

The background of the slide is a technical drawing of a mechanical assembly. A large gear is the central focus, with a caliper and a ruler placed over it. The drawing includes various lines, circles, and text in Cyrillic, such as 'ОТКРЫВ, ОТКЛЮЧИВ ОТ СЕТИ' and '54'. The overall theme is engineering and product development.

Best practices in new product development

Using effective methods
to boost success

b-tu

Brandenburgische
Technische Universität
Cottbus

Roland Berger
Strategy Consultants

April 2013

From cost focus to product value management – Analysis of >400 development projects reveals new product development best practices

Management Summary

- > In the last few years, the **challenges** for new product development have **increased** tremendously. Companies are facing intense competition from emerging markets, stricter standardization and regulations as well as changing customer behavior and requirements
- > If companies fail to get the development process right, their products will flop or be too expensive (up to 80% of all product-related costs are determined in the development phase)
- > We have analyzed over **400 product development projects** at leading manufacturing companies and identified **best practices** in new product development. The key findings are:
 - > Successful companies **focus on product value** rather than merely on product costs
 - > By doing so, they both **satisfy customers** and **increase product profitability**
 - > Successful companies improve product value by using **effective new product development methods** and also by creating the right **framework**

CONTENTS

A. BACKGROUND AND CHALLENGES

Page 4

B. KEY FINDINGS OF THE STUDY

Page 7

C. FROM COST FOCUS TO PRODUCT VALUE MANAGEMENT

Page 16

A silver compass with a black face and white markings is positioned in the lower right quadrant of the image. The compass face shows cardinal directions (N, E, S, W) and intermediate directions (NE, SE, SW, NW). The needle is pointing towards the top right. The background is a blurred document with financial data, including a line graph and several columns of numbers. A blue horizontal bar is visible above the compass.

A. Background and challenges

Roland Berger
Strategy Consultants

Successful new product development is a growing strategic challenge for many companies

Background and challenges for companies

- > Increasing **global competition** in all major markets:
More new products from new competitors
- > **Shorter and shorter product lifecycles**: Companies are forced to churn out new innovations and new products in shorter times and greater frequency
- > **High failure rates** in many industries: Up to 60% of new products/innovations flop
- > Early cost determination: Up to 80% of **product-related costs determined** already in the product development phase

NEW PRODUCT DEVELOPMENT
is a **growing strategic challenge**
for companies

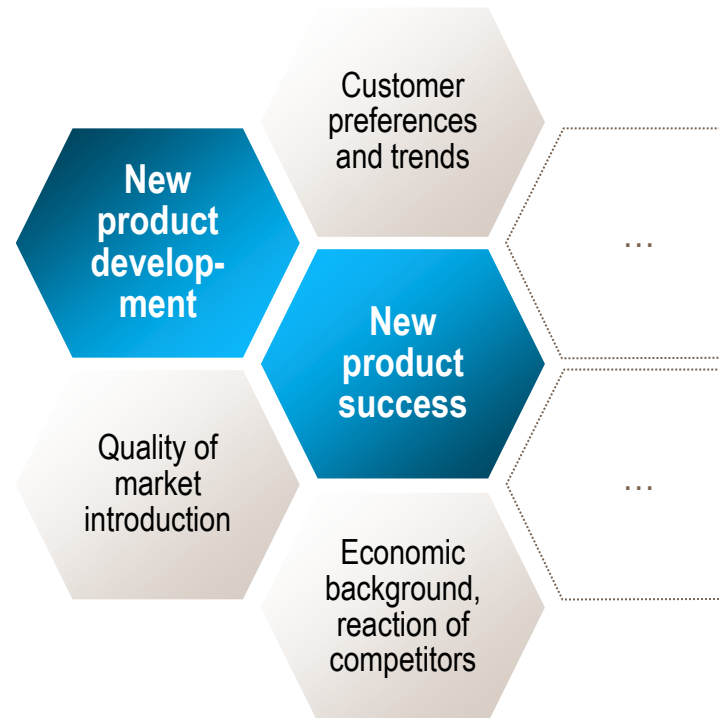
The key question is: How can companies improve product development and maximize product success?

Scope and key questions

KEY QUESTIONS

- > How to **improve new product development** and maximize **new product success**?
- > What are the **most effective methods** to support new product development?
- > How can companies set up an **optimal framework** for realizing successful new products development?

SCOPE: NEW PRODUCT DEVELOPMENT AND IMPACT ON PRODUCT SUCCESS



APPROACH

- > **Expert interviews**
- > **Large scale empirical study** of 410 new product development projects
- > **Ph.D. research** together with the **Brandenburg Technical University Cottbus** b-tu Brandenburg University of Technology Cottbus

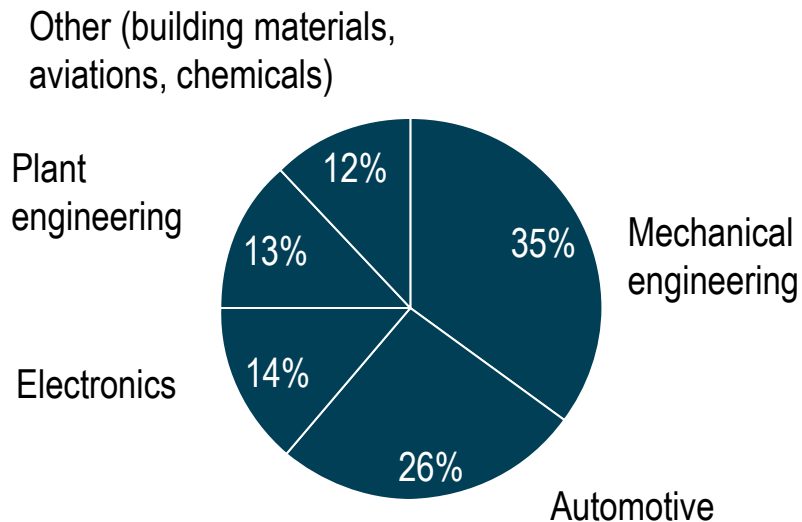
B. Key findings of the study

Roland Berger
Strategy Consultants

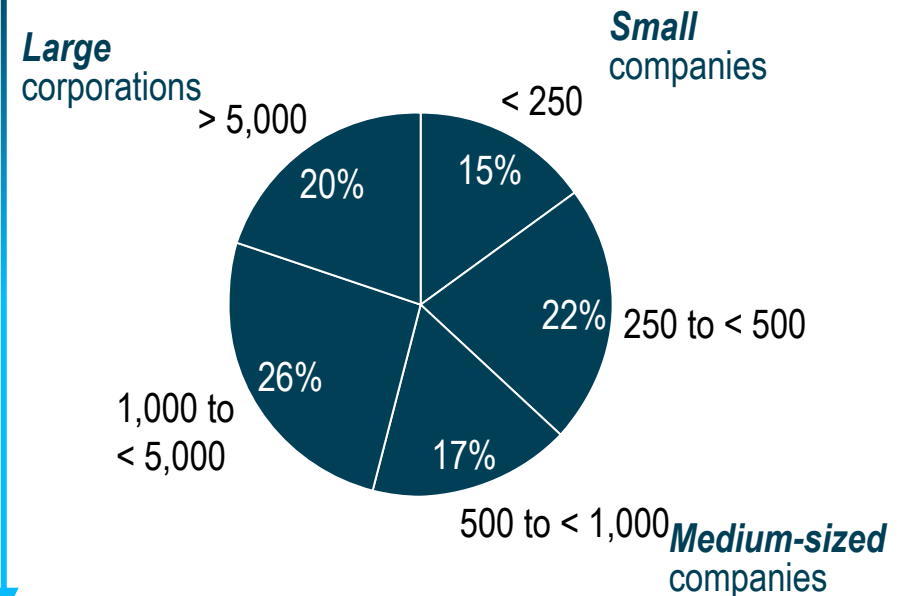
To answer these questions, we analyzed 410 product development projects from leading manufacturing companies

Study of 410 product development projects

INDUSTRIES



COMPANY SIZE [FTE]



Key finding: Successful companies increase product profitability by using effective new product development methods



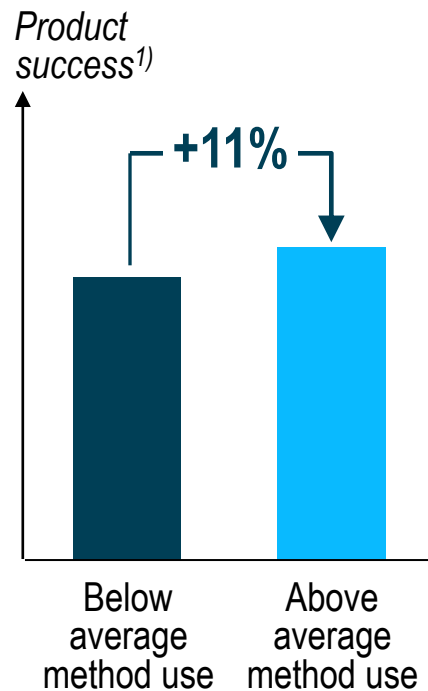
1. Successful companies apply **more methods** in new product development and **use them more intensively**
2. Successful companies select the **right methods** at the **right time**
3. Successful companies **combine different methods** from R&D, Market Research, Purchasing, Quality, Logistics and Project Management

KEY RESULTS

Companies that apply more methods in product development and use them more intensively have significantly higher project success

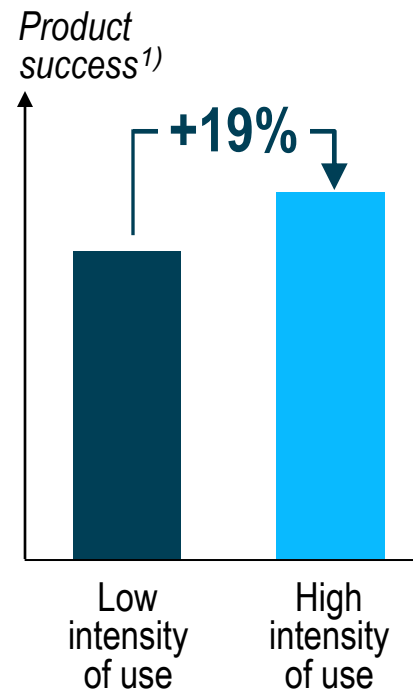
Impact of method application on product success

SUCCESSFUL COMPANIES APPLY MORE METHODS ...



Companies that **use an above average number of methods** have a 11% higher overall product success rate

... AND THEY USE THEM MORE INTENSIVELY



Companies that **apply methods particularly intensively** have the highest overall product success rate

1) Product success measured as a combination of different aspects (market share, product revenues, product cost, return on investment, etc.)

26 methods were analyzed in detail, thereof 15 purchasing, project management and quality and logistics methods ... (1/2)

PURCHASING METHODS

<p>1 Specified tenders</p> <p>.21**</p>
<p>2 Target costing</p> <p>.15**</p>
<p>3 Low-cost/best-cost country sourcing</p> <p>.15**</p>
<p>4 Total cost of ownership (TCO)</p> <p>.14**</p>

PROJECT MANAGEMENT METHODS

<p>1 Milestone planning (stage gate, critical path analysis)</p> <p>.18**</p>
<p>2 Risk monitoring and controlling</p> <p>.16**</p>
<p>3 Product value/profitability analysis</p> <p>.15**</p>
<p>4 Project controlling (time and budget)</p> <p>.14</p>

CROSS-FUNCTIONAL METHODS

<p>1 Benchmarking</p> <p>.14**</p>
<p>2 SWOT analysis</p> <p>.10</p>
<p>3 Creativity techniques (brain-writing...)</p> <p>.10</p>
<p>4 Scenario planning and analysis</p> <p>.07</p>

QUALITY/LOGISTICS METHODS

<p>1 Failure mode and effect analysis (FMEA)</p> <p>.21**</p>
<p>2 Design for six sigma (DFSS)</p> <p>.17**</p>
<p>3 Supplier management and development</p> <p>.16**</p>

1-4 Methods sorted by impact on success.

■ Correlation coefficients (**/*) results are significant at error probability of 1%/5%

... and 11 research and development and customer integration/ market research methods

(2/2)

RESEARCH AND DEVELOPMENT METHODS

CUSTOMER INTEGRATION/MARKET RESEARCH METHODS

1 Design for manufacturing/ assembly (DFM/A)

.33**

5 Standardization/ modular design

.14**

1 Product (design) test

.23**

3 Price test/price sensitivity analysis

.19**

2 Quality function deployment (QFD)

.21**

6 (Rapid) Prototyping

.14**

2 Consumer interviews and observations

.19**

4 Conjoint analysis

.13*

3 Simultaneous/concurrent engineering

.15**

7 Computer-aided engineering/ design

.12*

4 Collaborative supplier integration

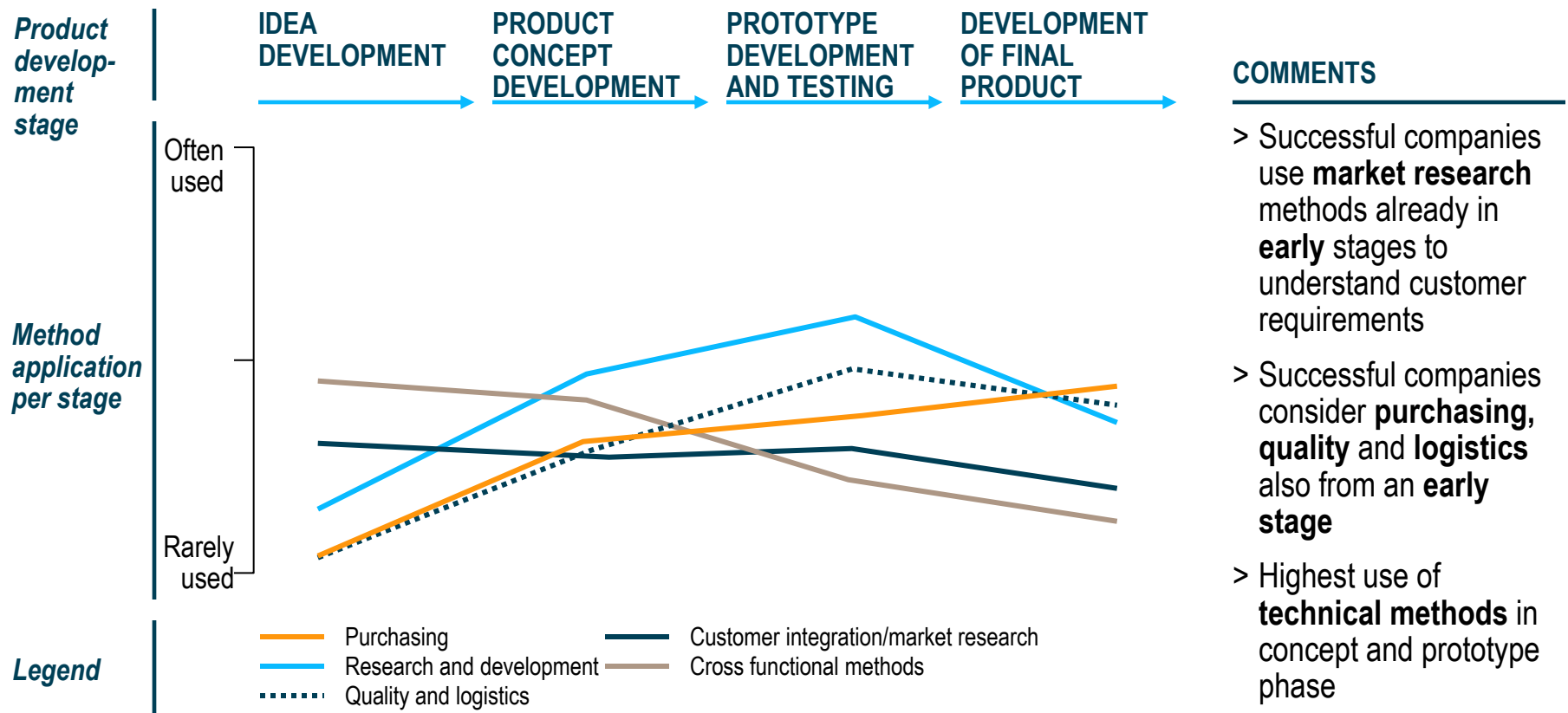
.15**

1-7 Methods sorted by impact on success.

■ Correlation coefficients (**/*) results are significant at error probability of 1%/5%

Successful companies select the right methods at the right time

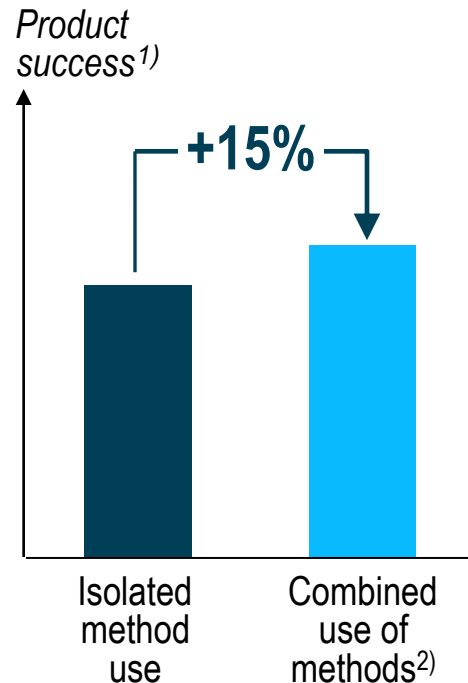
Method application by project stage – Particularly successful companies



Most important: Using the right combination of different methods is key to product success

Impact of combined (instead of isolated) use of methods

IMPACT ON PRODUCT SUCCESS



COMBINATION OF METHODS

Companies that combine **methods from all functions** are **15% more successful** with their new products



THE COMBINATION OF DIFFERENT METHODS IS THE KEY TO PRODUCT SUCCESS

1) Product success measured as combination different aspects (market share, product revenues, product cost, return on investment, etc.)

2) Above average number of methods from all clusters used

Successful companies set up the right framework: They foster top-management support and structure their product development process

Framework set by successful companies

Strong top-management support

- > Top-management is **actively involved** in the project
- > Top-management closely **monitors the progress** of the project
- > Top-management **provides required resources**

Robust product development process

- > **Defined process stages** with go/no-go decision **gates**
- > Dedicated **gatekeepers** review projects at gates
- > **Activities per stage** and corporate functions involved are clearly defined
- > **Methods** for each stage are defined and documented

1. **MORE METHODS**
and **INTENSIVE USE**

2. **RIGHT METHODS**
at the **RIGHT TIME**

3. **RIGHT COMBINATION**
of methods

METHODS

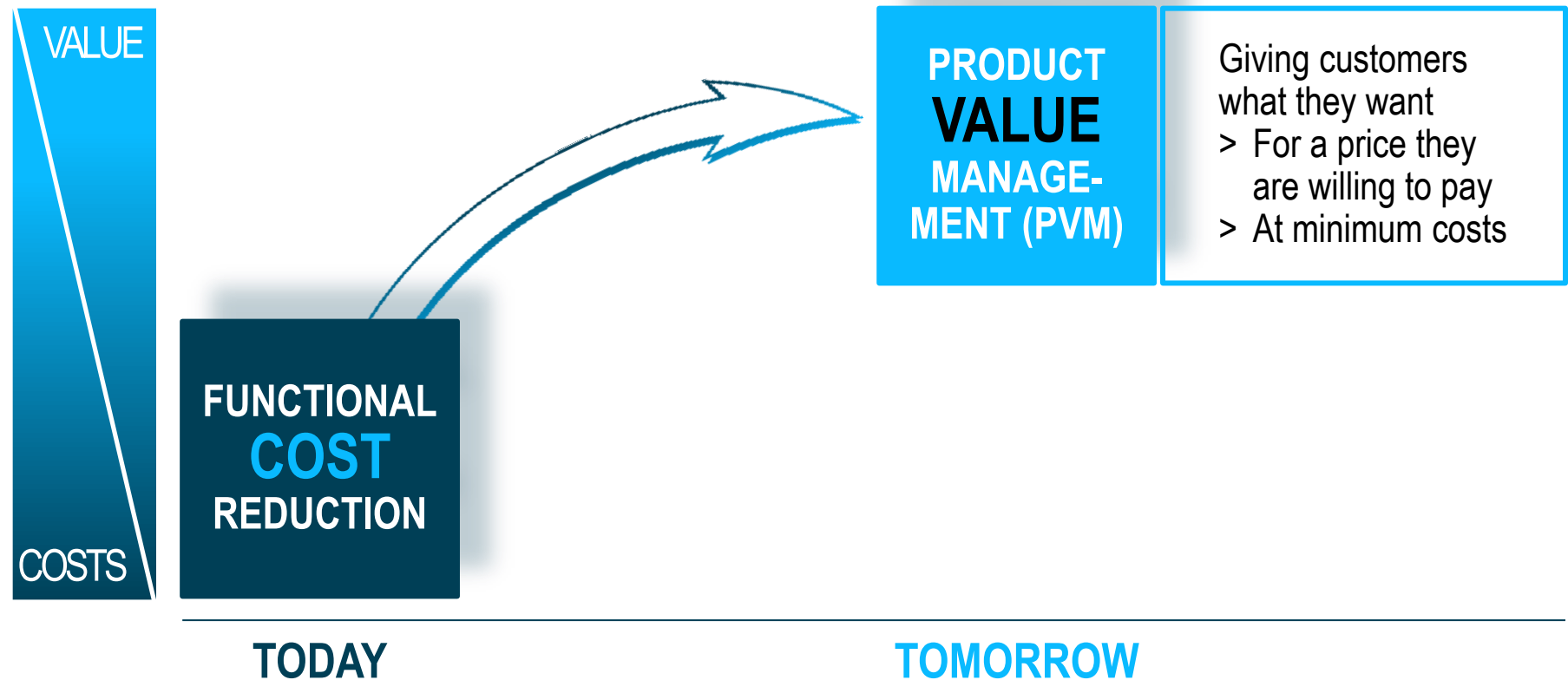


C. From cost focus to Product Value Management

Roland Berger
Strategy Consultants

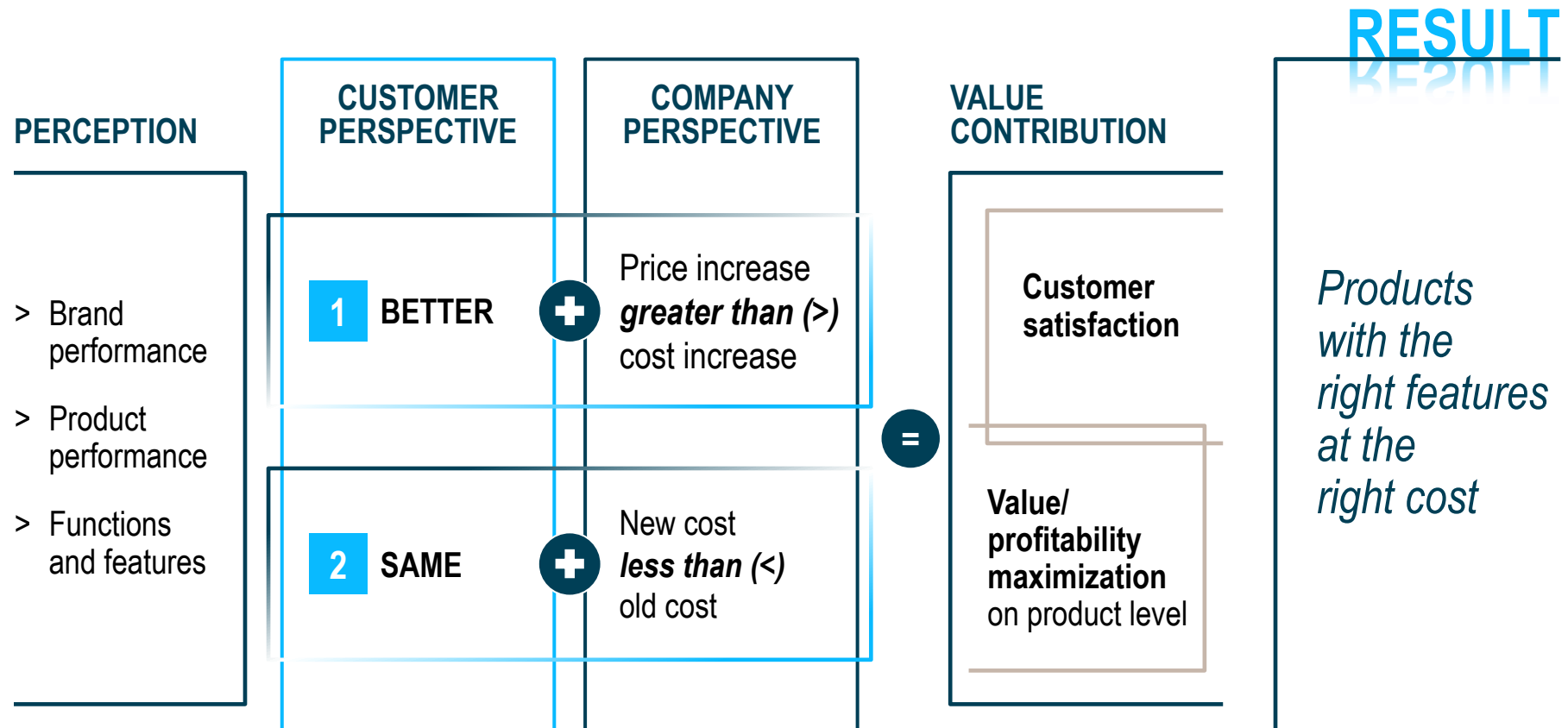
Increased product value can only be achieved through a perspective change – From cost focus to Product Value Management

Evolution of company focus



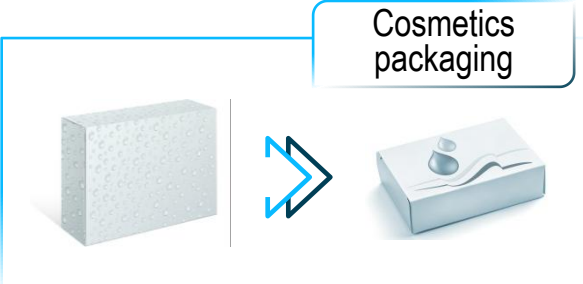
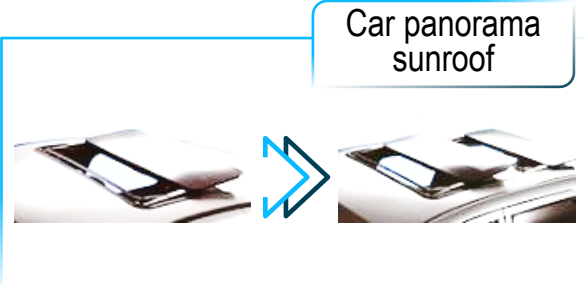
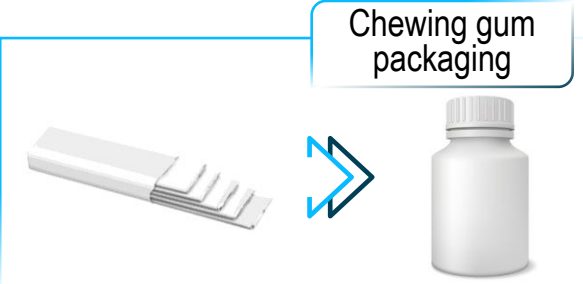
Product Value Management pursues two basic optimization routes to satisfy customers and maximize the product margin

Value formula



Examples from different industries demonstrate that both higher customer satisfaction and increased product profitability can be achieved

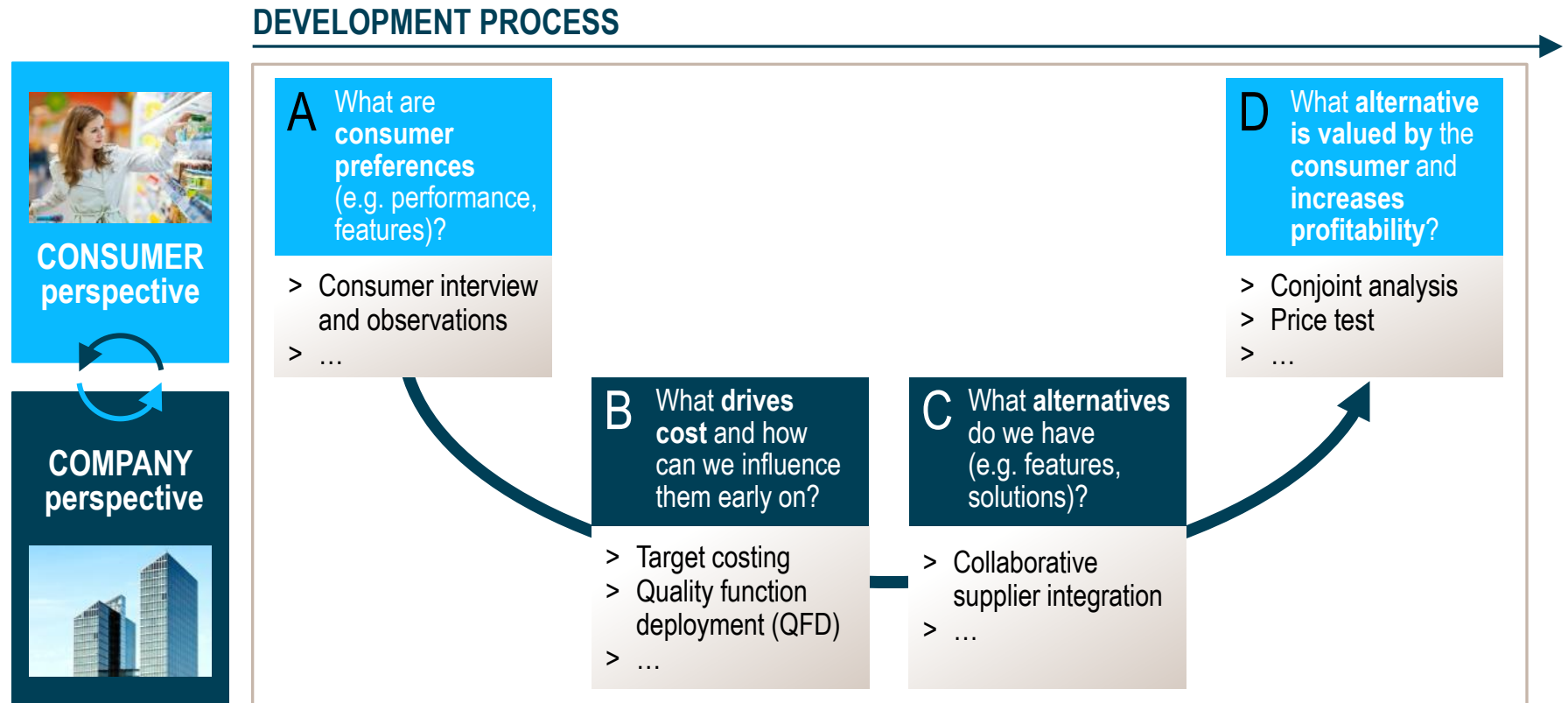
Benefits – Examples

 <p>Cosmetics packaging</p>	 <p>Car panorama sunroof</p>	 <p>Chewing gum packaging</p>
<p>~15% cost reduction</p>	<p>~40% margin increase</p>	<p>~6% price increase per piece</p>
<ul style="list-style-type: none"> > Packaging size reduction – More sustainability and reduced cost > Improvements vs. conventional folding box: <ul style="list-style-type: none"> – Reduced size by 20% – Optimized construction – Reduced material cost by 15% – Reduced logistics costs 	<ul style="list-style-type: none"> > New product idea – Panorama sunroof with improved funct. value > Improvements vs. standard sunroof: <ul style="list-style-type: none"> – Increased glass surface – Increased margin by ~40% – Differentiating element – Standardized across car lines, variants modularized 	<ul style="list-style-type: none"> > New packaging with improved functional value > Improvements vs. conventional packaging: <ul style="list-style-type: none"> – Packaging improved: re-closable – Product handling improved: dragees – Content increased: 46 pieces – Sales growth of +14%

COMPETITIVE ADVANTAGE VIA SUPERIOR PRODUCT PERFORMANCE

Product Value Management is enabled by methods/tools

Approach



Further reading on Product Value Management available

Further reading think:act CONTENT Product Value Management



KEY ELEMENTS OF PVM APPROACH

- Focus on **target customers**
- Understand **customer value**
- Choose the **right methods** and **combine** them intelligently
- Take a **cross-functional approach**
- Think in terms of **alternatives**
- **Execute** in a **consistent** manner
- **Anchor the principle** of PVM in your organization

www.rolandberger.com/Product_Value_Management



It's
character
that
creates
impact

Roland Berger
Strategy Consultants