

European Productivity between competitiveness and social approach

"We show you how and help you grow"

*“New profitable product development and
productivity”*

Session 1

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Outline

- **About KAIZEN CONSULTING Company**
- **The concept of Productivity and Diagnostic in New Product Development - *Food Companies***
 - **Defining the problems: The Current State of product life cycles and environment problems**
 - Measurements
 - Observations, analysis and targets
 - Solution: The Implementation Framework
 - Standardization
- **Conclusion:** continuous reconciliation between productivity and market (target costing system)

About KAIZEN CONSULTING Company



KAIZEN CONSULTING headquartered in Bucharest-Romania.

The KAIZEN CONSULTING team is able to support the business environment in order to increase its competitive advantages by using a cost reduction system, a better quality acknowledged by clients and a shorter time-to-market.

The mission of KAIZEN CONSULTING Company

The mission of **KAIZEN CONSULTING Company** is to be a market leader in **Central and Eastern Europe** in a continuously improving and a competitive consultation.

Services

KAIZEN CONSULTING Company provides a long term competitive advantage to your business, by services and courses for the following business processes:

- **KAIZEN - Technical tools**
- **Competitiveness – 7-pillars business model**
- **CONTROLLING & CONTROLLER**
- **IAS/IFRS – Financial Accounting**

"everybody agrees that in every organisation there are competitiveness problems but we need to know whether they are important (...) and whether those problems can be very clearly identified". (KAIZEN CONSULTING)

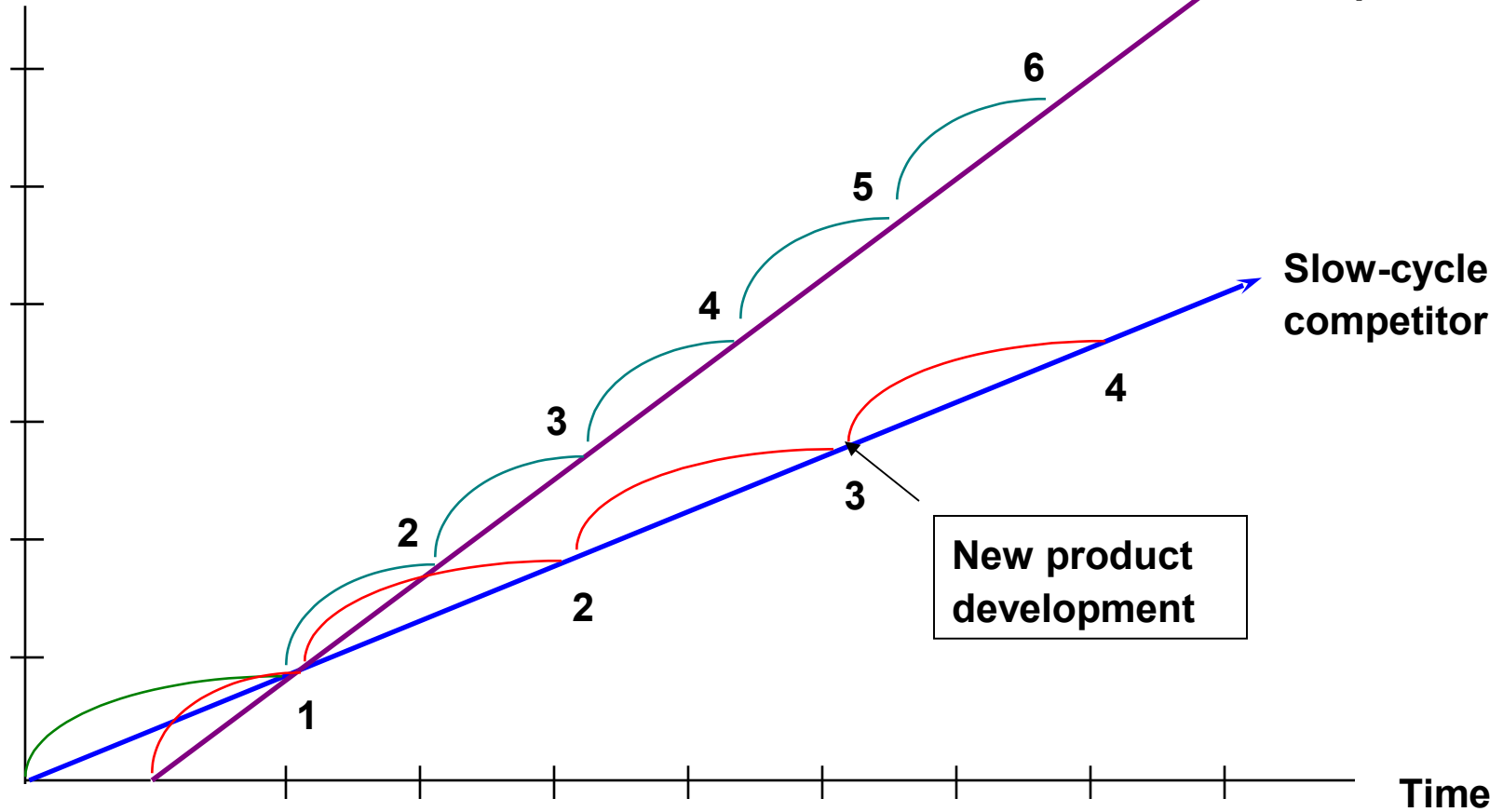
The history of KAIZEN CONSULTING Company



- 1995** - we started the first theoretical and practical analyses of the competitive environment by using the impact analysis of the Just-in-Time method (**JIT**) in accounting information systems.
- 1997** - we continued to study **JIT** and developed the competitive environment impact in budgeting and costing.
- 1999** - we continued the analyses of the competitive environment in strategic management and production marketing.
- 2000** - we learnt and improved the new product development and the design of cost systems.
- 2001** - we analysed a lot of costing systems for the competitive environment and decided: **Target Costing and Kaizen Costing by Lean**.
- 2005** - **KAIZEN CONSULTING** was born.
- 2005** - **KAIZEN CONSULTING** developed its first three products: **TargetCosting-POST, KaizenCosting-POST** and **Lean-POST**.
- 2005-2006** - Six Sigma was approached and we developed: **SixSigma-POST**.
- 2006** - we developed services and courses on long term competitive advantages – **In-House Controlling**.
- 2006** - we developed services in long term competitive advantages – **Controlling Outsourcing Basic & Controlling Outsourcing Advanced**.
- 2006** - we developed services in **IAS/IFRS – group**
- 2007**- **Competitiveness – 7-pillars business model**

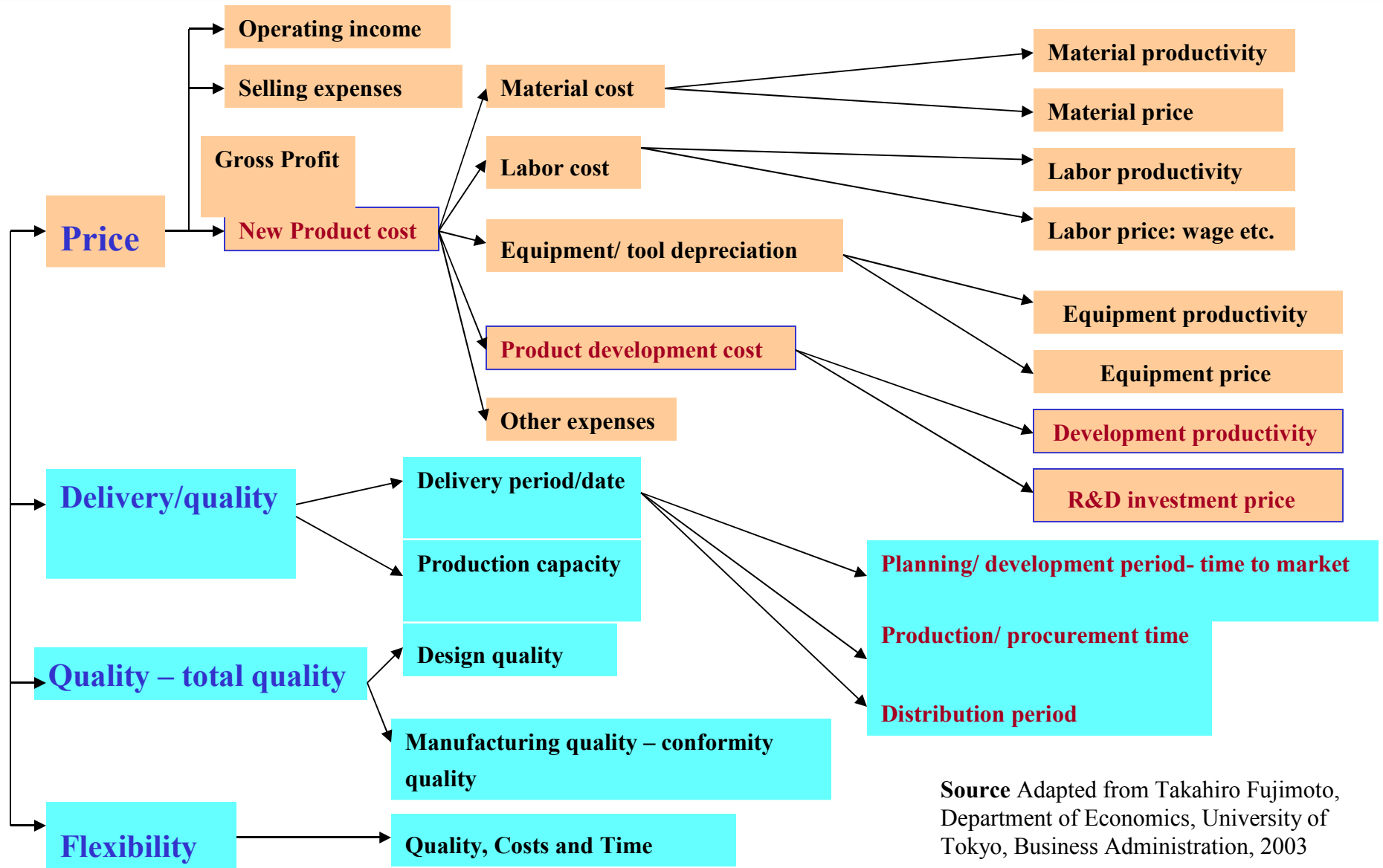
Current and Future State of the product life cycle

Generational
technology
improvement



Source: Adapted from Terao Yamanouchi. A New Study of Technology Management, Asian Productivity Center, 1995

Main factors of new product competitiveness



Source Adapted from Takahiro Fujimoto, Department of Economics, University of Tokyo, Business Administration, 2003

The Concept of Productivity and Diagnostic of New Product Development – Adapted from Food Companies

- **Defining the problems: Current State of the product life cycle**

Consequences regarding productivity

- The real time to market is about 52 days and the standard one is about 34 days
- 28% of wrong planning for new products' life cycle and **profit plan** for product lines in the last 12 months:
 - 31% have a longer life cycle
 - 69% have a shorter life cycle

- **Defining the problems**
- **Measurements**
- **Observations, analysis and targets**
- **Solution**
- **Standardization**



New Product Development

A) Current State of product life cycle - shorten product life cycle

2) Observations, measurements and analysis:

b) New Product Development: Productivity and Costs

- Indirect costs had an 18.6% increase compared to the standard
- Transformation costs had an 8.5% increase compared to the standard
- Scraps which could be processed (reworks) increased up to 2.8% compared to the standard
- Scraps which couldn't be processed increased up to 0.8% compared to the standard
- Total waiting time had a 27% increase
- Costs for raw materials and materials had a 5.7% increase compared to the standard
- Profitability decreased up to 12.3% because of discounts

- Defining the problems
- **Observations, measurements and analysis**
- Targets
- Solution
- Standardization

New Product Development

A) Current State of product life cycle - shorten product life cycle

2) Observations, measurements and analysis :

b) New Product Development: Productivity and Machinery

- Useful life of equipment had a 30% increase compared to the standard
- Machine breakdown time had an 8% increase
- Setup/refill and replacement (cutting tool change) time increased up to 37% compared to the standard
- Machine failure increased up to 34% compared to the standard
- Machine stoppage time increased up to 21%
- Operating speed decreased up to 27% compared to the product standard time
- New tool testing – impossible to estimate in the current system
- Machine testing for new product – impossible to estimate in the current system

- Defining the problems
- **Observations, measurements and analysis**
- Targets
- Solution
- Standardization

New Product Development

A) Current State of product life cycle - shorten product life cycle

2) Observations, measurements and analysis :

c) New Product Development: Productivity and Labor

- Number of working hours increased up to 17% (the two shifts became longer)
- Absenteeism had a 15% increase
- Number of accidents had a 7% increase compared to the previous 3 years' average
- Waiting for transportation times during the supply and production stages increased - impossible to estimate in the current system

- Defining the problems
- **Observations, measurements and analysis**
- Targets
- Solution
- Standardization

A) Current State of product life cycle - shorten product life cycle

2) Observations, measurements and analysis :

d) New Product Development: Productivity and Materials

- Refill and replacement consumption increased up to 25% compared to the standard
- Wrapper stocks increased up to 14% compared to the standard
- Direct power consumption increased up to 19% compared to the standard
- Spare part consumption increased up to 10% compared to the standard
- Level of raw material stocks increased up to 7%
 - ✓ 74% of shorter product life cycles
 - ✓ 26% of longer product life cycles
- Stocks in production stage increased up to 8%
- Finished goods' stock increased up to 9.8% compared to the standard (shorten product life cycle)

- Defining the problems
- Observations, measurements and analysis
- Targets
- Solution
- Standardization

Concept of Productivity and Diagnostic of New Product Development

A) Current State of product life cycle - shorten product life cycle

2) Observations, measurements and analysis :

e) New Product Development: Productivity and Business

- Penalties from the distribution system
- Penalties from suppliers
- 7% of process redesign was necessary (VSM)
- 17 complex kaizen projects and 10 quick kaizen projects were necessary
- Equipment's increasing wear - impossible to estimate in the current system (Six Sigma)

- Defining the problems
- **Observations, measurements and analysis**
- Targets
- Solution
- **Standardization**

Concept of Productivity and Diagnostic of New Product Development

A) Current State of product life cycle - shorten product life cycle

3) Targets :

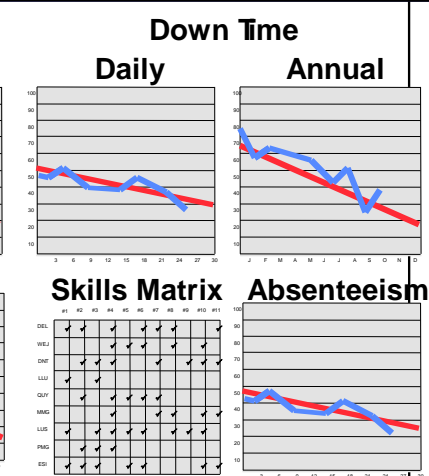
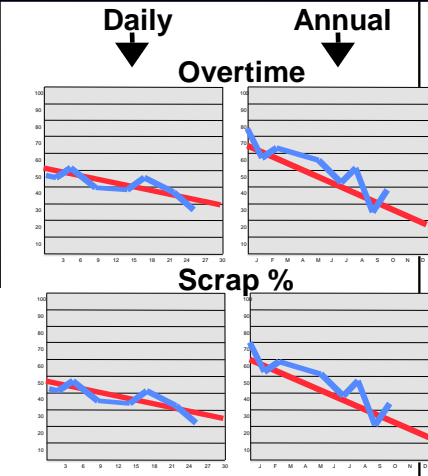
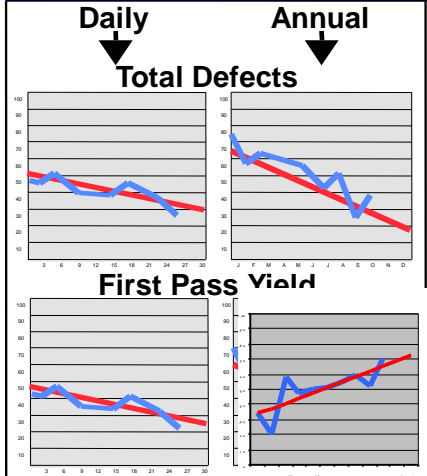
- Reducing perturbations of new standard life cycle from 28% up to 17% in 5 months
- New time to market: 28 days

- Defining the problems
- Observations, measurements and analysis
- **Targets**
- Solution
- Standardization

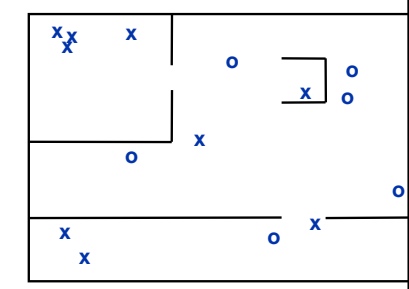
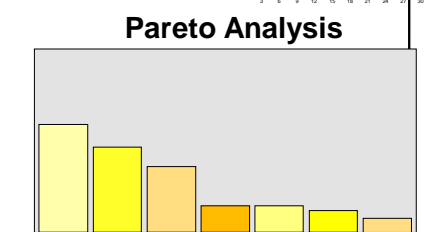
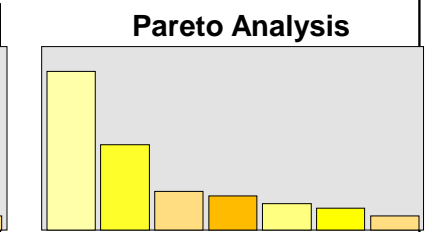
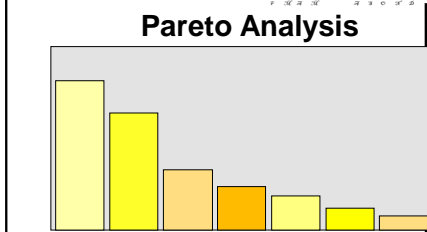
4) Solutions:

- Implement the Lean system for supply and production in 1.5 years
- Implement the Kanban area for production and supply
- Training and implementation for Lean and Kaizen
- Implementation of the autonomous maintenance system (in 8 months)
- New product plan for the last 3 months in the useful life of the product that is to be given up
- Profitability of the new future product must take up part of the lost profit of the former non-performing product
- Products in the line must take up the part of the lost profit of the non-performing product
- Exact knowledge of the current and targeted costs, quality and acceptable time-to-market
- After launching utilization of the new products, use the Kaizen Costing system
- Utilization of Activity-Based Costing for indirect costs
- Precise intuition of the moment to withdraw the product from the market
- Marketing investments for: a better intuition of the market (end users, distributors, competitors, suppliers) and to educate the market
- Closer partnerships with the suppliers of raw materials and materials
- Closer partnerships with distributors
- Better relationships with the banking system

Quality Cost Delivery Safety



			1	2				
			3	4				
			5	6				
			7	8				
9	10	11	12	13	14	15	16	
17	18	19	20	21	22	23	24	
			25	26				
			27	28				
			29	30				
			31					



Kaizen Newspaper

Problem	Action	Who	When	Result
Issue 1	Issue 1	Issue 1	Issue 1	Issue 1
Issue 2	Issue 2	Issue 2	Issue 2	Issue 2
Issue 3	Issue 3	Issue 3	Issue 3	Issue 3
Issue 4	Issue 4	Issue 4	Issue 4	Issue 4
Issue 5	Issue 5	Issue 5	Issue 5	Issue 5
Issue 6	Issue 6	Issue 6	Issue 6	Issue 6
Issue 7	Issue 7	Issue 7	Issue 7	Issue 7
Issue 8	Issue 8	Issue 8	Issue 8	Issue 8
Issue 9	Issue 9	Issue 9	Issue 9	Issue 9

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QFD and VE and full comprehension of consumers

What is the customer and business relevance of the metric?

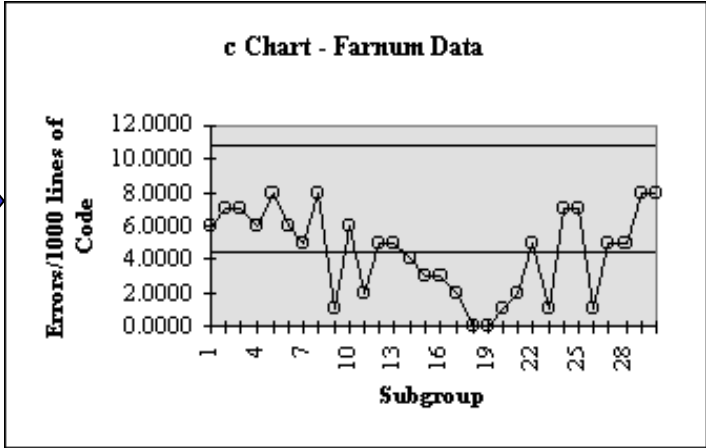
Filtered Metric

How can I measure it and simulate the metrics performance?

DIRECTION OF IMPROVEMENT		CUSTOMER IMPORTANCE							CUSTOMER RATING	
HOWS		Performance importance	Size of range	Technical details						
WHATS		Head Comfort (Standard)	Harness weight	Webbing length	No. of slots	Padding thickness	No. of straps	No. of pad-loops		
Feasibility (direction of meeting)	Usability	Easy to put on	2						1 2 3 4 5	
		Comfortable when hanging	5						1 2 3 4 5	
		Fit over different clothes	1						1 2 3 4 5	
		Accessible gear loops	3						1 2 3 4 5	
	Performance		Does not restrict movement	5						1 2 3 4 5
			Light weight	3						1 2 3 4 5
		Safe	5						1 2 3 4 5	
	Attractive	2						1 2 3 4 5		
ORGANISATIONAL DIFFICULTY (0=difficult, 1=easy)		2	4	3	3	3	2	3	1	
HOW MUCHES		100%	150g	80cm	4	4mm	1	5		
ENGINEERING ASSESSMENT		1 2 3 4 5								
ABSOLUTE IMPORTANCE		45	67	57	18	52	108	72	30	
RELATIVE IMPORTANCE (%)		10	15	12	4	12	24	16	7	

QFD Tool

Net Present Sales



Control Chart Tool

Permanent synchronization of the organization with the market signals in order to control Productivity

Concept of productivity and Diagnostic of New Product Development

A) Future State of product life cycle – shorten product life cycle

- Reducing perturbations of new products' standard life cycle from 28% up to 17% in 5 months and from 17% up to 10% in 14 months.
- VSM redesigned and standardized for NPD and 28 days Time-to-market

- Defining the problems
- Observations, measurements and analysis
- Targets
- Solution
- **Standardization**

Concept of Productivity and Diagnostic of New Product Development - Food Companies

- **Define problems: environment problems**

Unawareness of environment problems subsequent to the time-to-market stage and concept of the new product

- Total costs in the 7 product lines went up in an un-programmed way by 9.7% in 12 months
- 30% of total un-programmed costs were fines given by the Environment Guard

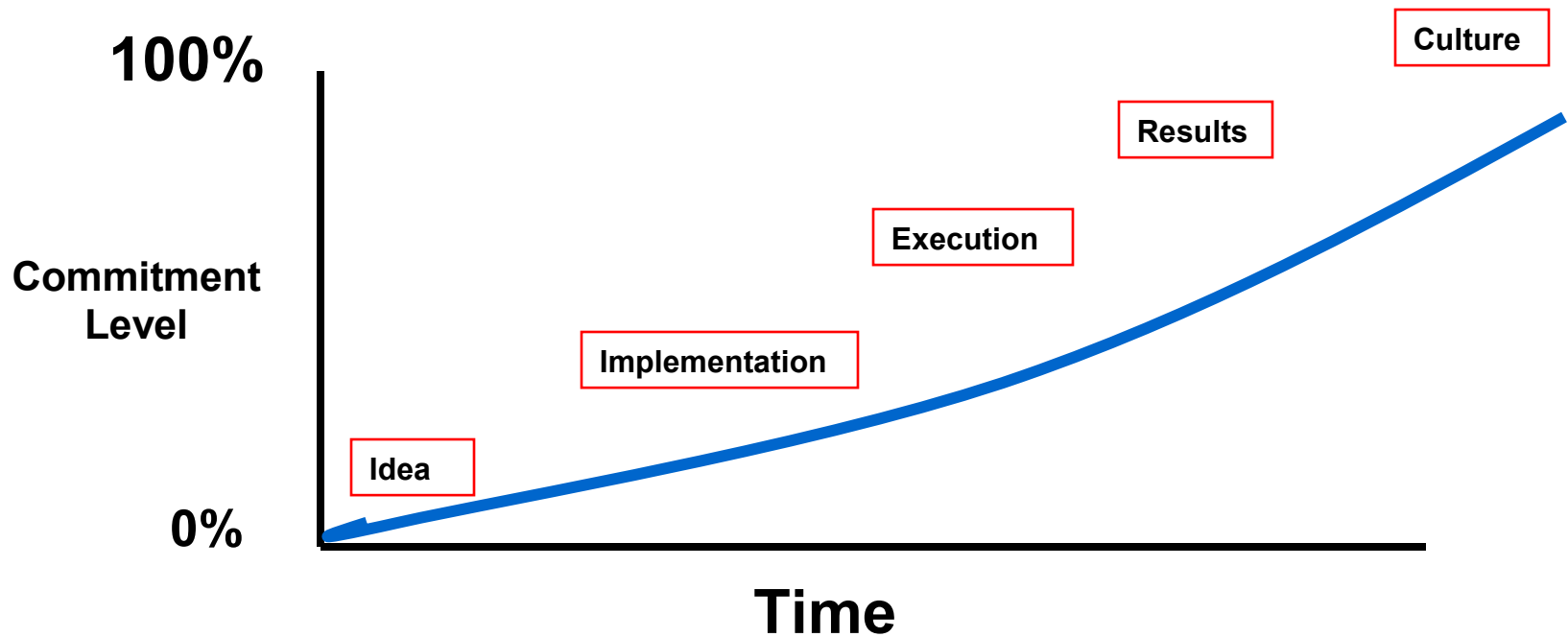
2) Observations, measurements and analysis : environment problems

- 3 ingredients create 85% of environment problems and are used for 65 % of manufactured products

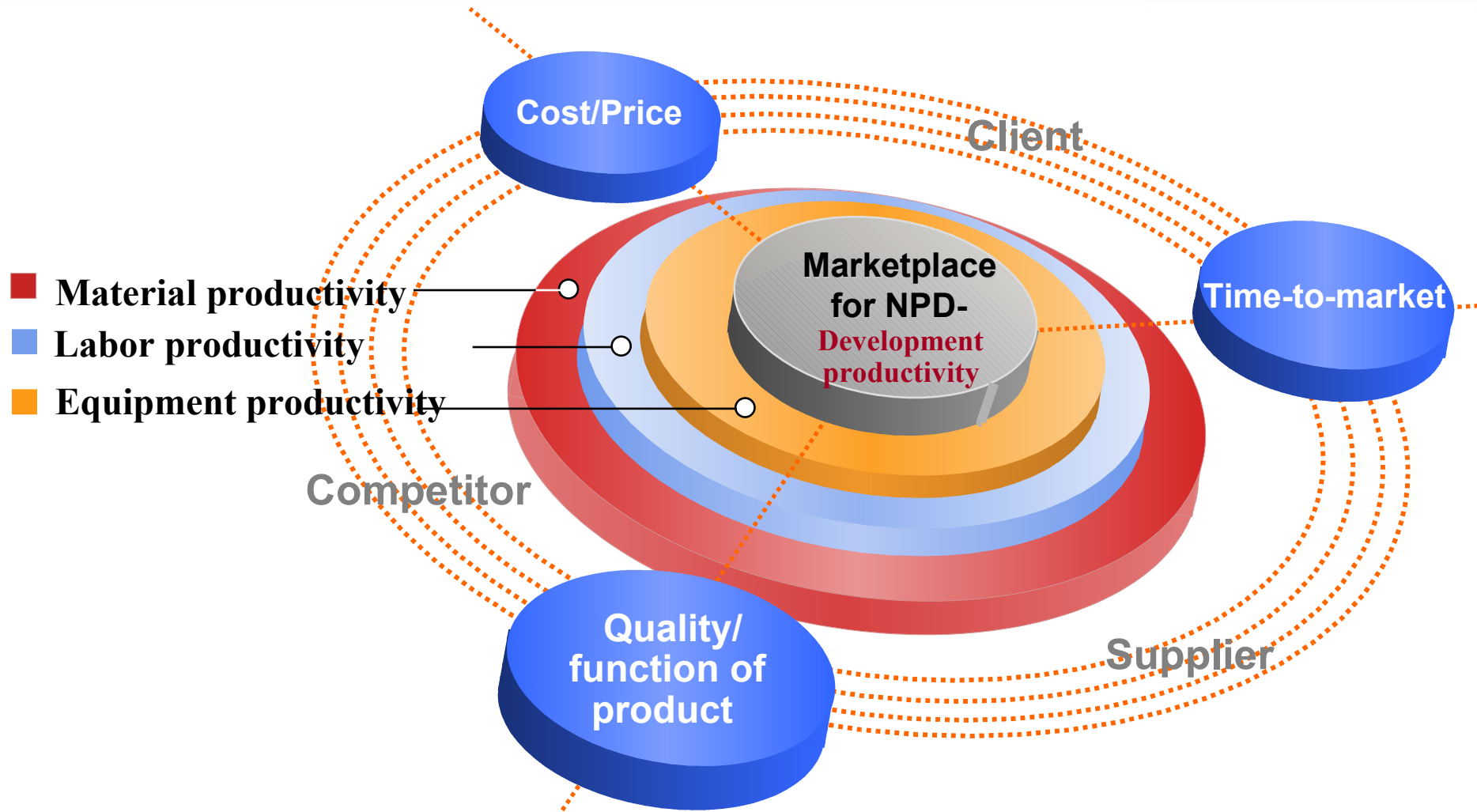
3) Targets: environment problems

- Reduction of 2 ingredients in 7 months from the NPD stage
- Total elimination of non-ecological ingredients in 13 months of the NPD

Summary and Recommendations



Conclusion



Sustainable Productivity is influenced by new products permanently adapted to the market

Questions?