AIM 2011 Conference
Enterprise restructuring / improvement

Enterprise restructuring and improvement

Professor Krzysztof Santarek
Warsaw University of Technology
Faculty of Production Engineering
Institute of Production Systems Organization

Skopje, 22-25 September 2011
Plan of the presentation

1. Why, what and when restructurisation
2. Restructuring methods
3. How to conduct restructurization
4. Problems, effects observed
5. Conclusion
Restructurisation – radical change in at least one from the following dimensions of an organisation: scope of activity, structure of capital and an internal organisation of a company.

The goal of this change is to renew internal balance of an enterprise or (and) a balance with its environment.
The primary drivers of change are the demands of the marketplace

- The emergence of new technologies
- Swings in the economic cycle
- The rapid movement to a global economy

Competition is increasing in quality and quantity at a dramatic rate.
Output share from the first industrial revolution (around 1800) to the emerging global revolution.
Arguments for enterprise restructuring

- external, triggered by factors determined environment conditions of an enterprise:
  - system changes of economy,
  - national and international competitors pressure,
  - changes in a global demand and its particular segments
  - changes in international trade relations
  - changes in economic policy, etc.

- internal, determined by abnormality in enterprise functioning:
  - lack of general strategy
  - poor management
  - high costs
  - lack of sale strategy, etc.
Two types of enterprise restructurization

1. Object restructurization – system changes in the enterprise connected with technical (technological) product range transformation

2. Subject restructurization – system changes in the enterprise connected with its legal and organizational transformation (eg. but not limited to ownership transformation).
Areas of enterprise restructuring:

- product restructurisation
- technical (technological) restructurisation
- property restructurisation
- financial restructurisation
- organizational restructurisation
- management restructurisation
- ownership restructurisation,

## Some features of restructuring (1)

<table>
<thead>
<tr>
<th>Restructuring area</th>
<th>Possible actions</th>
<th>Some problems encountered</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Financial restrucuturization</strong></td>
<td>- negotiations of credit conditions with banks</td>
<td>- high bank and supplier liabilities</td>
</tr>
<tr>
<td></td>
<td>- renegotiations of loan conditions</td>
<td>- weak negotiation position with customers</td>
</tr>
<tr>
<td></td>
<td>- legal proceedings with creditors</td>
<td>- poor credit capacity</td>
</tr>
<tr>
<td></td>
<td>- conversion debts into shares</td>
<td></td>
</tr>
<tr>
<td><strong>Product restrucuturization</strong></td>
<td>- change of product range and its adjustment to market needs</td>
<td>- Lack of financial resources to trial all proceedings</td>
</tr>
<tr>
<td></td>
<td>- launching of a new product</td>
<td>- lack of qualified staff</td>
</tr>
<tr>
<td></td>
<td>- changes in existing product range (eg. new package, product differentiation,</td>
<td>- mistakes in motivation system (eg. in sale department)</td>
</tr>
<tr>
<td></td>
<td>market/price differentiation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>- changes of sale channels and distribution</td>
<td></td>
</tr>
</tbody>
</table>
## Some features of restructuring (2)

<table>
<thead>
<tr>
<th>Restructuring area</th>
<th>Possible actions</th>
<th>Some problems encountered</th>
</tr>
</thead>
</table>
| Property restructurization  | - expenses on returning property and their valuation  
- expenses on preparing tender offer and property sale execution  
- expenses on gaining possible foreign contractors  
- negotiations with local authorities | - too long process of (re-) privatisation  
- recession on real estate market (high offer)  
- lack of private capital resources  
- unskilfulness of company management in looking after foreign capital  
- lack of capital, difficulty in finding them to conduct necessary investments  
- state of employee awareness; resistance against change |
Main stages of enterprise restructuring

1. Analysis and diagnosis,
   1.1. Preliminary assessment
   1.2. Financial analysis
   1.3. Environment (external) analysis
   1.3. Internal analysis
   1.3. Assessment of current condition

2. Goal formulation
   2.1. enterprise mission
   2.2. strategic goals
   2.3. detailed goals
   2.4. Development of a restructuring plan

3. Methods of goals achievement

4. Implementing restructuring plan

5. Controlling and correction actions
Business Process Reengineering
Total Quality management
Strategic planning
Statistical thinking
Measurement
Self-managing teams
Total employee involvement
Taguchi methods
Just-in-time inventory management
Theory of constraints
Systems thinking
Theory of psychology
Vendor partnership
White-collar productivity
Organizational redesign

Business process improvement
Statistical process control
Deming cycle: plan-do-check-act
Profound knowledge
kaizen
Hoshin Kanri
benchmarking
design of experiments
7 tools of quality
learning organisation
theory of knowledge
gainsharing
customer-driven focus
downsizing
leadership
Business Process Reengineering (BPR) is “the fundamental rethinking and radical redesign of business processes to achieve dramatic improvements in critical contemporary measures of performance, such as cost, quality, service and speed”.

Rethinking must be fundamental, therefore BPR begins with no assumptions and no givens, and takes nothing for granted. It ignores what is and concentrates on what should be. Before asking how to do an operation more effectively, it asks whether that operation needs to be done at all.

Redesign must be radical. Re-engineering is about business reinvention – not business improvement, enhancement or modification.

Improvement should be dramatic, therefore BPR is the opposite of systematic incremental improvements, and should be used only when dramatic improvements are needed and possible.

BPR focuses on processes, not on tasks, jobs, people, structures or units. It regards a business process as a “collection of activities that takes one or more inputs and is of value to the customer”. It eliminates tasks that were invented to satisfy internal demands of the company’s own organization and have nothing to do with meeting customer needs.
Hammer and Champy point out that BPR approach is of interest to three kinds of companies:
1. Companies that are in deep trouble and have no choice,
2. Companies that see trouble coming and have the vision to start re-engineering in advance of running into adversity
3. Companies that perform very well, but their ambitious and aggressive management chooses to re-engineer in order to „raise the competitive bar even higher”.

The use of state-of-the-art information technology is a key characteristic of BPR and can even trigger off a re-engineering effort.
TARGETS AND OBJECTIVES OF CONTINUOUS IMPROVEMENT

highest perceived value by customer

„EXCELLENCE” one activity alone is not enough

innovation

Industrial Engineering

KAIZEN (continuous improvement)

time
KAIZEN – an umbrella

- continuous improvement
- waste elimination

- customer orientation
- total quality control
- robotics
- QC circles
- suggestion system
- automation
- discipline in the work place
- TPM

- Kanban
- quality improvement
- just-in-time
- zero defects
- small group activities
- co-operative labor – management relations
- productivity improvement
- new product development
Lean Management Principles

- define **value** of a product (or service) from the customer viewpoint and its needs
- identify **value stream** for every product
- assure **continuous** (smooth, with no breaks) production flow
- implement **pull control** mechanism
- assure **perfect product quality** and customer service
- continuous improvement
Waste elimination - MUDA

Waste - every activity of a human, which results in consuming of resources without adding value.

- KAIKAKU – radical (step) changes (innovations)
- KAIZEN – continuous improvements
- priority 1: activities that do not build value and that can be immediately eliminated
- priority 2: activities that do not build value but they are difficult to eliminate (eg. due to the technology used)
Productivity ≠ production
Productivity ≠ profitability

Productivity means:

1. Relationship between produced (and sold) products (system outputs) and factors used in production system or used in production of products (system inputs):

   \[ \text{Productivity} = \frac{\text{outputs}}{\text{inputs}} \]

Productivity means also:

2. Specific feature of a production system,
3. Any productivity measure as in (1),
4. One from many measures of production system effectiveness

Productivity can and should be measured:
- for defined production system
- regarding certain factor used in that production system
Why productivity matters?
- builds competitive position,
- improves operations,
- motivates performance.

Reasons for measuring productivity:
1. Provides an information for goal setting and for monitoring of achievement performance
2. Measurement can reveal problem areas that would not otherwise be visible,
3. Measures make possible comparison between different companies, plants, their organizational units and work places.
4. People work for what counts. With productivity measures in the bottom line for all jobs and organizational units, productivity will be one of the performance measures that counts
5. Productivity measures can be a source for learning and for participation. Developing and employing measures can provide a way for drawing on and motivating all company resources

We can’t fix what we don’t see
Measures make productivity visible
**GENERAL FORMULA:**

\[ \text{PRODUCTIVITY} = \frac{\text{OUTPUTS}}{\text{INPUTS}} \]

**COMPANY MEASURES:**

\[ \frac{\text{OUTPUT}}{\text{LABOR INPUT}} \quad \frac{\text{OUTPUT}}{\text{MATERIALS INPUT}} \quad \frac{\text{OUTPUT}}{\text{ENERGY INPUT}} \]

\[ \frac{\text{OUTPUT}}{\text{CAPITAL INPUT}} \quad \frac{\text{OUTPUT}}{\text{ALL INPUT}} \quad \frac{\text{SALE}}{\text{LABOR HOURS}} \quad \frac{\text{SALARIES}}{\text{SALE}} \]

\[ \frac{\text{SHIPMENTS}}{\text{DIRECT LABOR+INDIRECT LABOR+MATERIALS}} \]

\[ \frac{\text{PRODUCTION AT STANDARD PRICE}}{\text{LABOR+MATERIALS+OVERHEAD+CAPITAL INVESTED}} \]
Productivity measurement system

booking system

production planning & data acquisition system

data gathering

general diagnosis

trends

inter-firm comparisons

level of performance achievement

setting of priority areas for improvement

detailed diagnosis

verified priority areas for improvement

productivity improvement programs (PIP)

PIP implementation
Productivity improvement approaches

\[
\text{OUTPUT} = \text{INPUT} \quad \text{Kaizen} \quad \text{recession} \quad \text{innovation}
\]
Model of restructuring financial resources of an organisation

- Economic Value Added (EVA)
  - Return on Equity (ROE)
  - Return on Assets (ROA)
- Restructuring of fixed liabilities
- Financial lever
- Operational lever
- Corporate spin-off
- Restructuring of logistic activities
- Lean management, employment, structure
- Restructuring of current liabilities
- Restructuring of current assets
- Restructuring of fixed assets
- Model of external services and supply, outsourcing
- Motivation systems
Example of observed restructuring effects

<table>
<thead>
<tr>
<th></th>
<th>01-06.2001</th>
<th>07-12.2001</th>
<th>01-03.2002</th>
<th>04-06.2002</th>
<th>07-09.2002</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT</td>
<td>-3653</td>
<td>-1155</td>
<td>-524</td>
<td>-631</td>
<td>+327</td>
</tr>
<tr>
<td>EVA</td>
<td>-4244</td>
<td>-1295</td>
<td>-594</td>
<td>-678</td>
<td>+28.4</td>
</tr>
<tr>
<td>EVA/Kw</td>
<td>-61%</td>
<td>-55%</td>
<td>-25.5%</td>
<td>-39.7%</td>
<td>+0.7%</td>
</tr>
</tbody>
</table>
Model of continuous improvement management

- ISO 9000
- SMED
- TPM
- JIT
- BPR
- GT
- TQM
- KM
- CIM
- ERP
- MRP II
- TOC
- Intelligent organisation
- Agile enterprise
- Lean enterprise

Source: Bednarek M.
Some barriers to enterprise improvement:

1. Resistance to Change:
   • work force
   • supervisors
   • managers

2. Poorly Designed Programs:
   • fuzzy problem definition
   • lack of clear strategy
   • lack of management commitment

3. Lack of Incentives for changes (improvement):
   • short-term focus
   • no reward for risk-taking
   • cost plus pricing

4. Flawed measurements of performance:
   • total versus partial performance measures
   • real versus financial impact
   • comparative versus absolute scores
Continuous improvement – what is needed?

✓ Clear vision, strategy
✓ Leadership
✓ Employee empowerment
✓ Team (group) work
✓ Training, training, training
✓ Support from management
✓ Support for the groups
PRODUCTIVITY - POLISH EXPERIENCE (1)

The idea of promoting productivity movement in Poland appeared in 1990. Representatives of Polish government have been suggested to accept Japanese assistance in Creating National Productivity Centre. The Ministry of Industry and Trade and ZETOM Centre, Warsaw organised first promotional seminars held by Japanese experts. At the same time, a series of training courses for Polish experts and managers have been developed. Since then over 200 trainees visited Japan.

In the middle of 1991 a group of Polish experts of UNO developed first project of productivity movement implementation in 500 Polish enterprises. The Ministry of Labour and Social Affairs agreed to support this initiative and in the beginning of 1992 POL-SENZ the association of the UNO experts in Poland, decided to promote the project.

At the same time, The Association of Polish Engineers SIMP and its R&D centre ZORPOT using the help of Swedish government completed a project „Productivity for Poland” in several plants and a hospital.

In January, 1993 started Productivity Improvement Pilot Program. It consists of seminars and workshops for top and middle management, unionists and experts. Over 130 companies participate systematically in the program. By the autumn 1994 about 25 companies participating in the Program reported remarkable improvement of their economic and social condition.
On January 20, 1994, Foundation Polish Productivity Centre has been establi-
shed by the Minister of Trade and Industry and 53 individual Founders. Its main objective, as expressed in the Foundation’s Statute is:

„ ... to improve the quality and standard of life in Poland through the improve-
ment of productivity in industry, services and other sectors of national econo-
my as well as to promote the cooperation between the representatives of the
governmental and local administration, employers, employees and trade
unions in the field of productivity”.

The Foundation is non-profit organisation. It attempts to use the rules of pro-
ductivity movement as the basis of the processes of management restructu-
ring.

The Foundation established 9 Regional Productivity Councils.
In the first stage over 260 companies joined the productivity movement. All the programs of Polish Productivity Centre were highly donated by Polish-
Japanese Cooperation Fund.
**INDICES OF SOLD PRODUCTION OF MANUFACTURING INDUSTRY IN POLAND**

<table>
<thead>
<tr>
<th>Industry</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2005=100</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacture of basic metals</td>
<td>116,1</td>
<td>109,8</td>
<td>97,0</td>
<td>74,5</td>
<td>127,5</td>
<td>123,7</td>
<td>92,2</td>
<td></td>
</tr>
<tr>
<td>Manufacture of metal products</td>
<td>121,7</td>
<td>114,7</td>
<td>108,7</td>
<td>91,1</td>
<td>139,6</td>
<td>151,7</td>
<td>138,2</td>
<td></td>
</tr>
<tr>
<td>Manufacture of computer, electronic and optical products</td>
<td>141,7</td>
<td>135,5</td>
<td>101,2</td>
<td>91,1</td>
<td>139,6</td>
<td>151,7</td>
<td>138,2</td>
<td></td>
</tr>
<tr>
<td>Manufacture of electrical equipment</td>
<td>120,6</td>
<td>129,0</td>
<td>115,9</td>
<td>105,7</td>
<td>155,6</td>
<td>180,3</td>
<td>190,6</td>
<td></td>
</tr>
<tr>
<td>Manufacture of machinery and equipment n.e.c.</td>
<td>119,7</td>
<td>113,9</td>
<td>110,6</td>
<td>90,6</td>
<td>136,3</td>
<td>150,7</td>
<td>136,5</td>
<td></td>
</tr>
<tr>
<td>Manufacture of motor vehicles, trailers and semi-trailers</td>
<td>121,0</td>
<td>114,2</td>
<td>107,4</td>
<td>87,8</td>
<td>138,1</td>
<td>148,3</td>
<td>130,2</td>
<td></td>
</tr>
<tr>
<td>Manufacture of other transport equipment</td>
<td>109,7</td>
<td>105,0</td>
<td>113,0</td>
<td>94,6</td>
<td>115,2</td>
<td>130,2</td>
<td>123,2</td>
<td></td>
</tr>
<tr>
<td>Manufacture of furniture</td>
<td>110,0</td>
<td>109,5</td>
<td>104,1</td>
<td>99,8</td>
<td>120,4</td>
<td>125,3</td>
<td>125,0</td>
<td></td>
</tr>
<tr>
<td>Other manufacturing</td>
<td>101,3</td>
<td>117,3</td>
<td>116,3</td>
<td>91,9</td>
<td>118,8</td>
<td>138,2</td>
<td>127,0</td>
<td></td>
</tr>
</tbody>
</table>
Delphi plant in Błonie

Evaporative canisters

Rectangular canisters I (old line)

Rectangular canisters II (new line)

Round canisters

MRA

LEGR

Euro 5

MVRV DV4

MVRV DV6

Common MVRV
General view of a plant
Restructuring / improvement area

Overview of Common production line.

One piece flow of Single

Robots

Meca

Curing area

Final

Rework

Production Run
Before improvement
After improvement
Significant role of industrial managers in programing, developing and implementing restructuring projects.

Restructuring is a complex, interdisciplinary task.

System aproach integrating finacial, engineering, management, social aspects.

What and how to teach / train students in above topics ?.