

# Antecedents of Innovation Success at the Firm Level



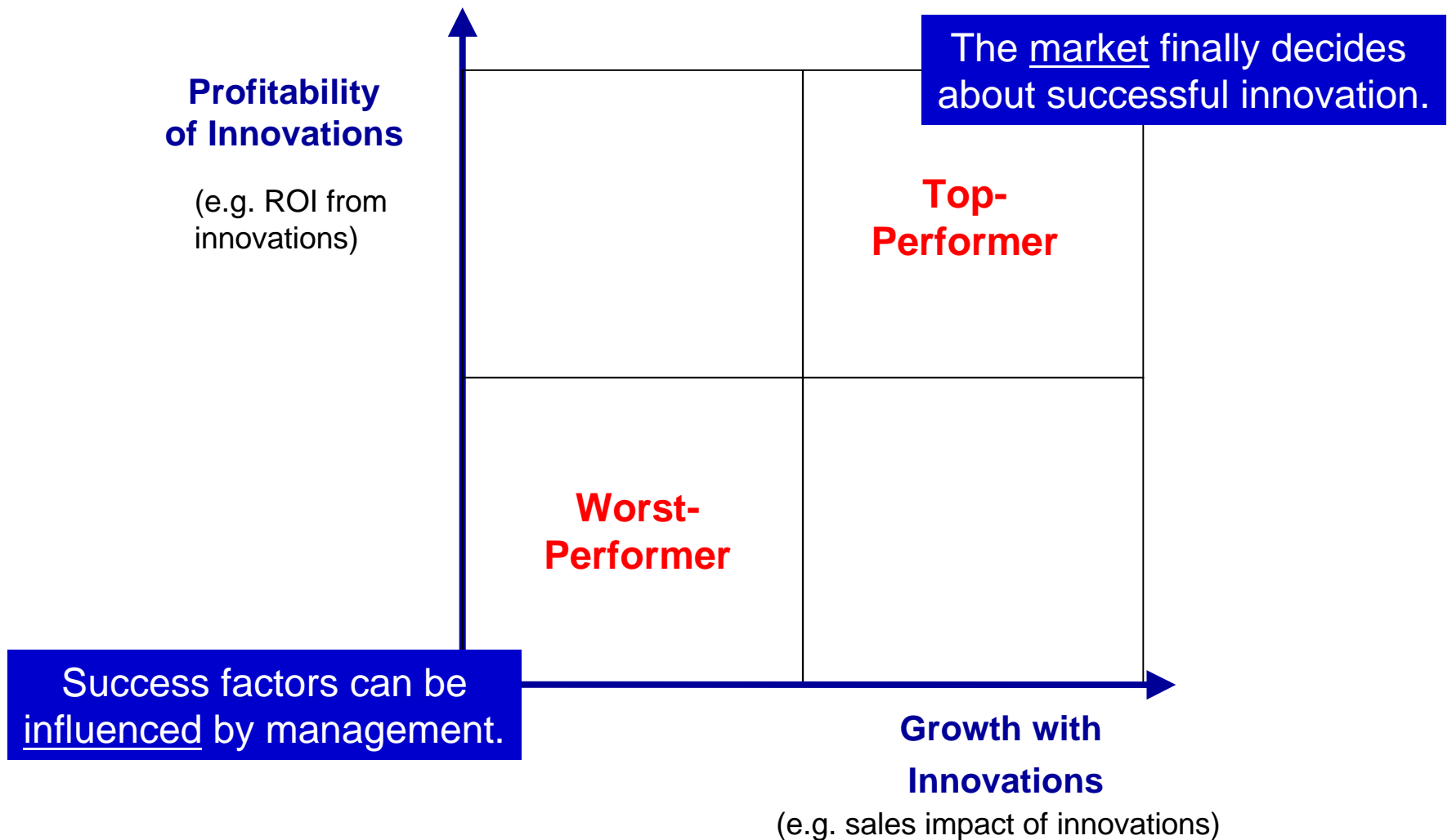
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## - Participants



**Companies with an excellent innovation management outperform other companies on both success dimensions simultaneously.**



## **The Core Success Factors of Innovations at the Firm Level**

- Corporate Culture (fundamental base)**
- Relative Product Advantage**
- Champions of Innovation**
- Proficiency of NPD Process Management (idea to launch)**
- Proficiency of Pre-Development Activities (FFE)**
- NPD Portfolio Management (monitoring, assessment, decision)**
- Customer and Market Orientation (idea to launch)**

## **The Core Success Factors of Innovations at the Firm Level**

- **Strong Cross-Functional Project Management (task force or heavyweight matrix project management)**
- **Top management support (resources/commitment)**
- **Strategy and long-term thrust of NPD activities**
- **Integrated NPD and intellectual property management**
- **Alliances/Networks (access to important external knowledge; firm must have its own critical mass absorptive capacity)**

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# Corporate Culture and Innovation: The Case of 3M

“Researchers are allowed to devote 15 percent of their time to projects that pique their interest, even those on which management has pulled the plug... If you want to encourage innovation, you have to close your eyes when people are so excited about a project that they refuse to stop”, he said, noting that Thinsulate, a big-selling clothing insulation material, resulted from a project he had officially scuttled (Deutsch, 1999: 16).



The screenshot shows the 3M United States website in Microsoft Internet Explorer. The browser window title is "3M United States products brands & technologies - Microsoft Internet Explorer". The address bar shows the URL "http://solutions.3m.com/wpi/portal/\_s\_155/110903/\_/en\_US/". The website features a navigation menu with categories like "Products & Services", "Brands", "Technologies", "Our Company", and "Partners & Suppliers". The main content area is titled "The Spirit of Innovation. That's 3M." and includes sections for "Diversity of Products", "Powerful Leading Brands", and "Core Technologies". A sidebar on the left lists various services and links, and a right sidebar contains "3M Corporate News" and "Where to Buy".

# Types of Corporate Culture

## Organic Processes (flexibility, spontaneity)

### Clan

Dominant Attributes: Cohesiveness, participation, teamwork, sense of family

Leader Style: Mentor, facilitator, parent-figure

Bonding: Loyalty, tradition, interpersonal cohesion

Strategic Emphases: Towards developing human resources, commitment, morale

### Adhocracy

Dominant Attributes: Entrepreneurship, creativity, adaptability

Leader Style: Entrepreneur, innovator, risk taker

Bonding: Entrepreneurship, flexibility, risk

Strategic Emphases: Towards Innovation, growth, new resources

## Internal Maintenance (smoothing activities, integration)

### Hierarchy

Dominant Attributes: Order, rules and regulations, uniformity

Leader Style: Coordinator, administrator

Bonding: Rules, policies and procedures

Strategic Emphases: Towards stability, predictability, smooth operations

## External Positioning (competition, differentiation)

### Market

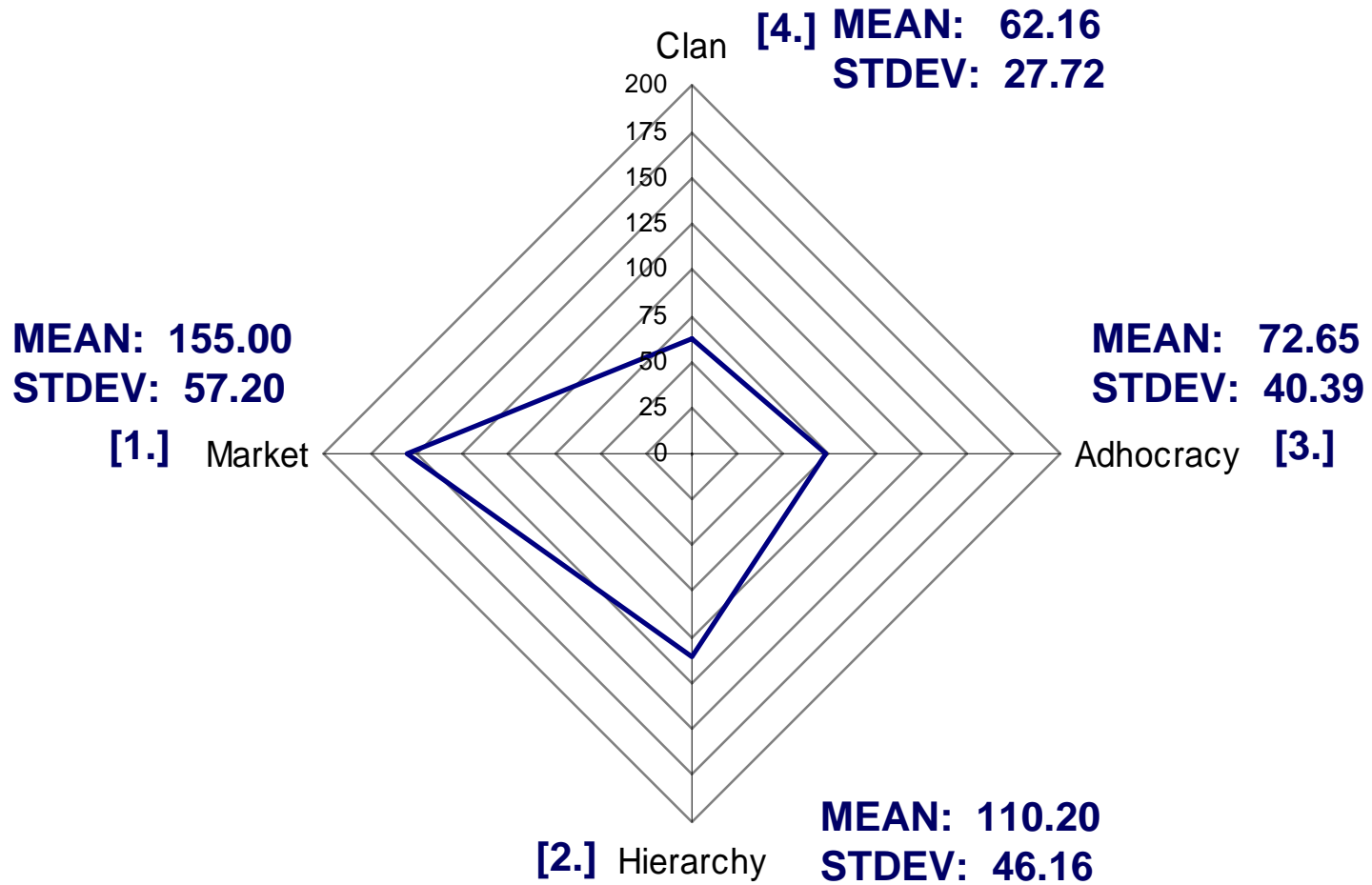
Dominant Attributes: Competitiveness, goal achievement

Leader Style: Decisive, achievement-oriented

Bonding: Goal orientation, production, competition

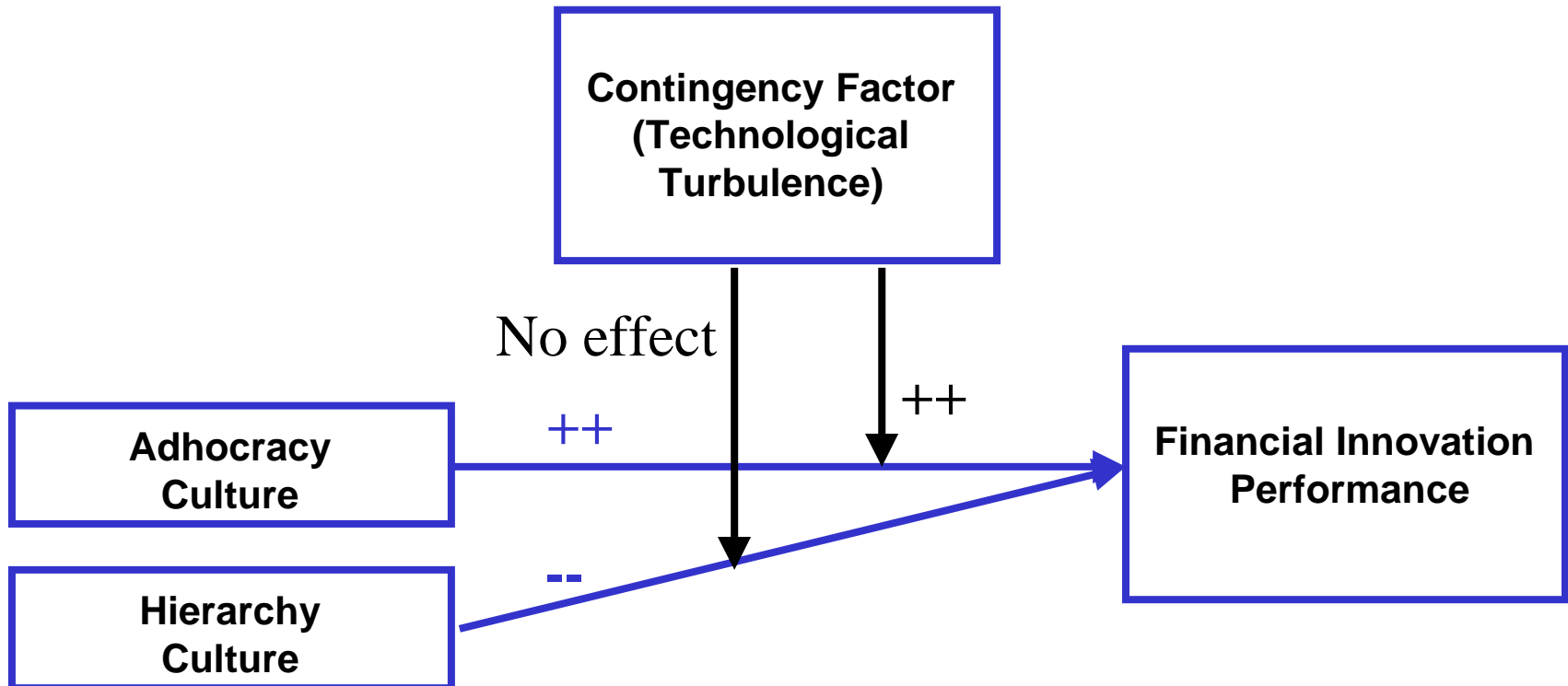
Strategic Emphases: Towards competitive advantage and market superiority

## Mechanistic Processes (control, order, stability)



⇒ Market and Hierarchy orientated

# The Impact of Corporate Culture on Financial Innovation Performance



# The Role of Leadership in Innovation Management

- Leadership determines the “mindset” for innovation (culture)
- Culture is a core enabler of effective innovation management (secures top management support; reduces interfaces; encourages cross-functional teamwork; encourages “intrapreneurship” etc.)



Assessing and Changing Corporate Culture if necessary  
(The start of any successful Innovation Management)

## **The Core Success Factors of Innovations at the Firm Level**

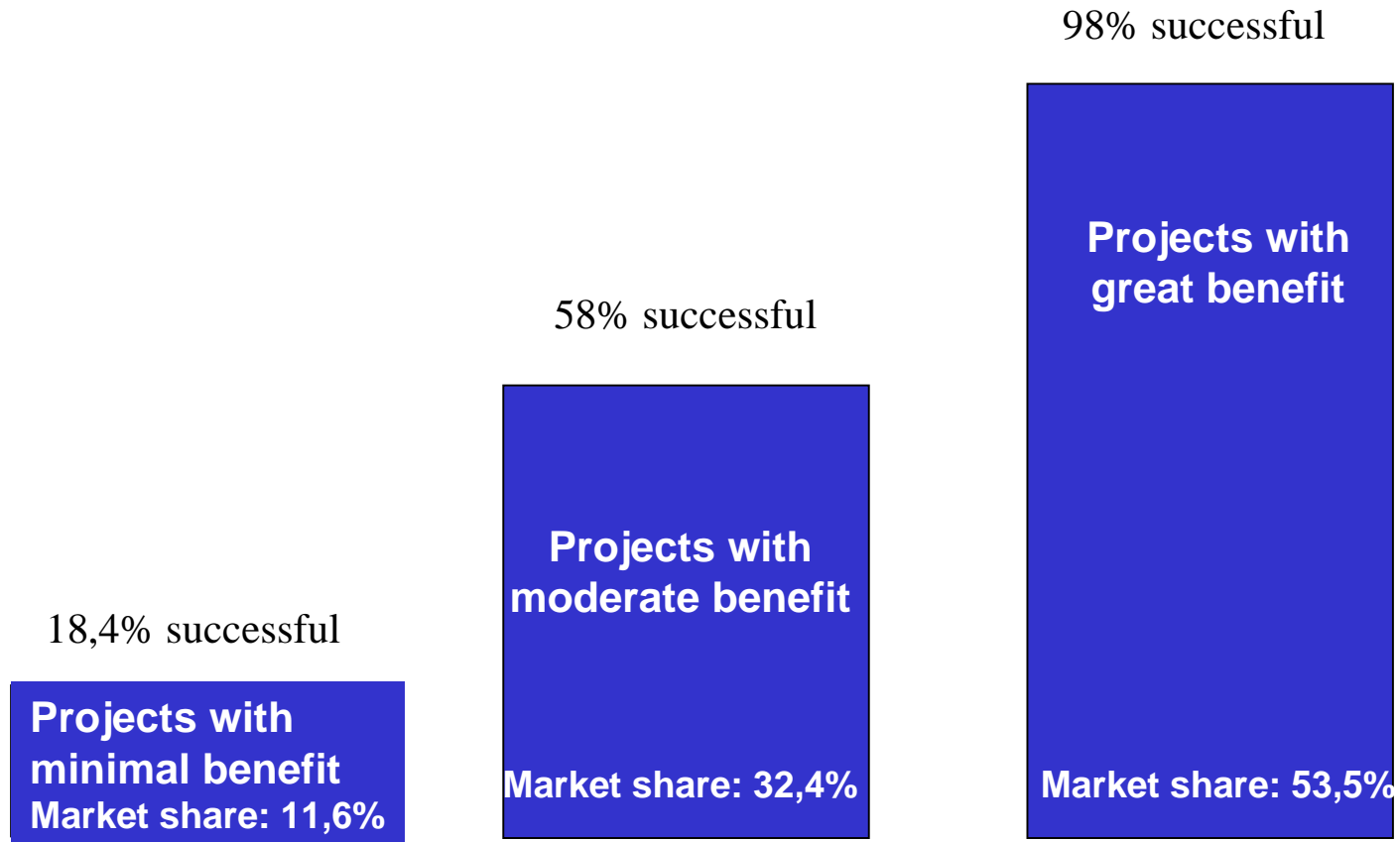
- **Corporate Culture (fundamental base)**
- **Relative Product Advantage**
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## Relative Product Advantage:

The relative product advantage (value proposition) of the innovation over competing products as **perceived by the customer** is the most important success factor.

# Relative Product Advantage and Innovation Success

## Success Rate



Assessed Rentability\*

Met sales expectations\*\*

Met revenue expectations\*\*

Source: Kleinschmidt/Geschka/Cooper (1996)

## Relative Product Advantage – Implications for Innovation Management

The relative product advantage (value proposition) of the innovation over competing products as perceived by the customer is the most important success factor. This has the following **implications**:

- “Me-too” is an unsuccessful business model
- The innovator can be successfully challenged (fast second)
- Identification of the relative product advantage as early as possible in the NPD process
- Determining the relative product advantage requires customer/market feedback
- A superior technology does not automatically translate into a successful product (often an engineer’s or scientist’s view)
- Most important aspect of any business plan!

# Technology vs Innovation – View from the CEOs of Leading High Tech Firms

What are the lessons learned from the bust that will be applied to the recovery and any future boom?

The biggest lesson from the bust is that the customer is now in charge. We're witnessing a major power shift between information

technology and the rest of business. From now on, the technology companies that succeed will be those that have developed skills at listening and a sophisticated understanding of their customers' industries. Don't get me wrong: Technology is still important. IBM (IBM) isn't investing billions of dollars every year into research and development — and winning more patents than our top 10 competitors combined for more than a decade — as an academic exercise. But research is now being driven much more by what people need, rather than just by what is possible.

What impact will consolidation have on startups and innovation?

I do have one concern — not about industry consolidation, but about possible overreaction to recent corporate excesses. Please understand, I think it's entirely fair for society to impose appropriate oversight and to insist on appropriate corporate governance, particularly for companies of IBM's size and reach. But when you're a 30-person startup, you may not have the resources to handle everything that is being contemplated in some circles. You may not be able to get the right kinds of people to serve on your board, or provide compelling incentives to attract top talent. You may be suffocated by all of the controls



IBM's Sam Palmisano



governance, but we need to find the right balance.

Will the next stage of the Internet be led by the U.S.?

The U.S. still has an unmatched IT ecosystem of industry, academia, and early adopters of technology, not to mention a national propensity to innovate. There's a strong commitment to continued technical leadership by the U.S. government. That said, innova-

tion is not an American birthright, and to try and define it that way ignores the realities of the global competition for everything from customers to ideas. We're moving beyond "international" business to something that is more like "transnational." For instance, IBM has 30 software labs around the world. We have research labs in six countries, including China and India. We're global by definition and have been for a long time, which creates tremendous advantages for our customers and shareholders, and tremendous opportunities for the top talent in markets all over the world.

and checks and certifications. If we overregulate, overcontrol, impose too many burdens and too much bureaucracy — or if we do it across the board, without taking into account the differences among businesses and their relative impact on society — that could make people risk-averse and dampen the entrepreneurial spirit. And it could also knock out of whack a very delicate ecosystem — among venture capitalists, entrepreneurs, academia and industry — that has for decades created enormous innovation and economic growth. We understand the importance of improving controls and

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### SAP'S KAGERMANN

Are corporate buyers skeptical about tech these days?

It depends on the companies — whether they were oversold. We had a more conservative approach about the Internet. We never told the clients they had to rip out the old stuff. We did not close \$100 million deals on what is now shelfware. Some corporations aren't happy with other tech companies. To some extent, these companies have spoiled the



market.

#### How do you overcome this?

There is less confidence, less trust. It's very important for us to behave like a mature industry.

So far, we have not. It was not "client first," it was "us first." We have to improve customer relations, make the business case, and not promise anymore that we have the Holy Grail. It's hard work. It's rebuilding the relationship. It's what we do.

#### Are you adapting your software for new technologies, such as radio-equipped tags for inventory?

People are just starting to work with it. We're codeveloping with Procter & Gamble. Ultimately, probably in a year, we'll sell it as a packaged application.

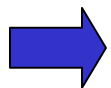
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## The Basic Idea of Champions: Overcoming Barriers to Innovations

“Given the underground **resistance** to change described earlier, the **new idea either finds a champion or dies** (Schon, 1963: p. 84) .”

incentive systems etc.



- The higher the degree of innovativeness, the higher the degree of resistance.
- Innovation Management always involves “overcoming resistance” (e.g. by champions).

## Different Sources of Power and Championing Roles in Innovation Management

<b>Sources of Power</b>	<b>Championing Roles in Innovation Management</b>
1. expertise, project-specific knowledge	knowledge promoter; technical innovator; technologist; inventor
2. hierarchical potential	power promoter, chief executive, executive champion
3. Access to material, resources	business innovator, investor, entrepreneur, sponsor
4. organizational knowledge and communication intensity	process promoter, product champion, project champion
5. network knowledge and interaction skills	relationship promoter

## The Importance of Executive Champions

- Executive champions have the **strongest** impact on innovation projects because of their strong hierarchical power base (Chakrabarti and Hauschildt, 1989). They can **overcome resistance**, they can **secure the required resources** and they can impact **termination decisions** (Markham, 2000).
- Executive champions associate more often with **highly innovative** projects (Day, 1994), which can have, either way, a strong positive or negative impact on organizational performance.
- Prominent examples (Day, 1994):
  - Watson (former CEO of IBM) championed the IBM 360
  - Morita (former CEO of Sony) championed the Walkman
  - Tonaka (former managing director of Canon) championed the move into the plain-paper copier market

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# Research Project: Patent Management and Company Performance

- In-depth pre-test of the questionnaire with 20 firms
- Written survey with a standardized questionnaire
- Data collection in Germany and the U.S.A.
- Firms are mainly from R&D intensive industries
- Informants: VP IP, VP R&D or CEO (in small firms)
- Incentives for firms to participate in the survey (customized benchmarking report; executive management summary)



## Fragebogen: Erfolgsfaktoren des Patentschutzes

### Anleitung:

Die Beantwortung des Fragebogens dauert ca. 20 Minuten. Tipp: Füllen Sie die aufgeführten Informationen. Sollten Unklarheiten bei der Beantwortung der Fragen auftreten, dann wenden Sie sich gerne unter der Telefonnummer (0224-4998-243) an Herrn Dipl.-Kfm. Niko Oetzel (e-mail: [nico.oetzel@whu.de](mailto:nico.oetzel@whu.de)).

Alle Ihre Antworten werden streng vertraulich behandelt und gehen ausschließlich an unseren Partner Firm in ihrer nationalen Geschäftsregion ein. Weitere Informationen finden Sie unter [www.whu.de/whuipjprc](http://www.whu.de/whuipjprc).

### Bitte Melden Sie hier Ihre Verbindungsdaten:

Name:	_____
(Friedrich-Wilhelms-Universität):	_____
Platz der Firma:	_____
Land:	_____
(Telefonnummer):	_____

### Ich bitte um Zuweisung folgender Evaluation:

- Individuelle Benchmarking-Auswertung
- Personalisierte Zusammenfassung der Ergebnisse der Studie
- Beschriftete mit CID: Patentanträge für rechtlich-statische Unternehmen

### Success Factors in Patent Management

Area:  
Executive  
Concept/Model & Hypotheses  
Research Approach  
Preliminary Findings  
References

In his recent speech, US Fed Chairman Alan Greenspan emphasizes the growing significance of balanced intellectual property rights management ...

## Where does your company stand?

We can benchmark your firm's patent management performance against 100+ companies already participating in our research!

What you get:

- An individual benchmark evaluation
- A summary of the study's results

What you give:

- Approximately 25 minutes to complete the survey form & respondent

Contacts

## Proficiency of Patent Management and Firm Performance: Results form Multiple Regression Analysis


	Profit Margin	Variance Inflation Factor
Firm Size	-.27**	1.30
Country (Germany)	-.06	1.54
R&D intensity	.18	1.37
Life Sciences	-.11	2.30
Chemicals and Materials	-.15	2.06
Mechanical Engineering	-.31**	2.32
Electrical Engineering	-.24*	2.26
Communication and Computers	-.15	1.80
Proficiency of Patent Protection Management	.41***	1.22
Proficiency of Patent Information Management	.27***	1.24
R <sup>2</sup>	.42	
Adjusted R <sup>2</sup>	.33	
F (p)	4.66 (.00)	
N	75	

\* Significant at the .01 level

\*\* Significant at the .05 level

\*\*\* Significant at the .001 level

## Intellectual Property – Implications for Management

- Establish a **professional patent management** in the organisation. Import aspects include especially:
  - top management support (must value IP)
  - resources (money, people, consultants, patent layers)
  - responsibility (no ad hoc solution, IP department)
  - use of technical and strategic patent information (databases)
- Develop and implement a **patent strategy**. Important aspects to consider include:
  - early and broad patent applications (basic concept)
  - patent fencing to protect the core patent
  - patent applications for alternative solutions (only publication)
  - monitoring and pursuit of infringements
  - international patent filing strategies (country coverage; cost and timing considerations)
  - continuous review of the patent portfolio
-  **Integration into the innovation process (e.g. Gore, 3M ESPE)**

# Successful Differentiation through Integrated R&D, Patenting and Branding

R&D focuses on the USP with experienced customer value which is protected by patents and which is in the focus of the more efficient branding campaign (“unique branded products”).

## ■ Unique

- Unique selling proposition (USP)
- Experienced customer/user value
- Bases on core competences
- Protected by patents and know-how

## ■ Branded

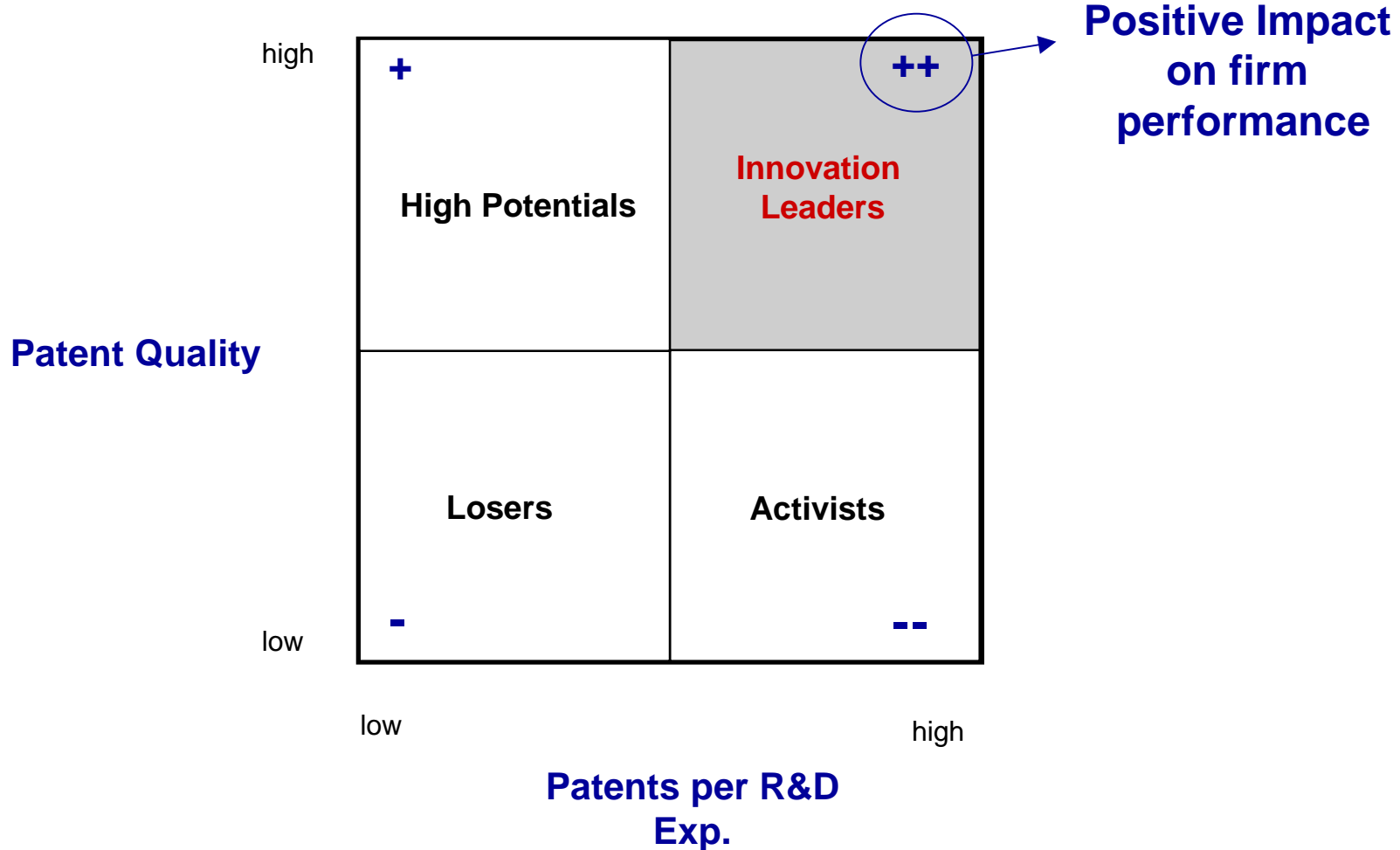
- Market communication
- Positioning
- Recall
- Orientation towards target segments



# How to Achieve Successful Integration of Innovation and IP Management

- Integration of patent professionals in the NPD team (e.g. DC)
- Integration of patent-related criteria into the milestone planning during the NPD process (e.g. 3M; Gillette)
- Early integration of relevant functions (R&D, Marketing, Production and IP; e.g. Gore; 3M ESPE)
- Integrative protection strategies over all IPs (esp. trade marks; e.g. Gore; 3M ESPE)
- IP awareness at multiple levels of the organization
- Awards and incentives
- Job rotation

# Companies with Integrated Innovation and IP Management have High Quality (Economically Valuable Patents) Patent Portfolios



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