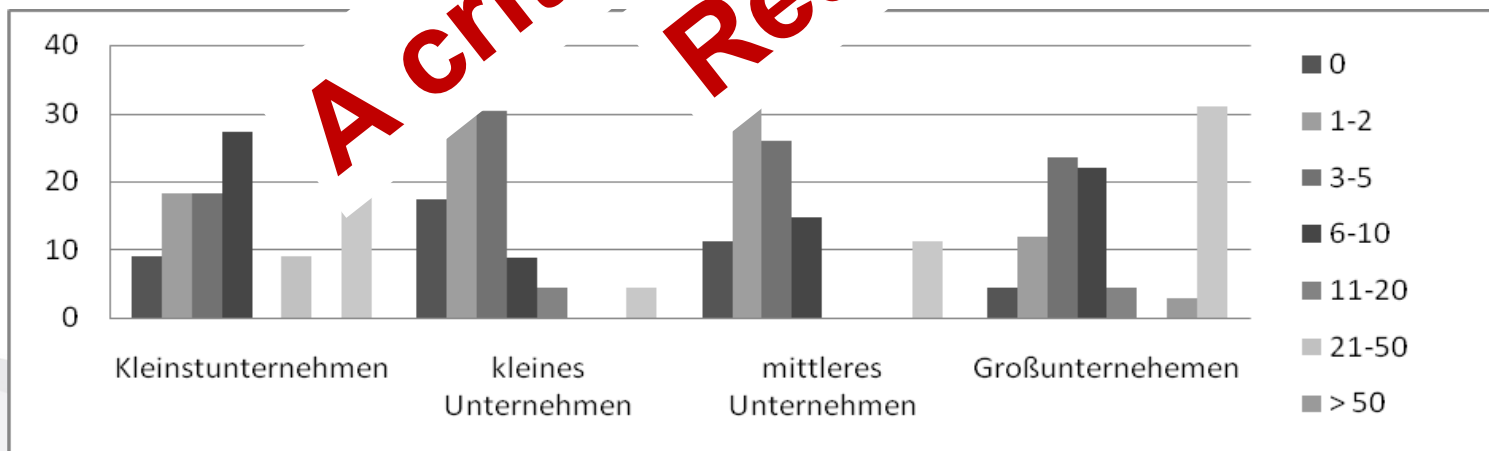


# Four Core Issues: 4. Challenge Innovation Management

## Number of successfully completed innovation projects

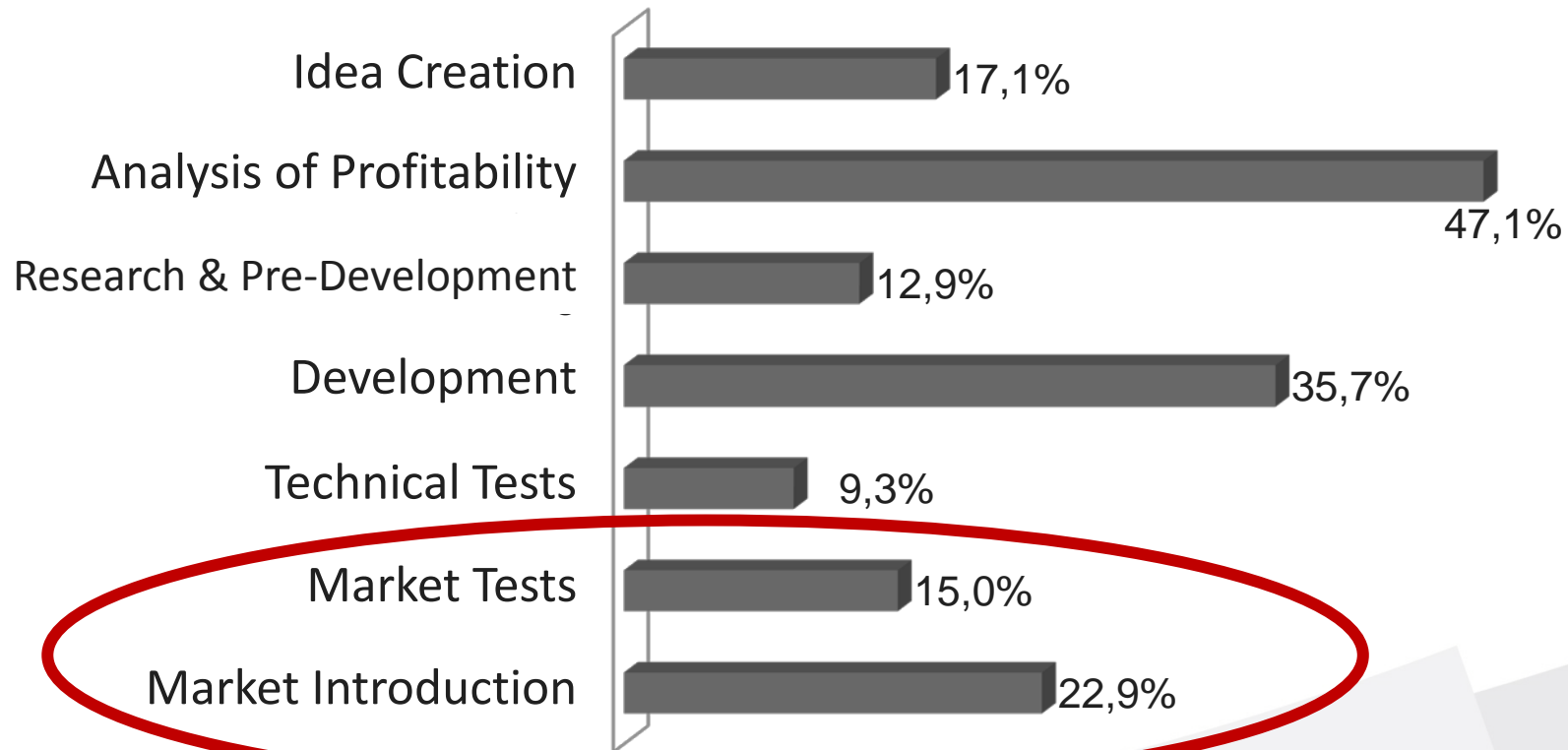


## Number of non-finished projects



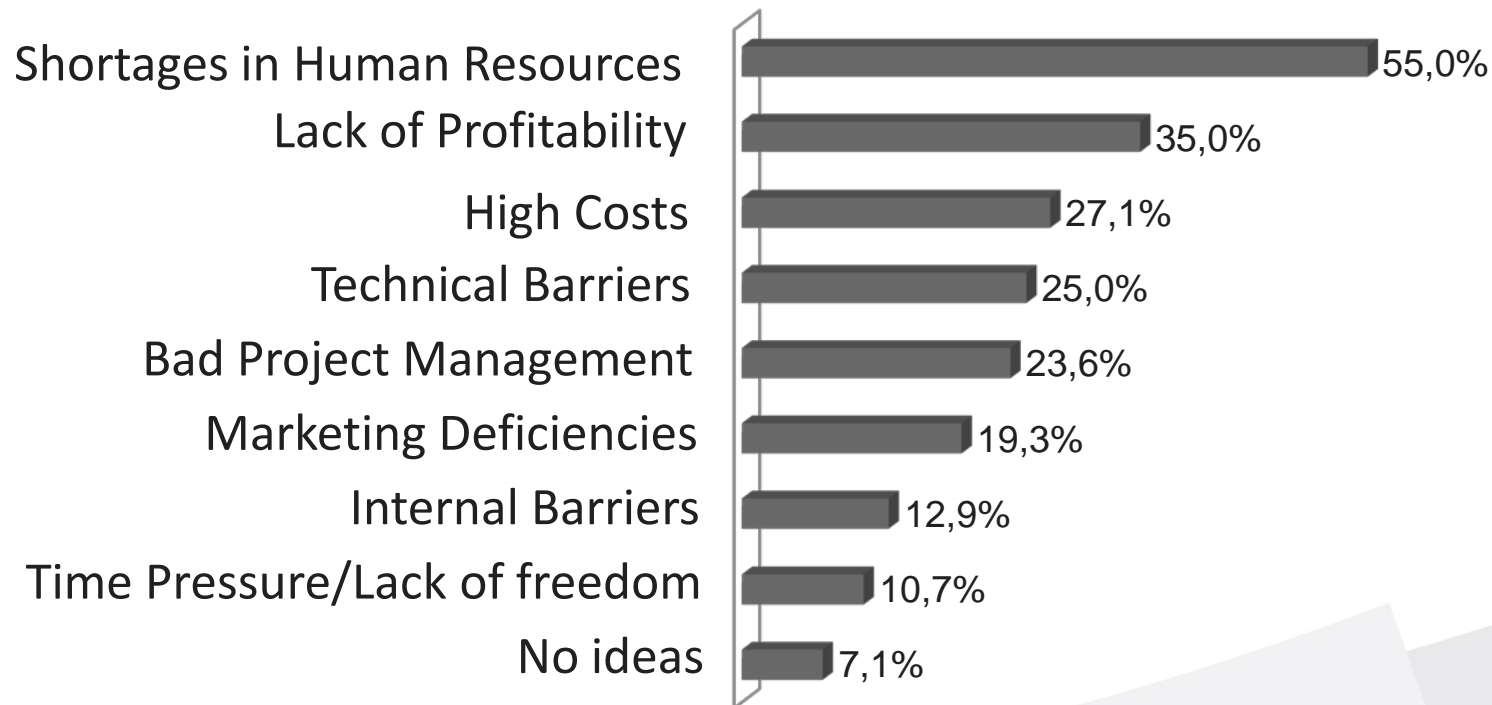
# Four Core Issues: 4. Challenge Innovation Management

*When do innovation projects fail ? (in phase of the innovation process )*



# Four Core Issues: 4. Challenge Innovation Management

## *Why do innovation projects fail? (Primary factors of failure)*



# Four Core Issues: 4. Challenge Innovation Management

**Basics in Terminology: What exactly is / means „*INNOVATION*“?**

## **Innovation versus Invention**

- ▶ The word „Innovation“ is of Latin origin and incorporates „NEW“ (Nova): A new idea that has not existed before.
- ▶ What is the difference between innovation and invention (or discovery)?
- ▶ Invention is a pre-requisite for Innovation.
- ▶ Innovation is the first commercial use of an invention / technical discovery.
- ▶ Schumpeter was the pioneer who distinguished „Invention“ from „Innovation“ („Innovation means successful market introduction of inventions“).
- ▶ Innovations are either new products or new production processes (business methods).
- ▶ Innovation i.n.s. versus Innovation i.b.s.
  - ▶▶ Innovation i.n.s. is the first market introduction of a new product or production process.
  - ▶▶ Innovation i.b.s. means the wide diffusion of an invention (like the iPhone or the iPod).

Quelle: Burr/Stephan/Werkmeister (2011), S. 353 f.



# Four Core Issues: 4. Challenge Innovation Management

## *Types of Innovation (1): Product- versus Process Innovation*

### **Process Innovations:**

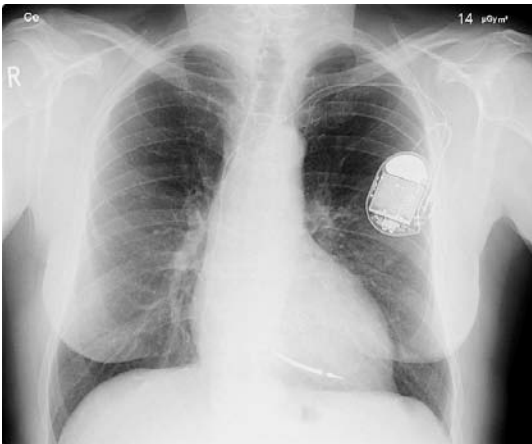
- ▶ Process innovations are innovations in the way an organization conducts its business, such as in techniques of producing or marketing goods or services.
- ▶ Product innovations aim at an increase in efficiency.

### **Product Innovations:**

- ▶ Product innovations are embodied in the outputs of an organization – its goods or services.
- ▶ Product innovations aim at an increase in effectiveness
- ▶ Product innovations can enable process innovations and vice versa.
- ▶ What is a product innovation for one organization might be a process innovation for another:  
E.g., UPS creates a new distribution service (product innovation) that enables its customers to distribute their goods more widely or more easily (process innovation)

# Four Core Issues: 4. Challenge Innovation Management

## *Popular Product Innovations: The cardiac pacemaker*

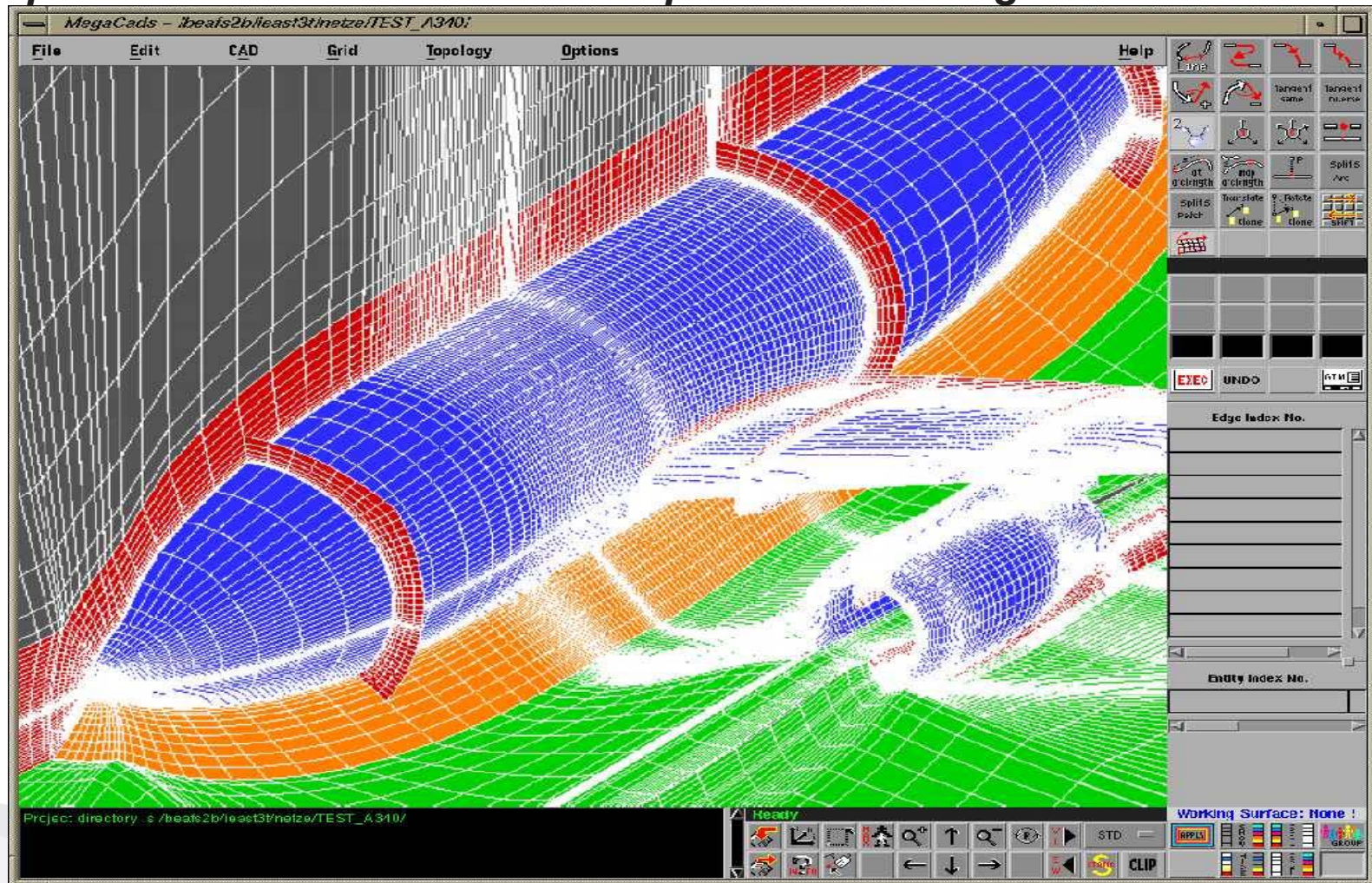


### **Inventor: Dr. Paul Zoll, Boston**

- 1850** Surgeons discover, that the human heart can be stimulated electrically
- 1887** Discovery: Electrical impulses can be measured with scientific apparatus - „Electrocardiogram“
- 1952** First cardiac pacemaker is put into practice – the first pacemaker was a bulky machine with the size of a fridge, the patient has to carry the pacemaker on a trolley
- 1958** First implantation of a cardiac pacemaker by Siemens (a device with the size of a cigarette box)
- Today** Micro-invasive implants, pacemakers have the size of microchips, patients can live with a pacemaker now more than 12 years

# Four Core Issues: 4. Challenge Innovation Management

## Popular Process Innovations: Computer Aided Design





# Four Core Issues: 4. Challenge Innovation Management

**Beyond Traditional Product Innovation: Social and Ecological Innovation**



# Four Core Issues: 4. Challenge Innovation Management

## *Types of Innovation (2): Radical versus incremental Innovations*

### **Incremental Innovation**

- ▶ Evolutionary changes, product differentiation with new product features or quality improvements
- ▶ Examples?

### **Radical Innovation:**

- ▶ Dramatic changes, new ideas that make up new markets and industries
- ▶ Examples?

### **Criticism:**

- ▶ Critical arguments against this dichotomous classification!

# Four Core Issues: 4. Challenge Innovation Management

## *Types of Innovation (3): Market-pull versus Technology-push*

### What is the impulse for Innovation?

#### ▶ Market-pull Innovation

- ▶▶ Market-pull is Customer-driven
- ▶▶ Customer-needs are the driving force
- ▶▶ Customers play a crucial role in innovation management
- ▶▶ Innovation is „pulled“ by the market

#### ▶ Technology-push-Innovation

- ▶▶ Technology-push comes from the R&D department, „Laboratory-driven“
- ▶▶ Technology-push is „pushed“ by the firm

#### ▶ Examples?

# Four Core Issues: 4. Challenge Innovation Management

## *Different Types of Technology and Innovation Strategies*

### **The Crucial Question: Timing of the market entry**

- ▶▶ Pioneering strategy (First-to-Market)
- ▶▶ Early adopter strategy (Second-to-Market)
- ▶▶ Late follower strategy (Me-too-Market)

**Which one is the best?**



# Four Core Issues: 4. Challenge Innovation Management

## *Types of Innovation Strategies: Pioneering- vs. Fast-Follower Strategies*

PRODUCT	INNOVATOR	FOLLOWER	WINNER
Jet Airlines	De Havilland (Comet)	Boeing (707)	Follower
Float glass	Pilkington	Corning	Leader
X-Ray Scanner	EMI	General Electric	Follower
Office P.C.	Xerox	IBM	Follower
VCRs	Ampex/Sony	Matsushita	Follower
Diet Cola	R.C. Cola	Coca Cola	Follower
Instant Cameras	Polaroid	Kodak	Leader
Pocket Calculator	Bowmar	Texas Instruments	Follower
Microwave Oven	Raytheon	Samsung	Follower
Plain Paper Copiers	Xerox	Canon	Not clear
Fiber Optic Cable	Corning	many companies	Leader
Video Games Players	Atari	Nintendo/Sega/Sony	Followers
Disposable Diapers	Proctor & Gamble	Kimberly-Clark	Leader
Web browser	Netscape	Microsoft	Follower
PDA	Psion, Apple	Palm	Follower
MP3 music players	Diamond Multimedia	Apple	Followers

# Four Core Issues: 4. Challenge Innovation Management

## First Mover = Pioneer

### Advantages

- ▶ Above-average returns until other competitors respond effectively
- ▶ Start down the learning curve earlier
- ▶ Opportunity to gain customer loyalty
- ▶ Opportunity to set standards
- ▶ .....

### Disadvantages

- ▶ Uncertainty about demand
- ▶ High development costs / trial and error R&D
- ▶ Risk of adopting a losing standard
- ▶ .....

# Four Core Issues: 4. Challenge Innovation Management

**Fast Follower = Moving Second: Imitate and counter**

## **Advantages**

- ▶ Reduction in demand uncertainty
- ▶ Market research to improve satisfying customer needs
- ▶ Learn from the first mover's successes and shortcomings
- ▶ Gaining time for R&D to develop a superior product
- ▶ Don't have to educate consumers
- ▶ .....

## **Disadvantages**

- ▶ Switching costs may make taking customers difficult
  - ▶ Brand loyalty/customer familiarity
  - ▶ Standards
- ▶ Initial cost disadvantage: May not survive until learning curve advantages have leveled out
- ▶ .....