

Antecedents of Innovation Success at the Firm Level

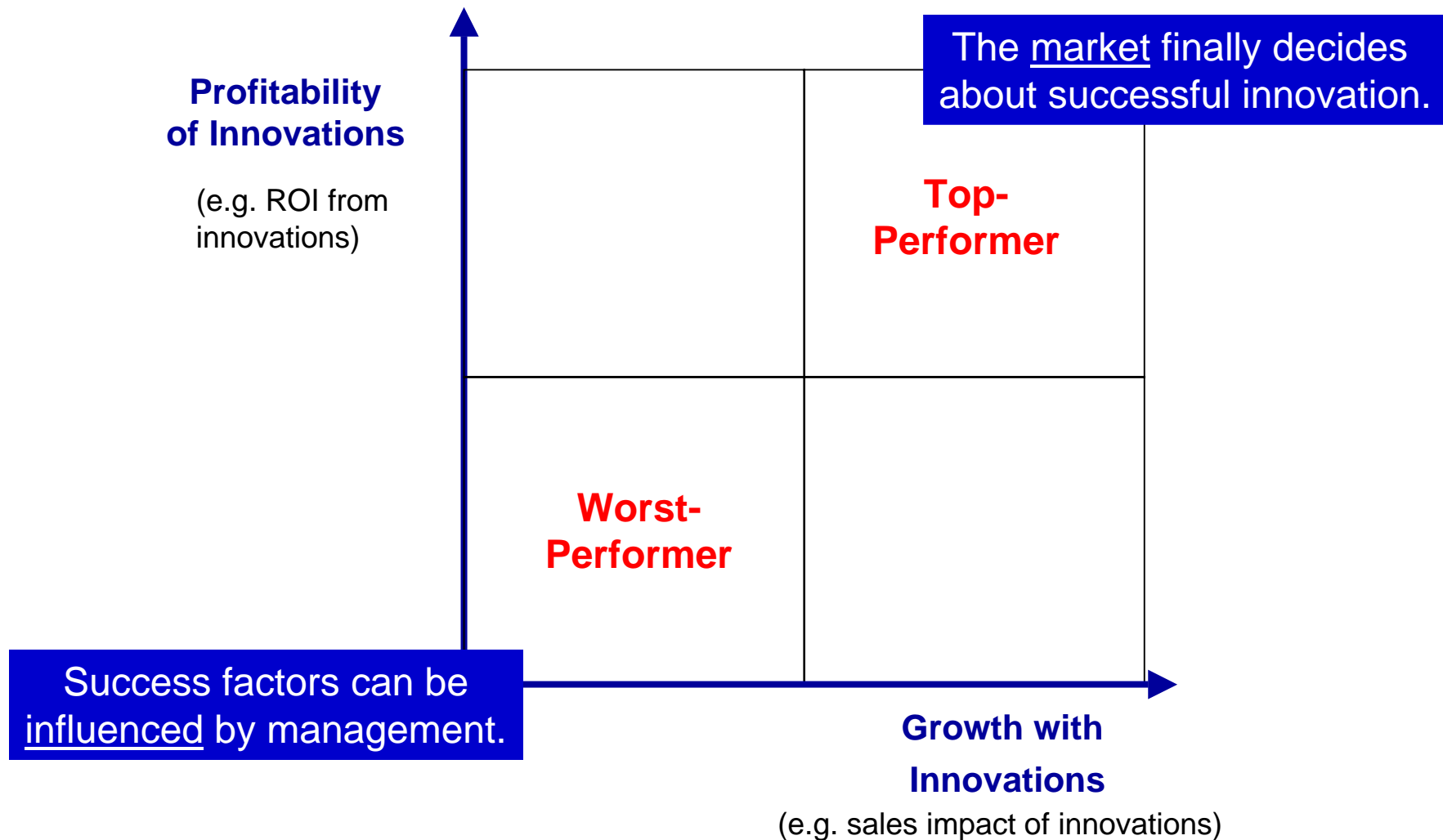


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- Participants



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



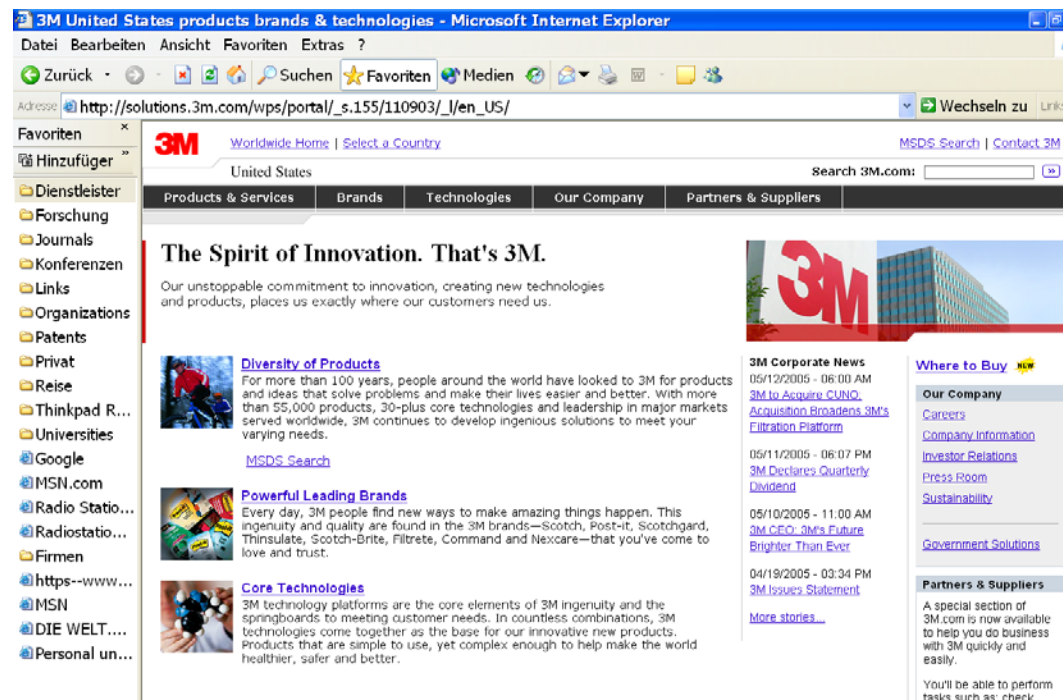
Agenda

Core Antecedents of Innovation Success at the Firm Level:

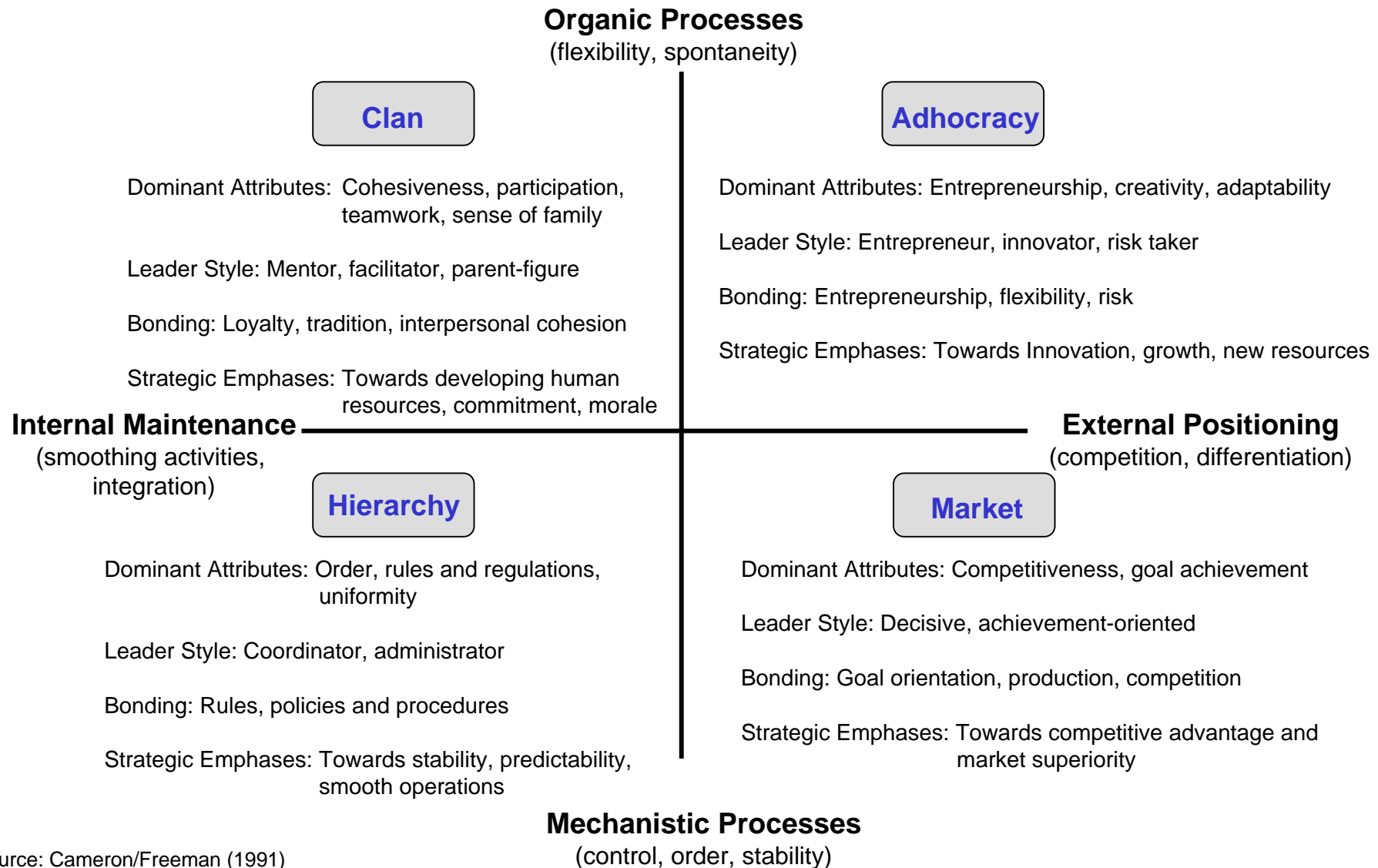
- (1) Corporate Culture**
- (2) Champions of Innovations**
- (3) Relative Product Advantage**
- (4) Proficiency of Pre-Development Activities**
- (5) Customer and Market Orientation**
- (6) Multidisciplinary Project Teams**
- (7) Integrated Intellectual Property Management**

Corporate Culture and Innovation: The Case of 3M

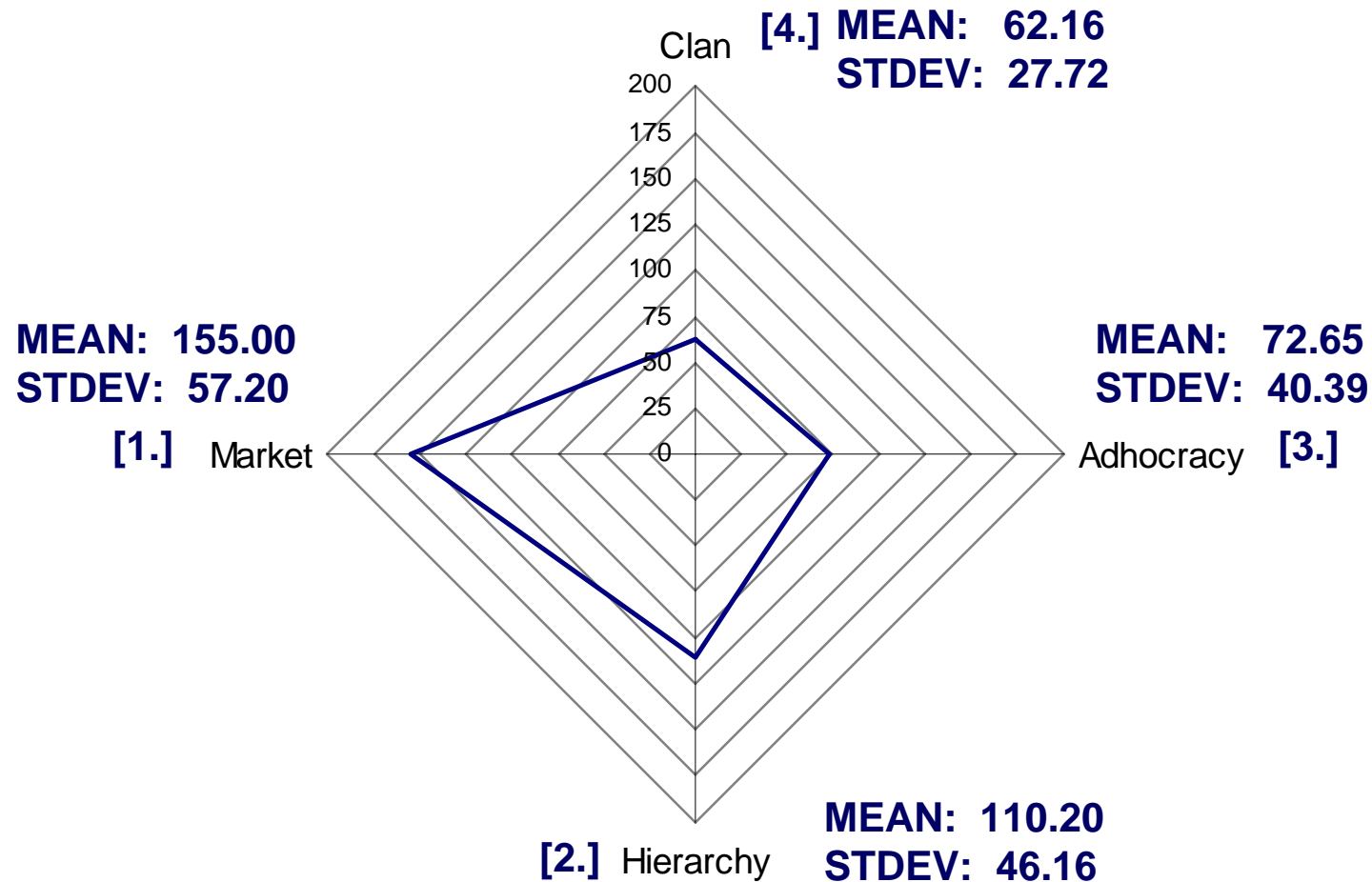
“Researchers are allowed to devote 15 percent of their time to projects that pique their interest, even those on which management has pulled the plug... If you want to encourage innovation, you have to close your eyes when people are so excited about a project that they refuse to stop”, he said, noting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



Types of Corporate Culture

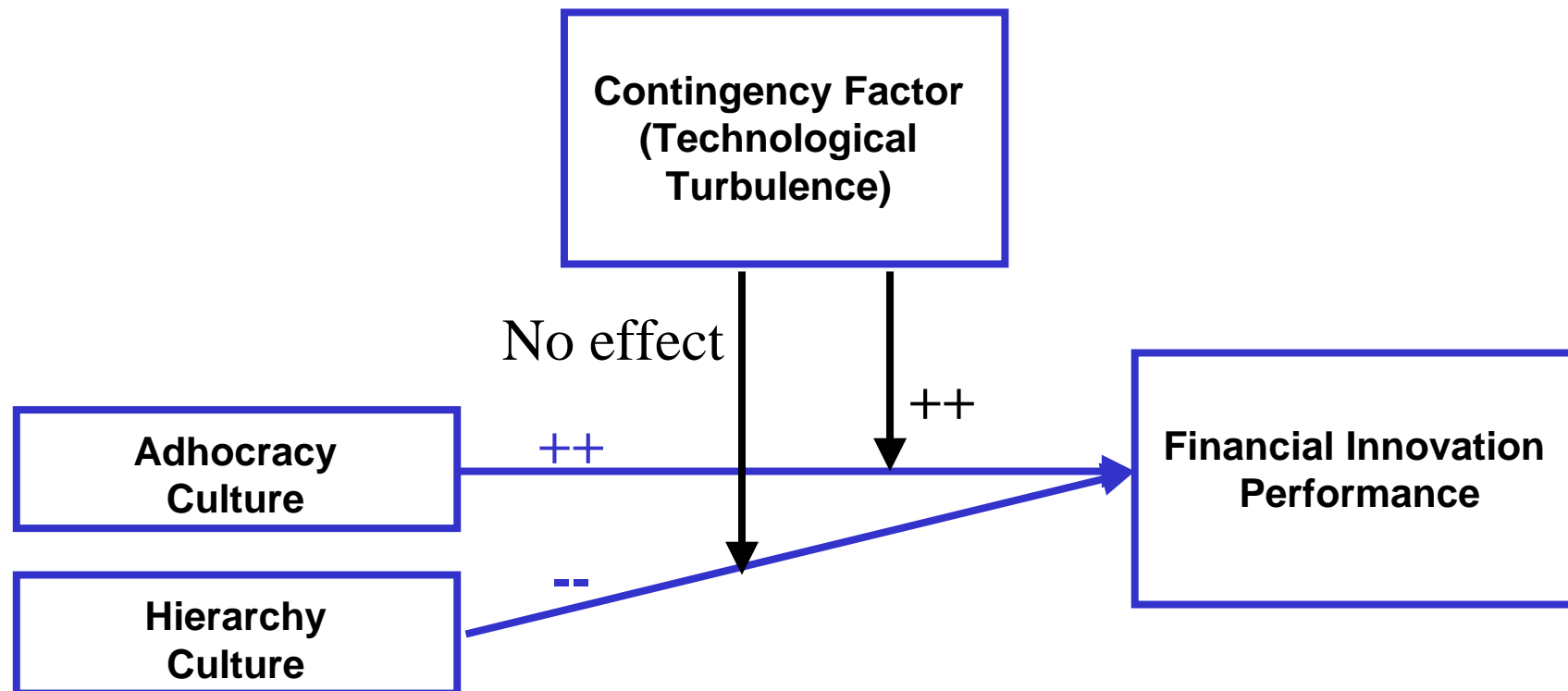


Example: Corporate Culture at XYZ



⇒ Market and Hierarchy orientated

The Impact of Corporate Culture on Financial Innovation Performance



Source: Ernst (2003)

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.)



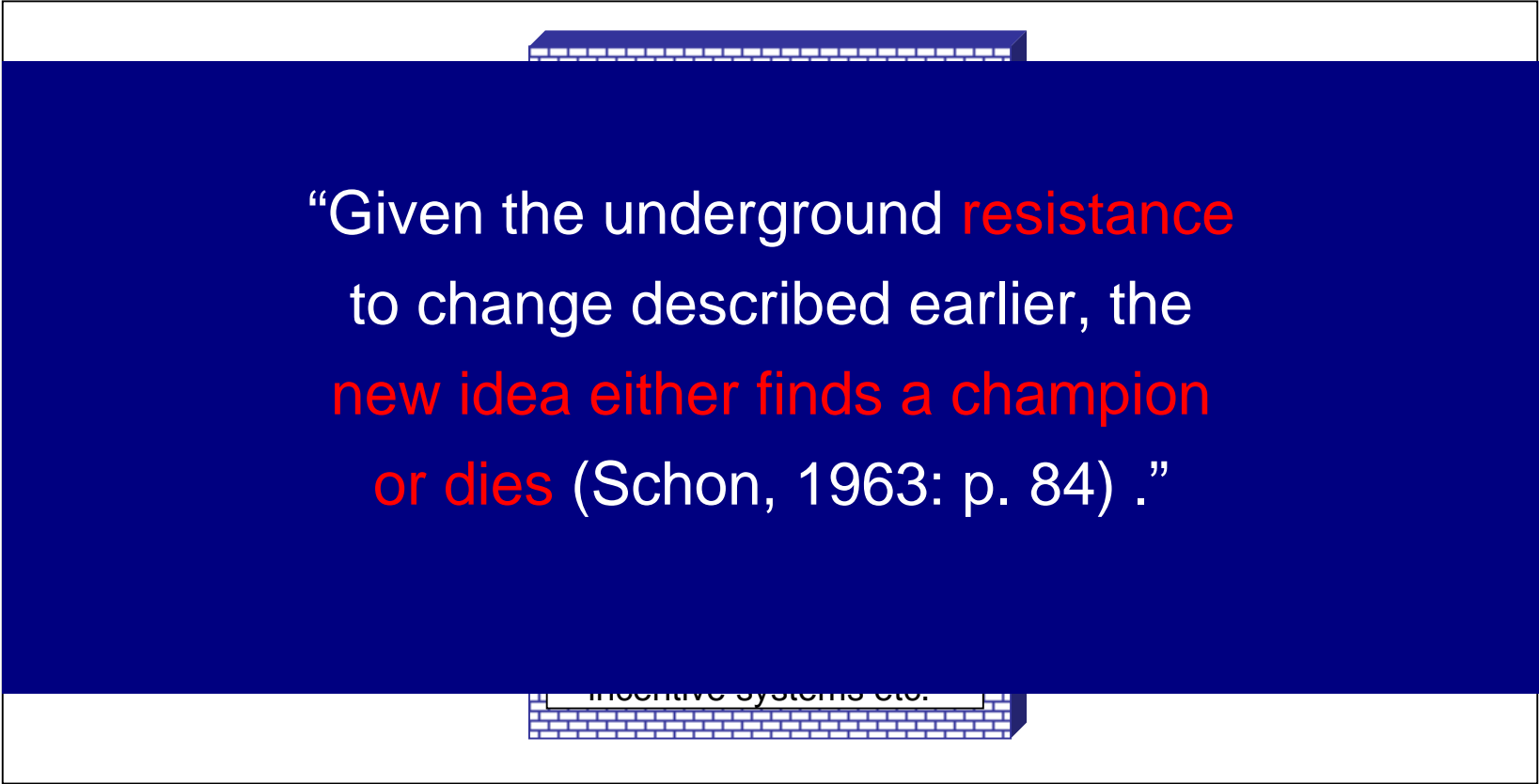
Assessing and Changing Corporate Culture if necessary
(The start of any successful Innovation Management)

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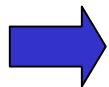
Core Antecedents of Innovation Success:

- (1) Corporate Culture
- (2) **Champions of Innovations**
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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) .”



- 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

Sources of Power	Championing Roles in Innovation Management
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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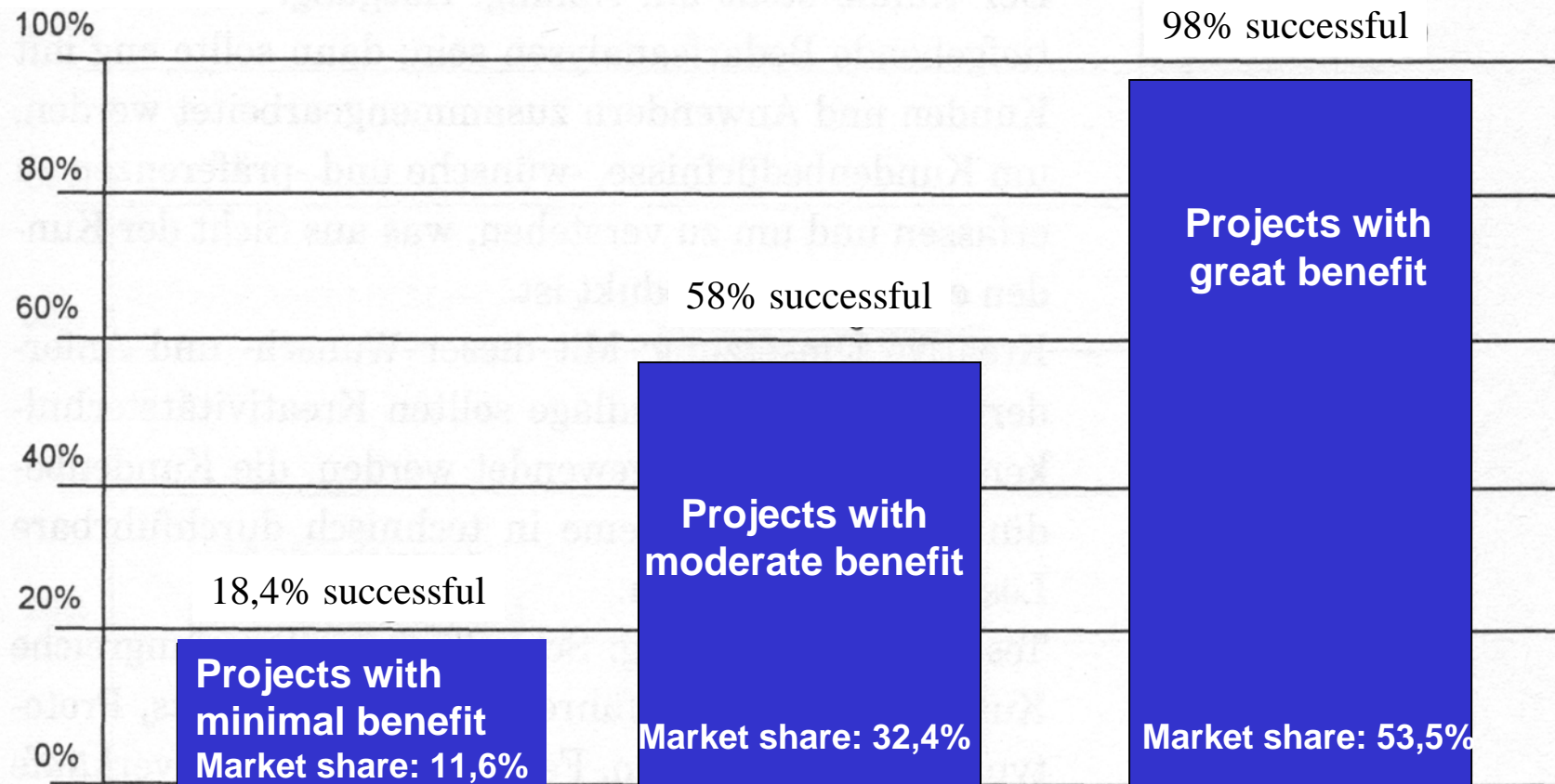
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Relative Product Advantage:

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*	2,58	5,77	8,42
Met sales expectations**	2,19	4,73	6,96
Met revenue expectations**	2,21	4,63	7,02

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

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?

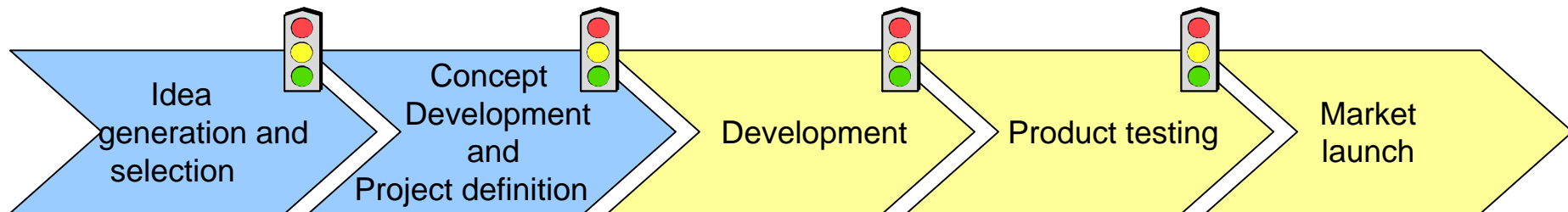
People are just starting to work with it. We're codeveloping with Procter & Gamble. Ultimately, probably in a year, we'll sell it as a packaged application.

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The Typical Stages of the New Product Development Process



Pre-Development

- The quality of planning before the beginning of the actual development stage (idea generation and concept development) is one of the most important success factor of innovations.
- The selection of the most promising projects before entering the development phase is especially important (portfolio management: identify the most promising projects as early as possible)

Proficiency of Pre-Development Activities – Implications for Innovation Management

The most important pre-development activities include:

- Initial, rough evaluation of ideas
- Execution of technical and market-oriented feasibility studies
- Thorough commercial evaluation of the innovation project
- Clear description of the product concept, the target market and the relative product advantage of the innovation for the customer

Implications:

- Take time to complete these activities professionally (higher speed to market!)
- Integrate customers/market requirements early in the process
- Spend sufficient resources on these activities (bring in investors early)
- Establish a core multifunctional team as early as possible
- Terminate the project if objectives can't be reached (lower sunk costs; new opportunity)

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The Impact of Customer Integration on the Success of Innovations

Empirical studies show that the **advantage of customer integration increases**

- when it is used in the **early and the later phases** of the innovation process and
- when the customers possess **specific characteristics** such as those of a **“Lead User”** and have a **high economic attractiveness** and
- when a high degree of **informal and formal communication** between innovation team and **„area of usage“** on the customer side

Customer integration must always be aligned with **market orientation** to **avoid niche solutions**.

Customer and Market Orientation – Implications for Innovation Management

- Early and continuous integration of customers reduces the market risk
- Integrate customers early (provide ideas and sometimes even solutions)
- Bring in qualified people early who understand the market (and have relationships to important customers) and have good marketing/sales skills
- Find innovative firms/customers (trendsetters) for totally new products in emerging markets (only they perceive the need)
- Reference customers are important signals to the market (also VCs)
- Commitment of significant customers reduces internal resistance
- Align process with customer (foster communication; use tools: e.g. QFD)
- Avoid niche solutions by conducting good market research (e.g. Conjoint) and up-date market information along the entire NPD process (termination)

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Multidisciplinary Project Teams – Implications for Innovation Management

Dedicated and powerful **multidisciplinary** project teams are an important driver of innovation success (strong project management). The **project leader** has to have specific skills. **Team work quality** has an important impact on the success of innovations, especially the higher the degree of innovativeness.

Implications:

- Complementary skills have to come together (team start-ups are more successful than individual ventures; important core functional areas include R&D, marketing/sales, controlling, finance; add further skills if required)
- Success factors of multidisciplinary teams should be taken into account
- Team and team leader need top management support
- Team quality can be measured and used as a controlling tool
- Team-based rewards are a strong motivator (based on outcome)
- The project leader should not be selected only because of his or her technological know how

Characteristics of successful Project Leaders – always from the R&D department?

- 1. Co-operative leadership**
- 2. Problem-solving ability**
- 3. Technological know-how**
- 4. Experience**
- 5. Ability for interaction**
- 6. Ability to organize**
- 7. Social competence**

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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

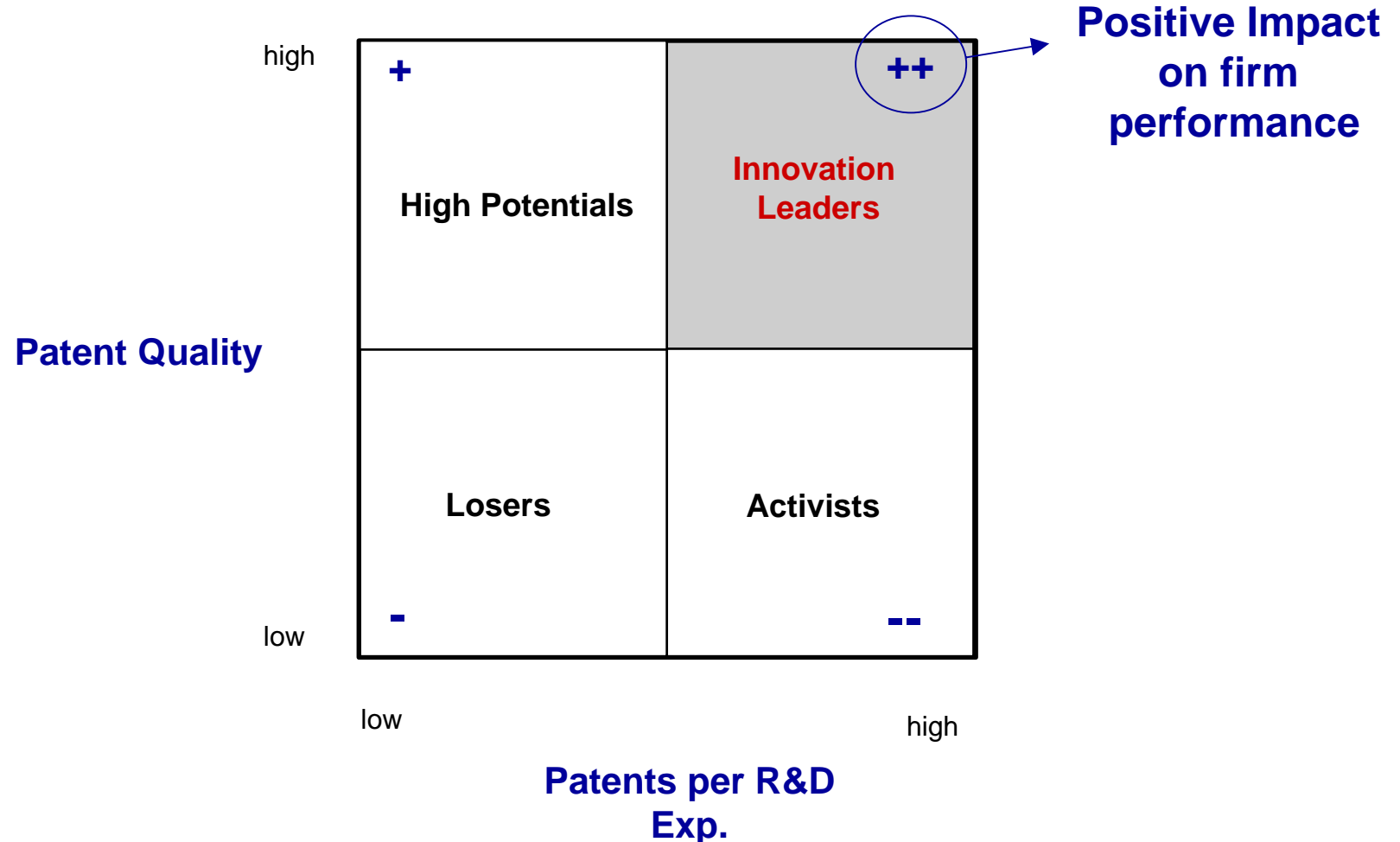
- Market communication
- Positioning
- Recall
- Orientation towards target segments



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)
- 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!**