

UNIVERSITY OF ŽILINA



# TRANSCOM 2011

9-th EUROPEAN CONFERENCE  
OF YOUNG RESEARCH AND SCIENTIFIC WORKERS

PROCEEDINGS

**SECTION 2**

**ECONOMICS AND MANAGEMENT**

Part 2

ŽILINA June 27 - 29, 2011  
SLOVAK REPUBLIC

UNIVERSITY OF ŽILINA



# TRANSCOM 2011

9-th EUROPEAN CONFERENCE  
OF YOUNG RESEARCH AND SCIENTIFIC WORKERS

under the auspices of

**Ing. Eugen Jurzyca**

Minister of Education, Science, Research and Sport of the Slovak Republic

&

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Rector of the University of Žilina

## SECTION 2

**ECONOMICS AND MANAGEMENT**

Part 2 (Mu - Z)

ŽILINA June 27 - 29, 2011  
SLOVAK REPUBLIC

Edited by Lucia Vráblová, Katarína Zvaríková and Peter Brída  
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ISBN: 978-80-554-0371-7

# TRANSCOM 2011

## 9-th European conference of young research and scientific workers

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## CONTENTS

MURÍNOVÁ, LUCIA, Žilina, Slovak Republic: The Hiring-Overtime Decision and the Working Time Arrangement .....	11
MUŽÍKOVÁ, KAROLÍNA, Žilina, Slovak Republic: Monitoring Competitors as One of Prerequisites for Game Theory Application in Management Decision Making.....	15
NEUPAUER, JÁN – POLÁČKOVÁ, EVA CARMEN – KRAJČOVIČ, MARTIN, Žilina, Slovak Republic: Structures to Avoid Inaccuracy .....	19
NOVÁK, VLADIMÍR – KRAJČOVIČ, MARTIN, Žilina, Slovak Republic: Warehouse Management System .....	23
PALAJOVÁ, SILVIA – GREGOR, MILAN, Žilina, Slovak Republic: Metamodel Making Process .....	27
PESZKO, KAMILA – URSZULA, CHRACHOL, Szczecin, Poland: Alumni Card – a Loyalty Program, Multi-Partner Program, Discount Card or Perhaps a New Form of University Promotion.....	31
PITEKOVÁ, ERIKA, Žilina, Slovak Republic: Charges into the Recycling Fund of Slovak Republic – the Tool of Slovak Environmental Policy .....	35
PODPEROVÁ, ANGELA, Žilina, Slovak Republic: Virtual Communities and Their Role in Consumer Decision Process.....	39
POLÁČKOVÁ, EVA CARMEN – NEUPAUER, JÁN – KRAJČOVIČ, MARTIN, Žilina, Slovak Republic: The RFID Market .....	43
POLIAK, MILOŠ - KOŠŤÁLOVÁ, KATARÍNA, Žilina, Slovak Republic: The Contract about Providing Transport Service .....	47
POLIAKOVÁ, SVETLANA, Žilina, Slovak Republic: Risk Impact on the Company Valuation ...	51
POZOR, MARIÁN, Bratislava, Slovak Republic: New Opportunities in Logistics Management in Practice .....	55
RICHTER, LUKÁŠ, Žilina, Slovak Republic: Strategy and Operations .....	59
ROLKOVA, MONIKA, Žilina, Slovak Republic: Whistleblowing – Hero’s Acts Still Not Rewarded .....	63
ROSA, GRAZYNA, Szczecin, Poland: Analysis of the Value of Reputation and Brand Power Based on the Ranking Polish Brands .....	67
ROSA, GRAZYNA – SONDEJ, TOMASZ, Szczecin, Poland: Evaluation of Brand Strength of Product Based on the Ranking of Polish Brands .....	73
ROSAK – SZYROCKA, JOANNA - BORKOWSKI, STANISLAW, Czestochowa, Poland: DEKRA Award as High Quality Determinant of Provided Medical Services on the Basis on the Stationary Health Care in Poland.....	77
SALAJ, MICHAL, Žilina, Slovak Republic: Supply Chain Management and the Implications of its Interrelation with Lean Management.....	81
SMUTNÁ, MARTINA – GAŠO, MARTIN, Žilina, Slovak Republic: Comprehensive Comparison of Software Support Ergonomics .....	85

SOKÓL, ANETA, Szczecin, Poland: Benefits and Barriers in Development of E-Learning as a Source of Knowledge in SME Sector .....	89
SOLČIANSKA, MIROSLAVA, Žilina, Slovak Republic: The Advantages of Management by ROI.....	93
SONDEJ, TOMASZ, Szczecin, Poland: Terrestrial Television Market and its Barriers in the Integration with Electronic Information Markets .....	97
SOVIAR, JAKUB, Žilina, Slovak Republic: Simplification of Marketing Scheme for Business Start - UPS .....	101
SPUCHLÁKOVÁ, ERIKA, Žilina, Slovak Republic: Advertisement in an International Environment .....	105
STASIAK – BETLEJEWSKA, RENATA – BORKOWSKI STANISLAW, Czestochowa, Poland: Analysis of Decision Process in Building Investment.....	109
STASIAK – BETLEJEWSKA, RENATA – BORKOWSKI STANISLAW, Czestochowa, Poland: Economic Determinants of Bank Computerization .....	115
STRÁPKOVÁ, JANA, Žilina, Slovak Republic: System Support of Visual Information in Realtime .....	119
STRYČEKOVÁ, IVANA, Žilina, Slovak Republic: The Measurement of Airport Economic Performance .....	123
ŠALAGA, VLADIMÍR, Žilina, Slovak Republic: Trends in Optimization of Enterprise Logistics .....	129
SIARSKY, BRANISLAV, Bratislava, Slovak Republic: Structure of Initial Phase in the IT Project Management.....	133
ŠRAMOVÁ, VERONIKA, Žilina, Slovak Republic: System Alignment in Companies.....	137
ŠTĚPÁNEK, BŘETISLAV – OTŘÍSAL, PAVEL, Vyškov, Czech Republic: Decisive Aspects of International Military Organizations Centers of Excellence Development in North Atlantic Treaty Organization.....	141
ŠUSTEK, MILAN – KRASŇAN, MIROSLAV, Žilina, Slovak Republic: The Evolution of Risk Management .....	145
TARANOVÁ, KATARÍNA, Žilina, Slovak Republic: Definition and History of Social Networks Sites.....	149
TENCER, RICHARD – MIČIETA, BRANISLAV, Žilina, Slovak Republic: Robotic Workplace Design for Assembly.....	153
TOKARSKI, ANDRZEJ, Torun, Poland: Nature and Presentation of Bankruptcy Costs in Accountancy.....	157
TOKARSKI, MACIEJ, Torun, Poland: Benefits and Barriers of Financing Projects with European Funds Exemplified by Experiences of Polish Entrepreneurs of Kujawsko – Pomorski Region ....	163
TOKARZ, ANNA, Szczecin, Poland: The Importance of Motivation in Staff Management on the Example of Radisson Blu Hotel in Szczecin .....	169
TULISOVÁ, JANA, Žilina, Slovak Republic: Strategy – New Directions in Strategic Management.....	173
URAM, MATEJ, Žilina, Slovak Republic: Concept of Value in Postal Services.....	177

VIGLAŠOVÁ, ZUZANA, Žilina, Slovak Republic: Value Added Tax – One of the Main Tools How to Reduce Deficit of the Government Public Finances .....	181
VRÁBLOVÁ, LUCIA – GREGOR, MILAN, Žilina, Slovak Republic: Strategy of Rescuing a Company in Crisis .....	185
ZÁVODSKÁ, ANNA, Žilina, Slovak Republic: Philosophical Background of Knowledge Management in Comparison with Recent Understanding of Knowledge.....	189
ZVARÍKOVÁ, KATARÍNA, Žilina, Slovak Republic: Public Relations – Important Communication Tool of the Universities in the Slovak Republic .....	193
ŽIAČIKOVÁ, VLADIMÍRA, Žilina, Slovak Republic: Corporate Social Responsibility in a Postal Sector .....	197





# The Hiring-Overtime Decision and the Working Time Arrangement

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**Abstract.** This paper deals with the decision making process towards working time arrangement. It is focusing on the situation when a company is confronted with an extra workload and the management has to decide whether to hire people or work overtime. The paper introduces quantitative approach of E. F. Lundgren and J. V. Schneider to this decision problem, which is based on cost minimization and assumes a known increase in demand. The main aim of this paper is to suggest an analytical tool as an aid in the decision process involving the hiring-overtime decision.

**Keywords:** Working Time Arrangement, Decision, Decision Making Process, Working Time, Overtime, Hiring, Cost Analysis.

## 1. Introduction

Working time arrangement defines where, when and how work gets done. The changes of external or internal conditions can cause that actual working time arrangement will not meet new requirements. In this case the management of company has to design an adjustment of actual working time arrangement, which will be more suitable to changed conditions.

According to the Slovak Labour Code the labour relation between employer and employee can be characterized by several characteristics. These characteristics represent individual employer decisions towards certain working time arrangement. They involve the form of a labour law relation, the duration of a labour law relation, the working time per week, the distribution of working time, the basic working time per day, the time account balancing period, the overtime work, the alternation of employees at the same workplace and the workplace. [1, 4]

The adjustment of working time arrangement can be provided because of different reasons, but the most frequent is the change of workload. In the case an extra workload occurs, the management of company has to make certain decision that will enable effective processing of this work. It can be solved by hiring new employees or by overtime work.

In general a solution of this problem depends on an extent of a extra workload. The large extent is solved by hiring new employees and short extent is solved by overtime work. However management of a company has to determine a boundary between large and short extent of an extra workload.

The cost model designed by E. F. Lundgren and J. V. Schneider can be helpful in a process of the determination of this boundary.

## 2. The Cost Model for the Hiring-Overtime Decision

Authors E. F. Lundgren and J. V. Schneider designed a model for the hiring-overtime decision, which represents quantitative approach to this decision problem. They assume that a decision to hire new people or to work overtime has to be made, when a number of expected time hours needed to complete production is larger than the total available time hours. [2]

They distinguish two major cost areas – hiring costs and costs of overtime. Hiring costs include direct and indirect costs. The direct costs represent wage costs of new employees required to completion of a required production. The indirect costs represent costs of personal department,

accounting cost to place a person on the payroll and training. Then the equation of the hiring costs is following:

$$C_1 = h \times w + K \quad (1)$$

Where

h - an excess workload in time hours

w - wage cost per hour

K - total indirect hiring costs

Costs of overtime include wage costs and the overtime premiums. Then the equation of the overtime costs is following:

$$C_2 = h \times (w + w_p) \quad (2)$$

Where

h - an excess workload in time hours

w - wage cost per hour

w<sub>p</sub> - overtime premiums per hour

In the case when different rates of the overtime premiums are distinguished, the equation of the overtime is following:

$$C_2 = h_1 \times (w + w_1) + h_2 \times (w + w_2) \quad (3)$$

$$h = h_1 + h_2 \quad (4)$$

Where

h - an excess workload in time hours

h<sub>1</sub>; h<sub>2</sub> - a number of hours worked during week; a number of hours worked during weekend

w - wage cost per hour

w<sub>1</sub>;w<sub>2</sub> - overtime premiums per hour for week; overtime premiums per hour for weekend

The objective function of this model is to minimize total cost subject to a fixed production output or demand at the end of some time span:

$$f = h_1 \times w + K + h_2 \times (w + w_1) + h_3 \times (w + w_2) \quad (5)$$

Subject to:

$$h_1 + h_2 + h_3 \geq h \quad (6)$$

Where

h - an excess workload in time hours

h<sub>1</sub> - a number of hours worked by new employee

h<sub>2</sub> - a number of hours worked during week

h<sub>3</sub> - a number of hours worked during weekend

The cost minimization will cause that alternative with the lowest cost will be chosen. Authors wanted to design practical model that will be able to provide a relatively quick and easy analysis and they made following assumptions in designed model:

- The demand increase is known
- The time span is finite
- No capital expenditures for new equipment will be necessary if new personnel are hired.

- There are no differences in efficiency between employees and newcomers.
- No additional supervision will be needed to handle any required number of new employees or overtime hours.

### 3. The Hiring-Overtime Boundary

The cost model designed by E. F. Lundgren and J. V. Schneider can make easier the hiring-overtime decision. The management of a company is able to determine an exact boundary between an extent of the extra workload, which should be solved by overtime work and an extent of the extra workload, which should be solved by hiring new people. The main condition consists in comparison of overtime costs and hiring costs. The overtime should be chosen when overtime cost are lower and the new employee should be hired when hiring costs are lower.

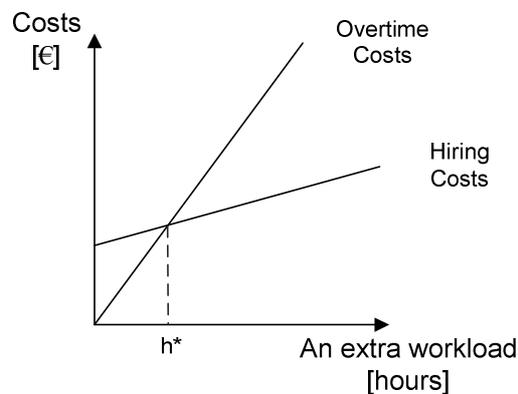
From equations (1) a (2) the hiring-overtime boundary can be calculated.

$$C_1 = C_2 \quad (7)$$

$$h \times w + K = h \times (w + w_p) \quad (8)$$

$$h = K/w_p \quad (9)$$

The comparison of overtime and hiring costs can be made also graphically (Fig. 1). In the case we will assume that new employee has the same wage per hour as employee working overtime, the function of overtime costs is steeper. The function of hiring costs is starting at a level of total indirect costs.



**Fig. 1.** The Hiring-Overtime Boundary, source: author

We can see that hiring new people will be more effective in the case the extra workload will be longer than  $h^*$  time hours.

### 4. Extensions of the Cost Model for the Hiring-Overtime Decision

Although the approach of authors E. F. Lundgren and J. V. Schneider to hiring-overtime decision is very practical and enables easy and quick analysis, it does not encompass different working efficiency. The working productivity differs between employees and is also reduced because of the extended hours. [3]

Another extension of previous model can be made by assumption that a wage rate isn't identical for all employees.

For example new employee mostly doesn't have the same wage rate as permanently employed employees working overtimes.

If these assumptions will be included into a previous model, the hiring-overtime boundary can be expressed in units of production:

$$C_1 = C_2 \quad (10)$$

$$\frac{P}{p_1} \times w_1 + K = \frac{P}{p_2} \times (w_2 + w_p) \quad (11)$$

$$P = \frac{K}{\frac{w_2 + w_p}{p_2} - \frac{w_1}{p_1}} \quad (12)$$

Where

P - an excess workload in units

w<sub>1</sub>;w<sub>2</sub> - wage cost per hour of newcomer; wage cost per hour of permanently employed employee

w<sub>p</sub> - overtime premiums per hour

p<sub>1</sub>; p<sub>2</sub> - productivity of newcomer; productivity of permanently employed employee

The graphical expression is similar as in previous case, only the extra workload is expressed in units. The gradient of curves depends on basic wage rates, overtime premium and working productivity. Generally a newcomer makes spoilages and his/her working productivity is lower. In the case where this assumption is true, the gradient of hiring costs is higher. On the other hand newcomer has mostly the lower basic wage rate. Then the gradient of hiring costs is lower. The final gradient of these functions depends on quotient of wage rate and working productivity.

## 5. Conclusions

In the case where a given demand increase over a finite time span is known and exceeds current production capacities, a total cost analysis can provide decision criteria for working time arrangement adjustments. In the case where overtime is worked, one can also determine the type of overtime. The cost model for the hiring-overtime decision facilitates a quantitative approach to the hiring-overtime decision. However it does not encompass differences in wage rates and working productivity. This paper suggests extension of this model, which can be used as an analytical tool for the hiring-overtime decision.

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# Monitoring Competitors as One of Prerequisites for Game Theory Application in Management Decision Making

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**Abstract.** This article is mainly devoted to the process of monitoring competitors in a company. This process should be divided into four parts which are gradually described. The most exacting are the phases of collecting information and of converting information into intelligence. These stages can be facilitated using the company's information system with the intention of competitive intelligence. The process of monitoring competitors represents a key part of the superior process of game theory application in management decision making. Game, which represents a strategic decision-making situation, requires competitive intelligence for its formulation.

**Keywords:** game theory, decision making, competitor analysis, competitive intelligence.

## 1. Introduction

The aim of this article is to present key approaches and methods concerning collection and utilization of information about company's competitors. It is dealt in the context of game theory application in management decision making. The majority of game-theoretic techniques which improve the process of decision making require relatively elaborated information about company's competitors. These are in game-theoretic point of view considered as other players. The knowledge of all significant game players and of their chief characteristics is absolutely essential for the future success of game theory application in decision-making processes.

## 2. Game Theory in Management

Game theory, originally branch of applied mathematics, provides an effective framework, which helps decision-makers during the process of decision making. In the area of management, decision-making processes may be very exacting. They are usually connected with money expenditures, representing one of the basic valuable company resources. This is one of reasons why the process of decision making has a key importance in every company. It is necessary to improve such processes and perform them effectively. It is evident that a success of one company or organization on the market depends on behaviour of other market participants, especially other companies and organizations, usually regarded as competitors. Game theory offers descriptions, methods, techniques and models which enable strategic thinking in such multi-decision-makers settings.

When applying game-theoretic approach it is necessary to follow several steps. These steps are:

- key game elements determination,
- monitoring competitors,
- game classification,
- formal game representation and model formulation,
- optimization,
- application of selected decision,
- process feedback.

### 3. Monitoring Competitors

The initial rough estimation about who are company's competitors is dealt in the first phase of the process of game theory application in management decision making which is about key game elements determination. One of these basic elements is a number of game players. The identification of possible competitors represents an input to the second phase. But it has not to be considered as a final proposition. It may be further adjusted during the phase of monitoring competitors which also provides a view on the whole business background.

This article is mainly focused on the second phase of the process which is about monitoring competitors. This part is about gathering and structuralization of information about competitors, i.e. game players. It is a key prerequisite for further classification and representation of the whole game for example by a payoff matrix or a decision tree and for model formulation.

The process of monitoring competitors has to be implemented in every company which becomes aware that its success also depends on decisions of other's market participants. There are four main stages in monitoring competitors [3]:

- collecting information,
- converting information into intelligence with several partial steps like collate and catalogue information, integrate it with other pieces of information and analyze and interpret it,
- communicating intelligence,
- countering any adverse competitor actions using the intelligence.

#### 3.1. Collecting Information

It is important during the step of collecting information to keep in mind that the objective is not to collect as much information as possible but only to acquire information which will be really used. Such scope is usually derived from a problem formulation which represents the true beginning of every decision-making process in management and which introduces key areas of concern. Rather than collecting information in a random or haphazard manner, the search needs to be focused, planned and aimed at answering the various intelligence requirements of the business [3].

Sources of information for competitor analysis may be grouped to three main categories: recorded data, observable data and opportunistic data [2, 5].

*Recorded data* are easily available in published form either internally or externally. In this group belong annual reports, brochures, press releases, newspaper articles, analysts' reports, regulatory and government reports, industry sources, presentations and official speeches. [5].

*Observable data* which have to be actively gathered and often assembled from several sources include competitor's web-sites, price lists, advertising campaigns, organization structures, promotions, tenders and patent applications, licensing agreements, sponsoring events, alliances and partnership agreements, acquisitions and mergers information, joint venture agreements or government antitrust actions.

*Opportunistic data* possession requires a lot of planning and organization, because much of them come from discussions with suppliers, customers, employees and previous managers. They may be acquired from meetings with suppliers, industry experts, trade shows, sales force meetings, seminars, conferences, recruiting ex-employees, discussions with shared distributors or from social contacts with competitors. [5]. Interviews with customers made by sales representatives and customers surveys are very valuable because customers are usually aware of the good points or bad points of every company and at the same time information is easily achievable because customers usually do not worry about the revelation of some competitor's

secrets. As customers are important for every company offering products or services, such surveys represent really high valuable source of information. The main disadvantage of opportunistic data is that they need to be attentively structuralized because they may have rather subjectivity character.

Internet is a very powerful instrument in the process of gathering information. It is useful to know how to use search engines and search desirable information using key words. Many paid or even free databases full of competitors' information are available. The most famous are global Dialog offering many particular databases, Gale Group F&S Index, D&B commercial database, Hoovers or Factiva. In central European area for example Európska databanka Business to Business Information Provider or Kompas. All offer many search options which enable obtainment of various business records. Sometimes simple competitive intelligence magazines, discussion forums, blogs or customer and governmental sites are also useful.

Davidson compares the process of gathering competitive data to a jigsaw puzzle. Each individual piece of data does not have much significant value. The important skill is to collect as many of the useful pieces as possible and then assemble them into an overall picture of the competitor. [5].

### **3.2. Converting Information into Intelligence**

This part of monitoring competitors is even more exacting than the previous one. It leans on the total collation and structuralization of data and information gathered. As a matter of fact it is necessary to avoid repetition of information, its wrongness, unreliability, inaccuracy, incompleteness and misleading [3].

It is necessary to find information's connections, interpretations and possible future trends and competitor's moves. From the game-theoretic point of view the monitoring of competitors' behaviour is essential. It is crucial to detect and explore such phenomenons like rivalry, cooperation or retaliation. In game theory, the process of converting information into intelligence gains demanding and significant psychological and sociological aspect. Using game theory in management decision making requires really deep expert information analysis which enables view the situation in the profound perspective.

The information need to be indexed and catalogued so as to in case of the new information come, it should be quickly linked to similar information that had previously been found. It may be stored in a custom-built or dedicated competitor database accessible via the company intranet, although it can also be stored in much less sophisticated forms. Finally, the relevance and importance of each piece of information needs to be interpreted and analyzed on its own and in conjunction with other information. This signifies the start when information becomes intelligence. [3].

It is appropriate to perfect this phase by several competitor and internal analyses like Stakeholder analysis, Porter's Diamond model for the competitive advantage, Porter's Five forces model, model of Four trajectories of industry change, PEST analysis, Root cause analysis, Scenario planning or Influence maps [4, 6]. Such analyses may provide company with valuable implications and they enhance the overall understanding of the company's strategic position.

In general competitor analyses have several important roles in company's strategic planning [5], they:

- help management to understand their competitive advantages or disadvantages relative to their competitors,
- generate understanding of competitor's past, present and most importantly future strategies,
- provide an informed basis to develop strategies to achieve competitive advantage in the future,

- help to forecast the returns that may be made from future investments which are affected by how will competitor respond to a new strategy.

The development of company's competitive intelligence information system should be a strategic advantage for future. Company information system CI (Competitive Intelligence) acquires and analyzes data and information from available sources about market and branch trends, which enable quick advanced identification of risks and opportunities [1].

### 3.3. Communicating Intelligence

The core of this phase consists in the communication of ascertained intelligence to responsible decision-makers. Probably, they were participating on previous phases of monitoring process but in some companies the task could be delegated.

At this stage it must be easy to respond questions about competitors' strengths, weaknesses, vulnerabilities, secrets, overall profiles, attitudes, contemplations, threats that they pose, their objectives, failures and successes, strategic alliances, business partnerships, probable moves and countermoves on company's decisions.

### 3.4. Countering Competitor Actions

This phase is very significant in game theory and it fluently passes to the game classification and formal game representation phase. The decision-makers have to develop and predict probable competitor's strategies and elaborate own appropriate countermoves or strategies which should totally prevent competitor's undesirable moves.

Managers also have to be aware that on today's markets it is very probable that their companies meet their competitors in future decision-making problems. In other words, players of the game will solve other mutual problems in the future. Games are often played repeatedly. This is also the reason while in light of game theory some psychological or social phenomena of players have to be analyzed. It would be the best for every company to keep its competitive intelligence systems up-dated and continuously supplement real consequences and findings of decision-making situations.

## 4. Conclusion

This article is focused on the process of monitoring competitors. This process can be transparently divided into four important stages which should be fulfilled in every company in order to monitor competitors correctly. It is evident that each one of these stages can be further described by several more exact internal steps but it is beyond the scope of this article. The issue of ethical information gathering should be also dealt in each company.

The significant connection between the processes of monitoring competitors and of game theory application in management decision making is shown. It is not possible to apply game theory in management without elaborated process of monitoring competitors.

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## Structures to Avoid Inaccuracy

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**Abstract.** This article addresses the problem of inventory management along the all supply chain. It refers to methods by which it is possible to reduce stock levels in the chain. This methods can connect the dots using the decoupling point in any of the links in the chain. The use of these roads is needed to tiers of the chain between them to communicate and collaborate. This move is necessary to have support in information systems, the right information at the right time and know their use.

**Keywords:** Inventory, information, stock level, demand, forecasting, shortage, stockholding.

### 1. Introduction

Executive normally expect that people at the sharp end know what they are doing. Of course, they do – well, almost. However, in inventory control there could be items where the records don't agree exactly with the real quantities held in the business; alternatively, sometimes the quantity is correct – it is just finding where the items are located that is the problem. Life at the sharp end is usually a mixture of operating the system and reacting to situations. Often there is great pressure to achieve customer service, delivery on time, response to queries, meetings etc., which results in the “quick fix” rather than solving the problem. This is especially true for inventory records.

Record accuracy has become the focus of attention for many businesses because customers are more demanding, expecting the right item to be delivered on time, and competitive pressures don't allow that extra bit of stockholding. Businesses have been offered the opportunity to become much more effective, as long as they are allowed:

- the correct information
- the development of better communication and
- integration of systems,

but often organizations fail on the first point.

At the same time, inventory management is under pressure (in most companies) to become more efficient by giving better availability and holding less inventory – and any inventory inaccuracy has a direct effect on these two key performance measures, not to mention long-term survival.

Where there is a large amount of data there is the opportunity for many errors, some of them majors. Usually this is the case with inventory, since many items, large varieties of different items, and fast-changing inventory are involved. The challenge is to measure how much there is – especially where inventory changes rapidly in businesses like consumer retailing and manufacturing processes. With large warehouses there is also the risk of inaccurate recording so that items are missing or not in the right place.

### 2. Low inventory levels

It a first you don't succeed – try some thing different! The way to improve the accuracy situation may not be to work on the control of inventory itself; it may be to avoid the problem

instead. Is the inventory really necessary to the business? If there is nothing there, then it is easy to count! What opportunities are there to avoid owning inventory in the first place?

For retailers, there has to be a selection on the shelf so that the customers have choice. In many other situations, the inventory can ideally be kept at zero until the item is needed. The easy way to ensure that records are accurate is to have no inventory in stock – it is easy to count and it takes up no space! This is similar to the principle of lean supply, which sets out the ideal situation and then heads towards it by successively eliminating the worst aspects that block improvements.

This may seem a bit theoretical, but there is an important principle here. There are several ways of using the inventory reduction approach, including [1]:

- lean stock levels
- just-in-time (JIT)
- vendor-managed-inventory (VMI).

The overall principles for decreasing the problem are well known. The level of inventory can be reduced through more effective control techniques, including [1]:

- communication
- coordination
- forecasting
- inventory management techniques
- supply control.

Often time is wasted by having to count excess and obsolete stocks. These are a result of poor forecasting and inventory level control. This can be improved by better supply and inventory management.

The ultimate technique could be JIT – no inventory, no problem, except that there is demand to support at the same time. On the way towards JIT other options can be considered – such as VMI, where the challenge of maintaining accurate records can be transferred to suppliers.

### **3. Zero inventory**

The concept of a supply chain is to have items flowing from one stage of supply to the next, both within the business and along the supply chain. Any stock in the system is caused by delay between the processes (demand, distribution, transfer, recording and production) [4]. The more stock there is in more locations the more difficult it is to count, and therefore one of the techniques that should be considered when reducing inventory is to eliminate stockholding processes. Eliminating stock can be achieved by:

- linking processes
- making the same throughput rate on processes
- locating processes near each other
- coordinating plans.

#### **3.1. Conditions for reducing stock**

It may not be possible to eliminate stockholding in many cases, but the stock level can be reduced, and with it the amount of time taken in stock counting and the accuracy of the count. Stock reduction will result when the causes of stockholding disappear. The issues to resolve often arise from the unreliability of [2]:

- product quality – rejects
- process capability – breakdown
- supplier delivery – shortages
- consistency of information – reactive operating
- customers changing their demands – poor forecasting
- quality of communication – shortage of information

- the mismatch of supply and demand, caused by batching up and the economics of processes (distribution and conversion).

Changes to the way in which we organize the processes will give significant benefits in accuracy. The way to make improvements is through normal lean supply methods [1]:

- simplification
- failsafing – Pokeyoka
- Kanban – fixed quantity in box (for A class items)
- Cando.

Consider how these can be used for record accuracy. These form a very important basis for the improvement of accuracy, and should be the bedrock of any improvements which are devised.

#### **4. Vendor managed inventory (VMI)**

Instead of avoiding inventory, it could be transferred to the control of the supplier. This doesn't make the records more accurate, but passes the problem to the supplier and so gets it out of the way.

Where there is continuous demand for an item, the responsibility for controlling inventory can be transferred to the supplier. The definition of VMI is: “inventory at the customer's premises, but controlled by the supplier“ [1]. This doesn't in itself avoid the counting problem, but if the onus is put on the supplier to maintain an adequate inventory level, the problem for the customer goes away.

In fact, the challenge of counting can be avoided entirely if the items are low value, consistent movers. As long as the supplier comes along regularly and maintains a suitable stock level, there is no need for counting. This approach is suitable where retailers are providing shelf space for their suppliers, and in manufacturing and warehousing for C-class items.

The basic of the approach is to acknowledge that the records have to be sufficiently accurate to ensure supply, low inventory value, and at a minimum of operating costs. For many C-class items the inventory cost is low, but the cost of controlling them could be relatively high unless short cuts are taken. VMI is one potential short cut.

For retailer, as well as in warehousing of manufacturing, the supplier can provide items directly to the area where they are to be used, thus eliminating transaction recording except for the actual usage. This approach has saved businesses a major proportion of transaction recording and has not affected the availability of the inventory (in one case, the work reduction was 78% of transaction recording eliminated). [3]

When running VMI, there has to be an element of trust that the supplier will provide the recorded quantity. This should be backed by formal, up-front agreement on how potential conflict situations can be resolved. The approach is as follows [1]:

1. Agree a contract. The supplier and the customer decide together on:
  - the inventory level required to maintain supply (this should be modified according to demand levels)
  - the inventory availability level (since the reason for the stockholding in the first place is to provide high availability)
  - invoice and payment terms (because regularity of payment supports the continuing supply).
2. Share information. The customer provides information about demand and inventory holding, and the supplier identifies if there are potential shortages.
3. Monitor the process. The supplier makes regular, on-site reviews of inventory levels for each VMI item at an agreed frequency.
4. Replenish inventory. The supplier restocks inventory to an appropriate level. There is an agreed procedure for removing damaged or outdated inventory, and there is also an agreement on who pays for inventory that goes missing.
5. Payment. A process is agreed for recording deliveries (if necessary) and recording usage. There is an agreement for payment terms and dealing with disputes.

VMI can be a simple way to reduce the control workload and therefore enable those responsible for inventory accuracy to concentrate on the higher priority items.

## **5. Conclusion**

The primary aim of all supply chains is the provision of goods and services to customers. This aim must be made precise to the particular products. It should be aligned to the marketing strategy of the focal company. Then the specific service level, such as delivery in full on time or correction invoicing, should be measured and positively controlled.

Supply chain concepts are very important in supplier, manufacturer and service organizations for inventory of goods, for the use of information, and for coordinating companies in several links along the chain. Service companies require sophisticated information communication systems to receive data and information to assist in making numerous strategic and management decisions along the supply chain.

## **Acknowledgement**

This paper was made about research work support: KRGa no. 202-071ŽU-4/2010.

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## Warehouse Management System

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**Abstract.** The article deals with description of warehouse management systems. Warehouse stocks from a logistical standpoint, should represent a cost optimum. Therefore it is very important to determine the optimal amount of stored material and insurance amount of stocks that we know at all times to respond flexibly to the customer. Warehouse management system is helpful in these issues. Basic use and main objective of the warehouses management is described in the first section of this article. In the scheme it is shown where the warehouse management systems are placed in the concept of managing systems used in companies at various levels of management. Furthermore, in article it is described the basic input data necessary for the proper functioning of the warehouse management. Conclusion outlines the benefits that should be achieved after the integration of warehouse management and its subsequent use.

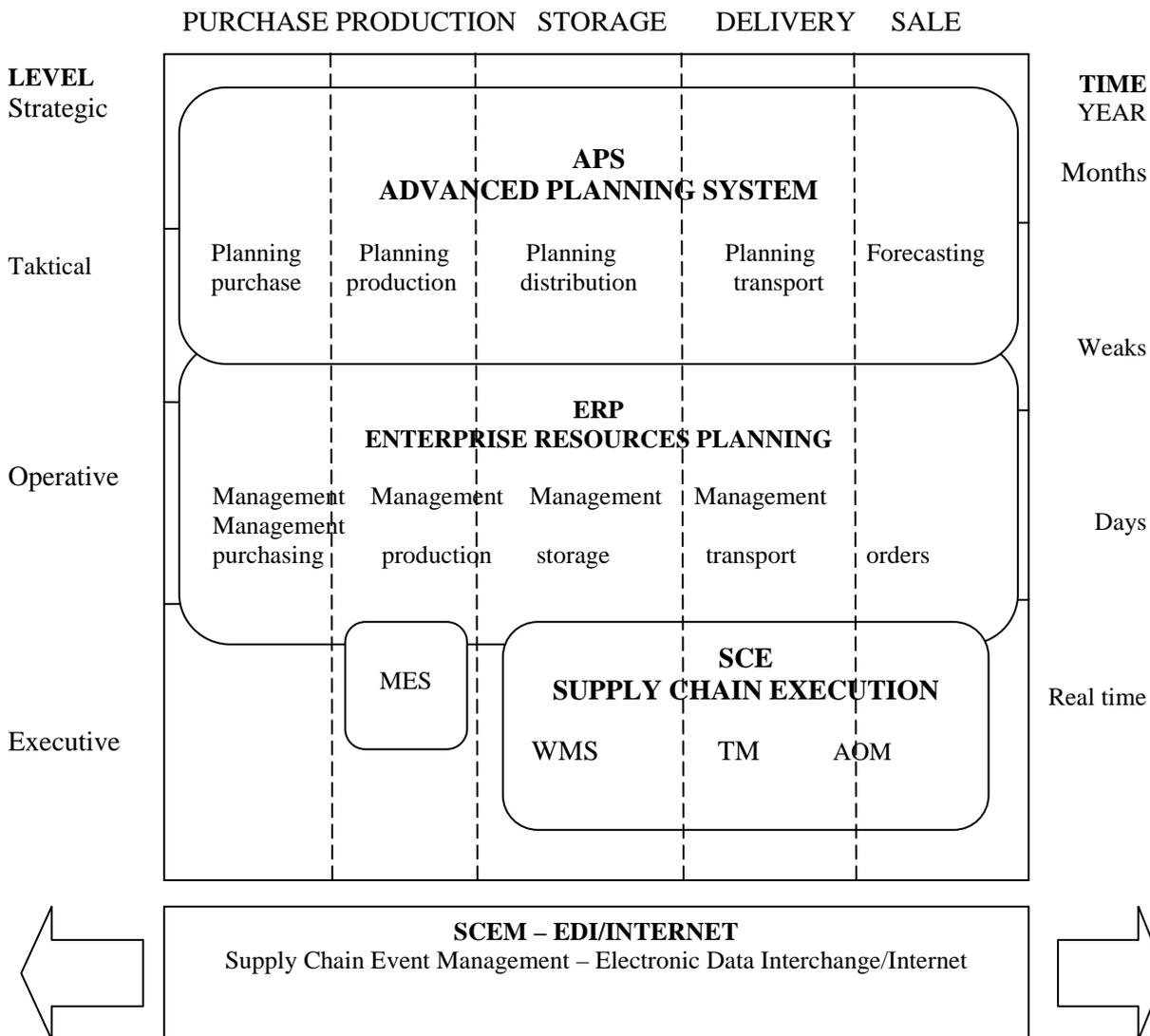
**Keywords:** Warehouse, system, management, data , ERP system

### 1. Introduction

Warehouse management generally means the control and optimization of complex warehouse and distribution systems. In addition to the elementary functionality of an inventory management like the management of quantities and storage locations, the control and planning of transport means according to this principle warehouse management also comprises methods and means to control the system status and to choose an operating and optimization strategy. For this reason the system preferably has to be called internal system for the control and optimization of material flows or system for the control and optimization of the (internal) material flow. For the reason of simplicity we have chosen the term warehouse management.

### 2. Warehouse management system

Deployment of Warehouse Management Systems (WMS) in warehouses has been forced by constantly increasing pressure on enhancement of inventory turns, requirements on better warehouse space optimisation, mistakes and confusions reduction in picking and not least also by requirement on increase in operations effectivity and labour productivity. Along with the development of wireless technology enabling on-line interconnection of mobile computer technology with ERP system, there is a significant tendency to shift from „paper“ managed systems to on-line systems based on wireless Wi-Fi network in a warehouse and handheld terminals with integrated barcode scanner. Warehouse Management System is a key part of supply chain and primarily aims to control the movement and storage of materials in stock as well as processing related activities, including orders, receipt, storage and picking. Systems can directly based on real information on the state to optimize use of storage supplies in stock. As can be seen in figure 1 in stock management systems may be independent systems or modules of ERP system.



**Fig. 1.** Software for supply chain management[5]

The logistics are very diverse business requirements, arising from the specifics of the department and very diverse logistical processes. Necessary to consider the current but also future business processes. The company must realize that the system is flexible enough that it was possible to convert any changes easily, quickly, without risk and without consequences for the user. It can be noted that specialized application usually compared with the general module of ERP system has much wider functionality and addresses the issue in detail. [1]

In real terms this means that if the warehouse area of approximately 500 m<sup>2</sup>, where two parallel working warehouse, are used rack storage position and is stored about 1,000 types of material, it is appropriate to implement a specialized WMS system.

Storage modules integrated into ERP systems, unlike the autonomous WMS, usually fail to make full use of automatic identification technology (working with a handheld, wireless data transmission between terminals and systems, online print labels with barcodes, using RFID readers and portals), their functionality and is usually limited to the minimum possible parametric configurations. Relatively low is the flexibility, if necessary, modifications and adjustments of investments tend to be higher than in a separate WMS solutions.

Advanced WMS solutions have standard data interfaces to advanced ERP systems, this means that in case of ties in these ERP systems is again only the configuration data interface. Ideally, if the firm has provided a solution capable of seamless communication with all applications and databases - that some integration platform. Added module within a comprehensive ERP is a very simple

matter, precisely because it does not solve the additional problems of communication between the new module and each interface is already created to respect the process already in place in the enterprise, irrespective of the modules. [2]

## 2.1. Basic data of warehouse systems

The planning and design of warehouse and distribution systems is highly complex so that it is nearly impossible to describe all relevant system-related parameters. Basic data are also called absolute numbers and directly result from measurements, counts, summations or differences of certain units or they are recorded as master data. At the same time, they also represent the requirements and basic information to be provided by a system. [3]

### *Master data*

Master data are statical data which are not changed over a longer period of time. The master data contain all important information about the basic characteristics of an article, loading aid, etc. The most important master data in a warehouse are the article master data because all main warehouse functions and control mechanisms are based thereon.

### *Inventory data*

This data group informs about the quantities of articles stored or provided over a longer period of time. The up-to-dateness and accuracy of this kind of data collection is of special importance to ensure the readiness to deliver and to dimension the warehouse system. Since these data change continuously they are also called dynamical data.

### *Movement data*

The second group of dynamical data are the movement data which represent all main physical warehouse processes. These are basic processes like goods receipt and issue and warehouse operations as well as order-picking processes and order execution.

### *Other system data*

Other elementary system data are among others

- Structural space and room data
- Structural manpower data,
- Cost data
- Unit load and packaging master data, etc.

Master data	Inventory data	Movement data	Other system data
Article number	Total stock	Good receipts /day	Orders types
Description	Average stock	Good issues/day	Unit load master data
Article weight, length, height, width	Minimum stock	Orders/day	Storage capacity
Type unit load	Available stock	Storages/day	Packaging master data

**Tab. 1.** Example basic data.

### 3. Conclusion

Recent trends in logistics are gradually applied under conditions of Slovak companies in view of constantly increasing competitive pressure. That is why it is necessary to introduce new knowledge into practice. One of knowledge is the method used in article warehouse management system, which is used for rapid and efficient removal of goods, better goods receiving, but also for order processing and tracking of goods in the logistics chain. With this technology we can remove defectiveness in storage and reduce storage times what we ultimately reduces storage costs and also the total cost.

### Acknowledgement

The article was prepared under the project APVV-0615-10 Výskum nových foriem projektovania výrobných a logistických systémov v podmienkach konceptu digitálneho podniku s využitím rozšírenej reality.

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## Metamodel Making Process

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**Abstract.** This paper deals with models going out of simulation models, so called metamodels. They represent one of possible ways how to increase effectiveness of simulation optimization, how to reduce the requirements of time-consuming simulation of manufacturing systems and how to make simulation cheaper. The heart of the paper describes steps of a metamodel making process and approximation of a real data using regression analysis and method of least squares.

**Keywords:** simulation, metamodeling

### 1. Introduction

Currently, it is axiomatic to solve complex problems by an appropriate computer model that reflects characteristics of a real system or helps to find a solution close to optimal, or directly optimal, for existing or conceptual systems. Therefore, a computer simulation is still gaining major importance. It allows quick testing of various variants of solutions and it minimizes the risk of wrong decisions. This is reflected to considerable economic benefits. However, decision making support, exploratory analysis and rapid adaptive calculations often require simplicity for understanding and explanation of representations of reality. Therefore, there are often constructed simpler approximations - models of simulation model - or metamodels which are used for studying of a computer simulations' behavior.

### 2. Computer simulation of manufacturing processes

Simulation is an experimental method in which the experiments with a simulation model of manufacturing system are made on a computer. It also ranks among statistical methods because it works on the same theoretical basis as methods of mathematical statistic. The analyst conducting simulation experiments selects a sample (statistical sample) that represents characteristics of whole examined file. Such sample is statistically analyzed and the results are applied to the whole file (population). Similarly, simulation also replaces the real system with its simulation model. This model includes only those characteristics of real system which the analyst is interested. After evaluation of results the analyst makes conclusions about the whole real system, based on experiments with the model [7].

Simulation runs are usually computationally difficult and it is not unusual for complex simulation models that they last for hours. For practical applications of simulation optimization it is important that the optimization process is constrained within reasonable time limits and the efficiency of the optimization process is crucial. One of the possible ways how to enhance effectiveness of simulation optimization and reduce the requirements of time-consuming simulation is to use computationally cheap metamodels [8].

### 3. Simulation metamodelling

Simulation metamodel [2] is a model of simulation model and it explains the fundamental nature of the system's input-output relationships through simple mathematical functions:

$$Y = \underbrace{f(X, \beta)}_{\eta} + \varepsilon \quad (1)$$

$Y = f(X, \beta)$  - regression function,  
 $Y$  – dependent variable,  
 $X$  – vector of values of input factors,  
 $\varepsilon$  - vector of random numbers.

This relationship is the regression model that expresses free (stochastic) dependence between explanatory variables  $X$  and explaining variable  $Y$ . It means that for one particular combination of values of independent variables  $X$  may depend variable  $Y$  acquire different values. It is caused by an influence of random events  $\varepsilon$ . Thus, it is possible to assign count distribution of dependent variable  $Y$ , called conditional count distribution, which has its own mean and variance.

According to the type of the regression function, regression models are divided into:

- linear models with linear regression function. If the linear regression model has one independent variable ( $k=1$ ), the regression function is a line. If  $k=2$ , the regression function is a plane. If  $k \geq 2$ , we are talking about hyperplane.
- linear-able models that may be adjusted to the linear form by simple transformation:
  - non-linear models in the independent variables but linear in parameters,
  - non-linear models in the parameters,
- non-linear (no linear-able) models which cannot easily be transformed into a linear form. Their regression function is e.g. modified exponential curve:

$$\eta_i = \beta_0 + \beta_1 \cdot \beta_2^{x_i}, \quad (2)$$

logistic curve (S-curve that is symmetrical about an inflection point):

$$\eta_i = \frac{\beta_0}{1 + \beta_1 \cdot \beta_2^{x_i}}, \quad (3)$$

Gomperz's curve (S-curve that is asymmetrical about the inflection point):

$$\eta_i = e^{\beta_0 + \beta_1 \cdot \beta_2^{x_i}}, \quad (4)$$

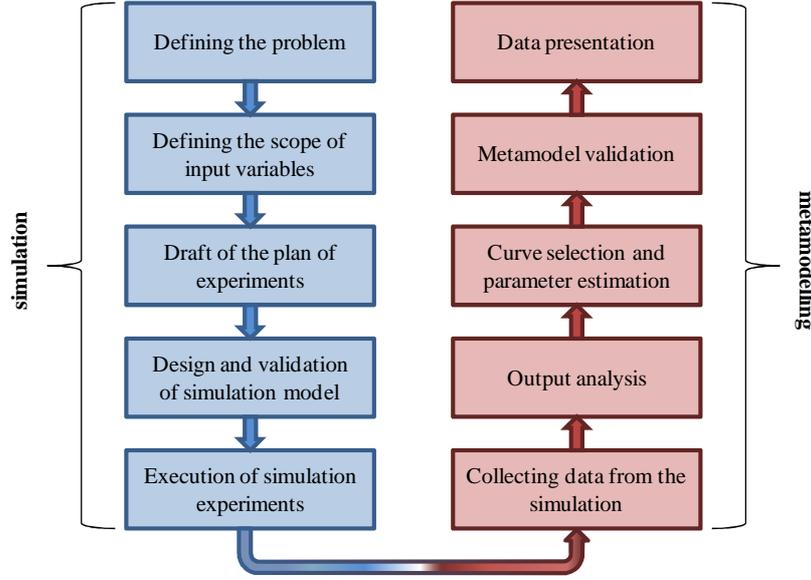
or curve with such recipe:

$$\eta_i = \sqrt{\beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + \beta_3 x_{i3}}. \quad (5)$$

Regression analysis of nonlinear models uses different methods and procedures than linear models [10].

#### 3.1. Metamodel creation

The metamodel creation (see Figure 1) begins with a simulation model which is preceded by defining the problem, defining the scope of input variables, the draft of the plan of experiments. After construction of a computer simulation model, his validation and verification is made, so logical structure of the model with respect to real system is proved. Then predefined number of replications for different input values is executed with the simulation model. In order to continue in metamodel making process we must be sure that data are sufficiently independent.



**Fig. 1.** Metamodel Making Process

In the next step, output data from the simulation are collected. In order to simplify the metamodel it is possible to combine some of the entries and remove those which have proved to be needless. These results are used for deriving a statistical model in the form of regression.

The heart of metamodelling is to determine a vector  $\beta = (\beta_1, \beta_2, \dots, \beta_p)^T$  which is a set of coefficients that determine regression function. Some of these coefficients, perhaps all, are unknown and they have to be estimated by adjusting of the regression function to observed simulation results. Method of least squares is the most common method for estimation of regression functions. It is used for calculation of functions, providing its estimation is linear in parameters or it can be achieved by simple transformation. The method determines the estimation of  $Y'_j$  of the regression function  $\eta$

$$Y'_j = f(x_{1j}, x_{2j}, \dots, x_{kj}; b_0, b_1, \dots, b_p) \quad (6)$$

where coefficients  $b_0, b_1, \dots, b_p$  are estimations of unknown parameters  $\beta_0, \beta_1, \dots, \beta_p$ . The difference between empirical and theoretical value of the dependent variable is the random error [1]:

$$e_j = Y_j - Y'_j \quad (7)$$

Least-squares condition is that sum of squares of random errors (residual deviations) of dependent variable has to be minimal:

$$F(b_0, b_1, \dots, b_p) = \sum_{j=1}^n (Y_j - Y'_j)^2 = \min \quad (8)$$

Coefficients  $b_0, b_1, \dots, b_p$  have to be suitable to this requirement. If also a specific type of function (6) is known, it can be inducted into relationship (8) and look for a minimum of the function. The result of the partial derivations of the function  $F(b_0, b_1, \dots, b_p)$  is then set up to be equal to zero:

$$\frac{\partial F(b_0, b_1, \dots, b_p)}{\partial b_i} = 0 \quad i = 0, 1, 2, \dots, p \quad (9)$$

and the unknown coefficients  $b_0, b_1, \dots, b_p$  are calculated by solving of a system of  $(p + 1)$  equations about  $(p + 1)$  unknown quantities  $b_0, b_1, \dots, b_p$ . A main disadvantage of the method of least squares is its sensitivity to extreme values and the only one outlier can change a direction of the regression line. Therefore the regression analysis should always start with looking over X-Y chart [9].

The values of the vector  $\beta$  are used for creating of curves that describe the metamodel. In order to check a suitability of the metamodel for intended purposes, validation of the metamodel (by comparison of metamodel with simulation output data using mathematical statistics) is done. The graphical representation of metamodel's inputs – outputs relationships provides a simple presentation of expected system behavior, often known as the approximate control.

## 4. Conclusion

Simulation metamodeling is an appropriate managing and optimizing tool for complex manufacturing systems. The research work [6] was done at the Department of Industrial Engineering of the University of Žilina and it deals with the system analysis of input factors influence on the performance of manufacturing system. This approach uses computer simulation and metamodeling principles, and proposed methods were verified in practical conditions. Other publications focus on metamodeling as a support tool in the frame of Digital factory [4], as a practical approach for a statistical summary of simulation results [3], [5], or as a support tool for designing and testing the control principles in production [11]. Theoretical assumptions and developments were validated on the chosen production system.

The authors' future research is focused on the design and verification of algorithm for approximate production control using simulation metamodeling. It will be proposed detailed procedure for the metamodel's design and evolutionary methods, namely neural networks, will be used in order to improve optimization. It will also be designed system for automatic generating of metamodel and proposed solution will be verified in the framework of the ZIMS research project (Zilina Intelligent Manufacturing System).

## Acknowledgement

This paper is the part of research supported by: ASFEU no.NFP26220220252.

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## Alumni Card - a Loyalty Program, Multi-Partner Program, Discount Card or Perhaps a New Form of University Promotion

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**Abstract.** The paper explains the concept of the Alumni Card with examples and try to identify the specific actions as a marketing tool.

### 1. Introduction

Maintaining positive relationships with customers is one of the main objectives of companies operating in the contemporary economy. Increasing competition between operators of the market environment has caused these companies competed in the ways how to attract and keep client and how to follow clients market behavior.

This situation can also be seen in the education market. Universities although its renown and offered fields of study are forced to search of new ways of attract client – student and also graduates. The labor market shows a demand for certain professionals. Ministry of Science and Higher Education for minimalism amount of unemployed graduates forces the necessity of testing by university graduates how they coped and they found job along their education. It wouldn't be surprising if the fact that with the most of graduates schools don't have contact. That way universities are searching the ways to interest and attract their ex-students.

#### Alumni card:

One of the new ideas, widely functioning on the Polish market is a graduate card. Several universities as The Nicolaus Copernicus University in Toruń, Warsaw School of Economics, The University of Humanities and Economics in Lodz, Kozminski University in Warsaw, standing in front of difficulty of re-attracting its students attention, established within its duties "Alumni Card" within "Graduates Program". Its main target is to re-maintain contact between university and graduate. Offering the Alumni Card as a product, universities have current contact, year by year, with increasing amount of ex-students.

The Card allows its owners on preference conditions can use the offer of trainings and studies, library or the services of universities partners. Logged in graduates can use many discounts offering by partners as a languages courses, fitness clubs, restaurants and bars. Thanks to logged in database school can inform the graduated what is happening in their former place of study, and can take part in support events.

The card is also a tool created for product promotion partners. So far only one university offered this kind of its graduates' enterprise promotion.<sup>2</sup>

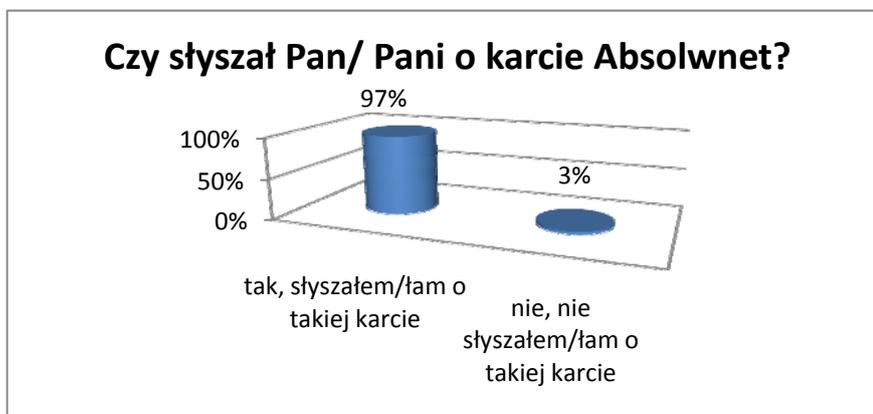
Knowledge of the Graduate cards in Poland, however, is still very small. Potential interested entities can't strict describe what the Alumni Card is – benefit, partnership or loyalty program, or maybe the new form of university promotion. According to the research conducted on Szczecin's

<sup>1</sup> More: O Karcie Absolwenta : [www.absolwenci.kozminski.edu.pl/pl/O-Karcie-Absolwenta-ALK.html](http://www.absolwenci.kozminski.edu.pl/pl/O-Karcie-Absolwenta-ALK.html),  
[www.absolwent.umk.pl/mod.php?mod=userpage&menu=8&page\\_id=1&PHPSESSID=9969e43389f6e6e6942c996c7e097103](http://www.absolwent.umk.pl/mod.php?mod=userpage&menu=8&page_id=1&PHPSESSID=9969e43389f6e6e6942c996c7e097103)  
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<sup>2</sup> More: O Karcie Absolwenta : [www.absolwenci.kozminski.edu.pl/pl/O-Karcie-Absolwenta-ALK.html](http://www.absolwenci.kozminski.edu.pl/pl/O-Karcie-Absolwenta-ALK.html),  
[www.absolwent.umk.pl/mod.php?mod=userpage&menu=8&page\\_id=1&PHPSESSID=9969e43389f6e6e6942c996c7e097103](http://www.absolwent.umk.pl/mod.php?mod=userpage&menu=8&page_id=1&PHPSESSID=9969e43389f6e6e6942c996c7e097103)  
[kariera.sgh.waw.pl/ankiety/karta-absolwenta-sgh](http://kariera.sgh.waw.pl/ankiety/karta-absolwenta-sgh), [www.puw.pl/art.html?akcja=Promocja&P%5Baid%5D=677](http://www.puw.pl/art.html?akcja=Promocja&P%5Baid%5D=677) 20.03.2011 r.

University doctors, that considered creation of this Card.<sup>3</sup>

In the beginning of March 2011 researched the Szczecin`s University doctors. The main target of research was to recognize the interest of product – Alumni Card in case of introducing it by universities. Research also allowed to observe how the product is considered in concept.



Rys. 1 Źródło: opracowanie własne

Only 3% answered YES on question “If you ever heard about Alumni Card”, the rest of researched, 97% never heard about Card.

#### **Attempt to define and give new meaning Alumni Card**

Considering the location of Alumni Card in marketing tools, and treating to the research results, concepts as loyalty program, multi-partner program, benefit card or form of promotion, should be described at first. Loyalty program is a group of planned by produce actions aimed at binding the consumer to the brand for a long time. It`s based on repeated, long-term, interactive and consequent communication between company and important clients. The most popular condition of participation in program is repeating and regular purchase.<sup>4</sup>

In the literature are found several definitions of loyalty program, but the most accurate seems to be that loyalty program is a strategic tool of relation management, directed to give both-side profits.<sup>5</sup>

The idea of multi-partner program is to gather points from purchasing in deferent sectors with one card. Companies use loyalty programs to establish emotional relation with clients, create positive associations and attachment to its brand and product. There are many tools helping process, but the final must always be the measurable element for client – the award.

If we take, that an essential component of loyalty programs is to purchase the company`s products or purchasing in selected place, and gathering points from above, the Alumni Card can`t be any of named tools. Thus, the emerging players in these activities in various sectors of the economy can`t be partners in the program offering only discounts.

Reading the definition of constant client card (discount card), can be recognized that describing in this paper Alumni Card isn`t exactly tool of this kind. Its consists on rewarding for purchasing within discount or benefits.

Should be also considered the concept of consumer club, that require long-term engage from the consumer and organization. To the club enjoyed a welcome interest, offer is very important. It can include different kind of discounts, advises for club members about selecting proper products, possibilities of purchasing special editions of products (available only to club members), offers of

<sup>3</sup> The survey was conducted 03.2011r. among the graduate students of the Faculty of Management and Economics of Services, University of Szczecin. Adopted a group of people constituted the Szczecin University graduates who have decided to continue studies at stage III. For the study 60 people were admitted to which was conducted a survey and then a short interview a group of randomly selected people.

<sup>4</sup> M. Teslawski, K. Ziewiec: Programy lojalnościowe: zalety i zagrożenia, „Marketing w praktyce” 2000, nr 8, s.17.

<sup>5</sup> P. Kwiatek: Programy lojalnościowe. Budowa i funkcjonowanie, Wyd. Wolters Kluwer Polska, Kraków 2007, s.72.

enjoying free time (club voyages), seminar, club meetings, cultural offers. Club offer can be strict related to the product. But it isn't necessary if harmony between club offer and its target.<sup>6</sup>

Among the Graduate School offering the card meets the definition of it as just a discount card. In the doctor opinion this products is often describe as a form of school promotion – but can it be taken as a correct?

Speaking of promotion, adopted a set of measures (instruments and its tools) within company sent information about products or itself, thus creating the interest in company in potential receiver.

Considering Alumni Card as a interpretation of promotion it can't be unambiguous described that its actions connected with Alumni Card are its full form.

It could be described as a support tool of promotion of graduated and school as well. But named situation is possible only if graduated company's mark would be placed on card.

Promoting students by schools, who have established a relationship again, or else with the unit after the end of college would correspond to the typical behaviour of image, and thus the full promotion.

Supporting action of those two objects that aren't competitions would allow universities to apply in practice this form of promotional activity that is cross-promotion.

Cross-promotional activities create a great way to effectively distinguish themselves and their products. Promotion of one mark can be done by using another,<sup>7</sup> uncompetitive giving the opportunity to achieve better outcomes and actions than for their own. Cross –marketing allows to reach the client of another company that cooperate with.<sup>8</sup>

As it can be seen from above considerations, unambiguous description of what the Alumni Card is, and if it's worth to introduce to the universities, isn't that clear. Universities to take up such activities must first consider what should it serve – if its only kind of simplifying students access to discounts instead of access to their data, or would it serve the university and student for a longer time to shape the opinion and build brand of two entities.

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## Charges into the Recycling Fund of Slovak Republic – the Tool of Slovak Environmental Policy

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**Abstract.** The aim of this article is to present the charges into the Recycling fund of Slovak Republic. It describes the payment system of these charges. The article characterizes the persons who are required to pay these charges, charges rates and charged commodities. In addition presents current charges into the Recycling fund of Slovak Republic for selected years 2007 to 2009.

**Keywords:** recycling fund of Slovak Republic, charges into the Recycling fund, charged commodities, payers, rates of charges, Slovak Ministry of environment, Slovak environmental policy

### 1. Introduction

In several countries of the European Union certain types of products, materials and supplies are charged with regard on necessity of their processing at the waste stage. In various countries the types of charges are different. The purpose of paying is that producers and importers in developed countries pay for their future waste. Every country in EU can use its own charging waste system, but is very important that European directives and criteria have been observed during the system application.

Many countries apply different types of environmental charges in [2]:

- the creation of charges rates,
- the range of emissions charging,
- the burden types of harmful products.

### 2. The charges into the Recycling fund of Slovak Republic

The current Slovak tax legislation applies some economic tools, like charges or payments with character of environmental taxes. These are political tools to ensure the environmental protection through the financial – economic tools namely in the form of charges, payments and incomes.

These tools can be characterized as product charges, whose choice is not associated to the providing of specific environmental service to tax payer, but their intention is to stimulate the transfer of consumption to non-chargeable substitutes and in addition to create financial source to ensure the implementation of environmental objectives (battery charges, the bottles, recyclable packaging, plastics, tires, oils, fluorescent lamps containing mercury, paper, motor vehicles etc.).

Achieved sources from environmental taxes and charges are paid into the recycling fund, the territorial budgets, and the national budgets or into the private sector, which ensure the products liquidation for which taxes are levied.

### **3. The Recycling fund of Slovak Republic**

The Recycling fund of Slovak Republic is the legal entity registered in Business register. The fund was established as non-governmental special purpose fund which entered into force on the 1 July in 2001. From the 1 January 2002 importers and producers are required to pay the charges for commodities prescribed by law.

The purpose of fund is to concentrate a finance charges in accordance with Slovak Program of waste economy and with commodities programs of funded sectors. Under current Slovak legislation the sources of Recycling Fund are [3]:

- a. Charges from producers and importers for selected commodities,
- b. Donations and contributions from domestic and foreign legal entities and natural persons
- c. Charges from penalties,
- d. Interest of loans granted by Recycling fund,
- e. Incomes from owns property,
- f. Interest from Recycling fund deposits in banks,
- g. Others sources prescribed by law.

The 88% of these sources flow into the sector where they have been created. (used baterries and accumulators sector, , waste oils sector, used tires sector, multilayer combined materials sector, electrical equipment (EEE) sector, plastics sector, paper sector, glass sector, motor vehicles sector, metal packaging sector) and 12% of these sources flow into the general sector. Then the obtained sources are used to support the collecting, recovering and processing of these commodities [3]:

- a. used baterries and accumulators,
- b. waste oils,
- c. used tires,
- d. multilayer combined materials,
- e. electrical and electronic equipment,
- f. plastics,
- g. paper,
- h. glass,
- i. motor vehicles,
- j. metal packaging.

### **4. Who is required to pay the charges into the Recycling fund of Slovak Republic**

The producers and importers of selected commodities are required to pay the charges into the Recycling fund. They are too required to register in Recycling fund within 30 days from production starting or importing of charged commodities. The producer pays the charge for calendar quarter and the amount of charge depends on real output in this quarter. The importer pays the charge for calendar quarter and the amount of charge depends on real import in this quarter. The producers and importers are responsible for charge payment and for accuracy of charge calculation. [4]

## 5. The charge calculation

The charge into the Recycling fund is calculated by multiplying the quantity or weight of products or materials for which is charge paid and appropriate rate. The Slovak Ministry of environment enacts by ordinance rate calculation in this way [5]:

<i>Type of product or material</i>	<i>€/kg</i>
a/For batteries and accumulators:	
weighing less than 1 kg/pc	6,31 €
weighing more than 1 kg/pc	0,27 €
b/For mineral lubricating oils to internal combustion engines, for gear oils, for turbine oils or hydraulic oils	0,07 €
c/For tires of motor vehicles and non-motor vehicles	0,27 €
d/For multilayer combined materials	0,23 €
e/For electrical and electronic equipment:	
1. large household appliances	
1.1. refrigeration equipment	0,93 €
1.2. others	0,53 €
2. small household appliances	0,66 €
3. information technology and telecommunications equipment	
3.1. personal computers	1,66 €
3.2. others	1,33 €
4. consumer electronics	
4.1. TVs	1,66 €
4.2. others	1,33 €
5. fluorescent lamps	
5.1. fluorescent lamps mercury free	1,33 €
5.2. fluorescent lamps containing mercury	1,66 €
6. electrical and electronic tools in addition to large-scale stationary industrial tools	0,66 €
7. toys, facilities for sport and recreation	0,66 €
8. medical devices in addition to implanted and infected products	1,33 €
9. instruments for monitoring and control	1,33 €
10. vending machines	0,66 €
f/For products of polyethylene terephthalate (PET), polyethylene (PE), polypropylene (PP), polystyrene (PS) and products of PVC	0,17 €
g/ For paper and cardboard from amount of 10 tons per year	0,02 €
h/For glass (including packaging and plate window glass) from amount of 10 tons per year	0,02 €
i/For vehicles	66,39 €/pc
j/For metal packaging:	
1. for iron and steel	0,04 €
2. for aluminum and its alloys	0,14 €

## 6. Recycling fund sources for different types of commodities in years 2007 to 2009 (in €)

The commodity/year	2009	2008	2007
Baterries and accumulators	459 410	519 611	549 740
Oils	802 049	1 354 106	1 660 313
Tires	242 903	520 114	1 425 491
Multilayer combined materials	27 324	69 688	50 028
Electrical and electronic equipment (EEE)	199 793	220 220	404 474
Plastics	666 233	859 343	1 160 339
Fluorescent lamps containing mercury	0	0	0
Paper	421 129	940 909	1 802 544
Glass	618 725	857 801	1 041 819
Motor vehicles	10 611 516	13 002 087	11 410 037
Motor vehicle of natural person	5 110 443	6 591 308	5 778 024
Metal packaging	117 527	175 687	188 416

The source: The annual report of Slovak Recycling fund per year 2009

## 7. Conclusion

The constantly growing population development presents a major threat for the environment, whose consequences we are not able to quantify, neither to fully minimize them. Importance of this issue confirms the fact that many countries in the world included environmental protection among the priority objectives in its economic policy.

One of the basic conditions which led to the entry of the Slovak Republic to the European Union was to increase the level of environmental care and improvement of the contemporary situation to such an extent that will satisfy the requirements of the environmental law of the European Union. At first it concerns these economic precautions and tools which can greatly help to eliminate the environmental burden and to eliminate sources of pollution. Charges to the Recycling Fund the SR mentioned among economic instruments, which are used within economic policy of the Slovak Republic. Their main objective is to tax the consumption of mentioned commodities and then use them to promote the collection, recovery and processing of these commodities.

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# Virtual Communities and Their Role in Consumer Decision Process

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**Abstract.** This paper investigates the issue of virtual communities and their role in consumer decision process. A motivation factor for people to use virtual communities is knowledge sharing. Virtual communities have their own cultures and expectations. In this article there is virtual community's influence on the consumer decision process and the issue of social contracts and trust theory analyzed.

**Keywords:** Virtual communities, Trust, Social contracts, Word-of-mouth.

## 1. Introduction

Internet enables knowledge exchange that was not possible before. Information exchange between consumers on the Internet continues to grow exponentially. In general, consumers attach importance to the opinion of others while making purchase decision and they can turn to the virtual community to gather information, to review opinions, or to ask for advice. Bickhart and Schindler assume that online information produced by other consumers is perceived more credible and relevant and results in more empathy than marketer-generated information.

## 2. Virtual Communities and Their Impact on Consumers

Virtual communities have profoundly changed consumers' purchase decision-making process; many people nowadays examine other consumers' reviews and experiences before purchasing new products. Members engage in knowledge sharing to reduce their uncertainty. Virtual community members share an interest, which produces affinity and it makes virtual community a powerful platform for exploring consumer-to-consumer recommendations.

### 2.1. Virtual Community as a Reference Group

Following (Kannan et al., 2000) and (Rheingold, 1993), virtual communities are defined as aggregations of Internet users who form webs of personal relationships. [4]

Virtual community is a cyberspace supported by information technology; it is centred upon the communications and interactions of participants to generate specific domain knowledge. Virtual community is a valuable business medium in respect of disseminating information and retaining customers. Virtual community serves social and business functions. From the social perspective, it provides a platform for communication and a social network that enables interaction among people. The community members come together to develop friendship, share interests and exchange information. The community stays together by adhering to the values and norms of the group.

From the business perspective, a virtual community enables commercial interaction between sellers, buyers and intermediaries; it comprises a trading and marketing platform for their interactivity.

A virtual community provides three major business functions [3]:

- Virtual community *allows e-vendors to leverage customers' ideas* in terms of designing and customizing new products; e.g. the rich information flow provides valuable insight that can help organizations continuously improve products.

- Virtual community can serve as an operational mechanism through which organizations can pursue targeted marketing, e.g. a detailed customer transaction history can help to identify current and potential customers thanks to rich data.
- Virtual community represents a great opportunity to reach a critical mass of purchasing power at minimum cost.

A reference group is any person or group of people who influences person's behaviour. There is a difference between virtual and traditional reference groups – involvement in virtual communities is a voluntary and conscious choice, whereas membership in traditional reference group may be imposed. [1]

## 2.2. Virtual Community's Influence on the Consumer Decision Process

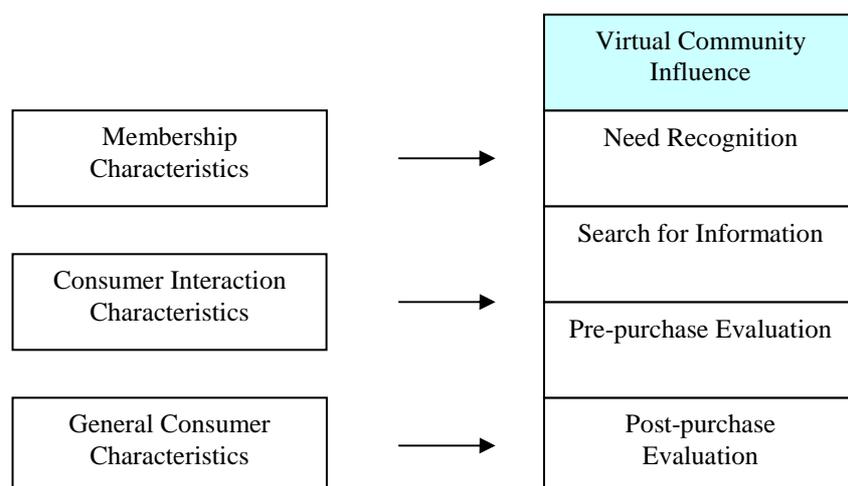
Virtual community members are different from the conventional e-shoppers. The social groups are able to balance the power associated with vendors and customers through release and exchange of information. [3]

The influence of virtual communities on the consumer decision process is generally a broad concept. When making purchase decisions, consumers go through seven stages; need recognition, search for information, pre-purchase evaluation of alternatives, purchase, consumption, post-purchase evaluation and divestment. Virtual community membership may influence each of these phases, but most relevant in the context of interaction and interpersonal influence based on information exchange between virtual community members are need recognition, search for information, pre-purchase evaluation and post-purchase evaluation.

Fig. 1 shows that the level of community influence is associated with [1]:

- membership related factors, i.e., members' attachment to the community,
- factors related to member's actual interaction behaviour with the community, i.e., the frequency and duration of community visits or the activities undertaken online,
- general consumer characteristics such as age, education, members' internet proficiency, opinion-leadership etc.,

These factors together determine how members use and value the virtual community as a reference group.



**Fig. 1.** Community influence on the consumer decision process [1]

### ✓ Membership characteristics

More experienced members may use and/or value the virtual community very differently from less experienced members in the context of purchase decision-making. When people first enter a virtual

community, they are not familiar with the environment, rules, and the other members, knowledge accumulates over time. Virtual community members display different interaction profiles, which is a result of their orientation towards the community's topic of interest.

✓ *Consumer interaction characteristics*

The frequency and duration of visits are likely to affect the extent of community influence. Member's interaction profile is also determined by the kind of activities they undertake while they are online. There are three types of online behaviour relevant to virtual community's influence on the consumer decision process, i.e., retrieve, supply and discuss information.

✓ *General consumer characteristics*

The level of community influence is also associated with general consumer characteristics, i.e., consumer's Internet profile, orientation towards others, opinion leadership and expertise with respect to the community's topic of interest. [1]

### **2.3. Trust and Social Contracts in Virtual Community**

The success of a venture into a virtual community depends on the ability to work with that community. Community members express rejection of firm activity by different manners, e.g. ignoring or ostracizing the firm, abandoning the community, or speaking out against the firm. Therefore, continued presence and action of a firm in a community can be considered as an evidence of success.

To understand why some business activities are accepted and others are not, it is important to comprehend social contracts and trust theory. Individuals who do not understand the social contract are often suspicious and can be excluded from the community. [4]

✓ *Social contracts*

All communities including virtual communities are subject to social contracts. A social contract is an implicit or explicit agreement to give up rights for other benefits such as power and social relationships. [4]

In many communities the social contract is enforced through the actions or reactions of the members of the community. Explicit rules describe how to join the community and how to act; implicit rules govern how a member should participate.

✓ *Trust*

Trust among members in virtual community positively affects members' behaviours. According to McKniht et al. (2002), four basic concepts of trust help to explain online behaviour. First, each person has a disposition to trust. It is harder to gain the trust of individuals and groups that are less inclined to trust. The other three concepts are grouped into trusting beliefs that refer to the user's perception of the other party's competence, benevolence and integrity. So in general, a user is more likely to trust if he is more disposed to trust and has a belief that the other party has competence, benevolence and integrity. Trust in members positively significantly influences the desire to get and give information in virtual community. [4]

### **2.4. Word-of-mouth Communication**

The potential impact of virtual communities is large. Recommendations can be made at virtually no costs and spread quickly. Virtual communities can be considered word-of-mouth networks. Word-of-mouth is the informal transmission of ideas, comments, opinions, and information. Online forums function as alternative and influential sources of information.

The impact of reference group influence and word-of-mouth recommendation depends among other things on tie strength. More impact on consumer behaviour have strong tie sources than weak tie sources.

The existing literature about word-of-mouth communication states that consumers are more likely to search for and accept (negative) online word-of-mouth communication in a situation in which they lack information and experience, as well as when their risk is higher. It is also

interesting that negative reviews have stronger effect than positive reviews. Word-of-mouth recommendations have a financial impact and revenue forecasting potential. Chevalier and Mayzlin show that the number of online consumer reviews about some product is related to its sales. [1]

### 3. Conclusion

Thanks Internet, information can be transmitted all over the world at virtually no cost. In the context of virtual communities, influence among group members takes place via online interaction. Virtual communities may act as important reference groups for their participants and membership at such a community influences decision in a positive or negative way. The extent of community influence differs across various phases of the consumer decision process and it is interesting to know which factors are associated with virtual community influence.

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## The RFID Market

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**Abstract.** An understanding of market and application structures provides meaningful support for decisions regarding formulation of proposals on the part of producers and planning for deployment of technologies in user projects. In this chapter, we differentiate between two perspectives on the RFID market: that of the users and that of the producers.

**Keywords:** RFID, RFID Market, producers, planning, EPCglobal

### 1. Introduction

We start by analysing the RFID value chain. Figure 1.1 shows the basic components in context. Here we do not devote any attention to production of the integrated circuits (ICs), which in this case are RFID chips, but instead focus on the subsequent stages: production of the inlays (chip plus antenna) and tags (inlays integrated into housings, smart cards and the like), and of course production of reader software, and finally system integration. The RFID market is still structured such that enterprises can focus on a single element of the value chain. Here we can start with tag production. The basis for this is an IC, which is a silicon-based semiconductor device. Semiconductors are produced in special fabrication units in the form of wafers. A wafer is a disc that can contain around 60 000 ICs, depending on the size of the IC (up to 1 mm<sup>2</sup> for RFID applications) and the diameter of the wafer (8-inch wafers are currently standard, but 12-inch wafers will be used in the future).

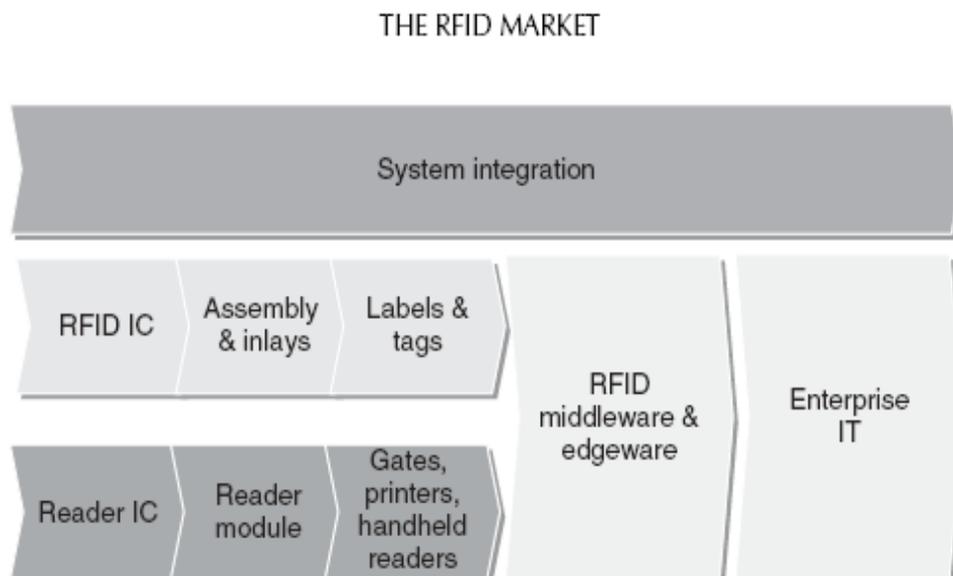


Fig. 1.1. RFID value structures

The advantage of tags is that they are sufficiently robust for the intended use, they have surfaces that can be printed, and they can be attached to objects. Tag producers usually work closely with tag users and supply the components necessary for using RFID tags in the subsequent overall system. The market on the reader side is similar. Semiconductor manufacturers supply reader ICs,

which are highly integrated circuits for analogue to digital conversion of the received signals. The next stage consists of producing reader modules, which differ in terms of their intended working range and operating frequency. They form the basis for development of the final stages of the system, such as antenna gates (gate solutions), merchant devices (which combine an antenna, reader and display in a single unit), and printers with embedded RFID components. The same types of modules can be built into merchant devices and printers. These are the links in the value chain of the hardware components of an RFID system.

Readers are usually connected to a server hosting the RFID middleware. This is the first processing level for the data acquired by the RFID devices. The software components dedicated to the readers are also called edgware. The edgware provides the communication between the hardware and the middleware. There are two types of middleware here: the previously mentioned RFID middleware communicates with the IT system via the enterprise application integration (EAI) middleware, which in turn supplies data to the higher-level ERP systems. These layers are shown in simplified form in Figure 1.2.

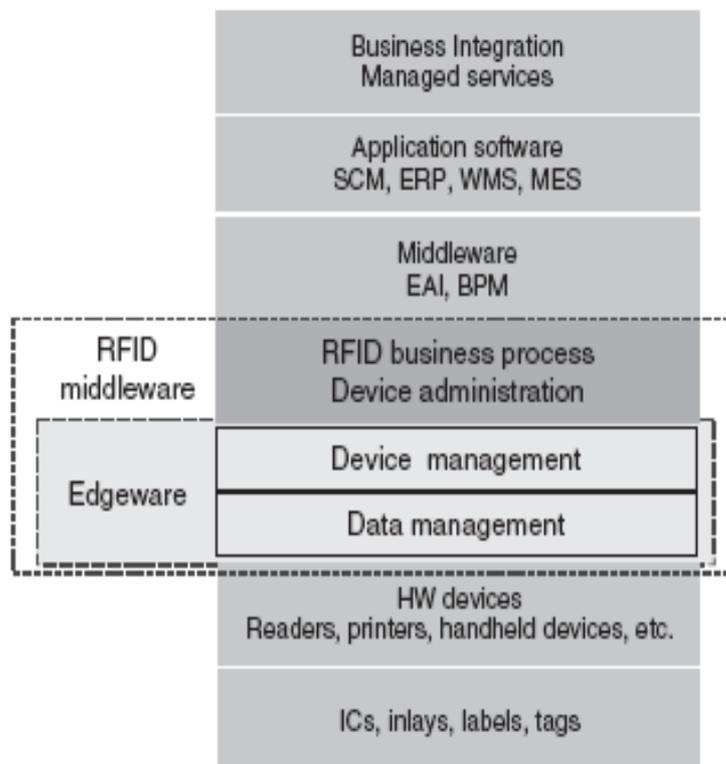


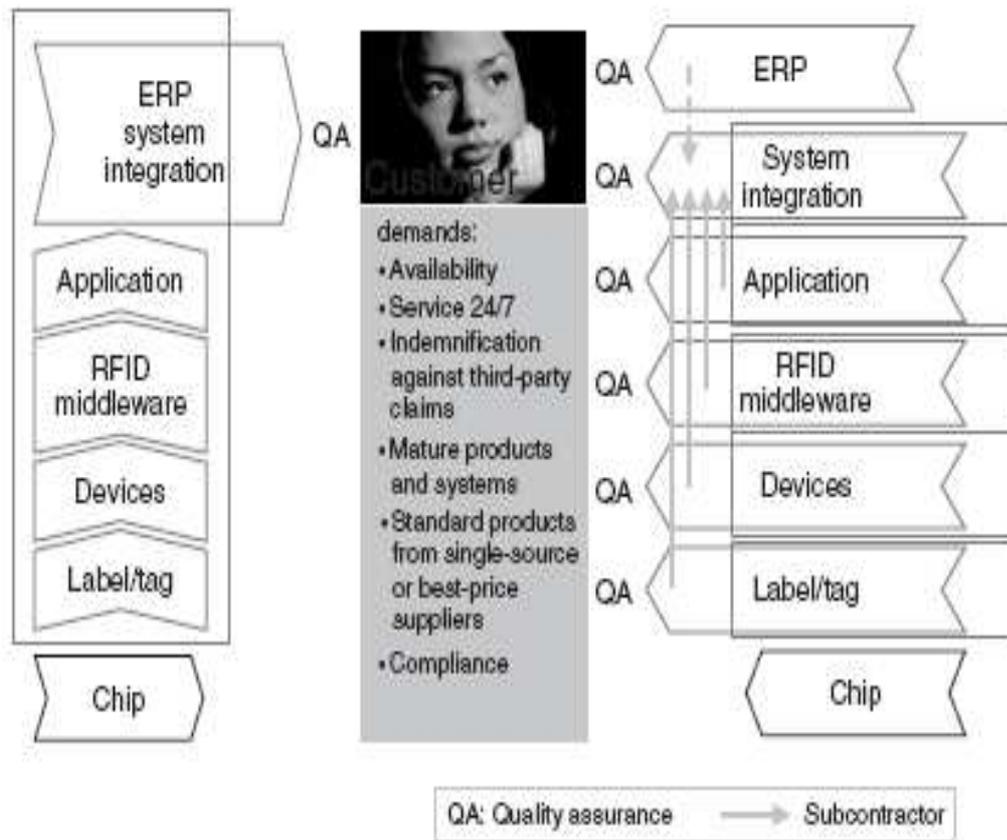
Fig. 1.2. Simplified RFID layer model

## 2. Trends in the RFID Market

As already mentioned, the RFID market is in a state of flux. This raises the issue of consolidation. In discussions with market players that could potentially be partners, one often encounters a tendency to set up barriers in situations where cooperation would be more reasonable. For instance, a tag producer may regard a system integrator as a competitor even though the two parties have essentially complementary roles in RFID systems. There are two possible causes for this situation:

- The roles of potential suppliers are still unclear in the present market environment. This uncertainty leads to a tactical endeavour to assume overall responsibility or the prime contractor role for projects, even when this does not correspond to the core competences of the enterprise or its provisional strategic positioning in the value chain.

- Customers want to obtain everything from a single source and cannot assess the risks, so RFID suppliers assume opportunistic roles that they later cannot fulfil properly.



**Fig. 2.1.** Market consolidation and assumption of responsibility

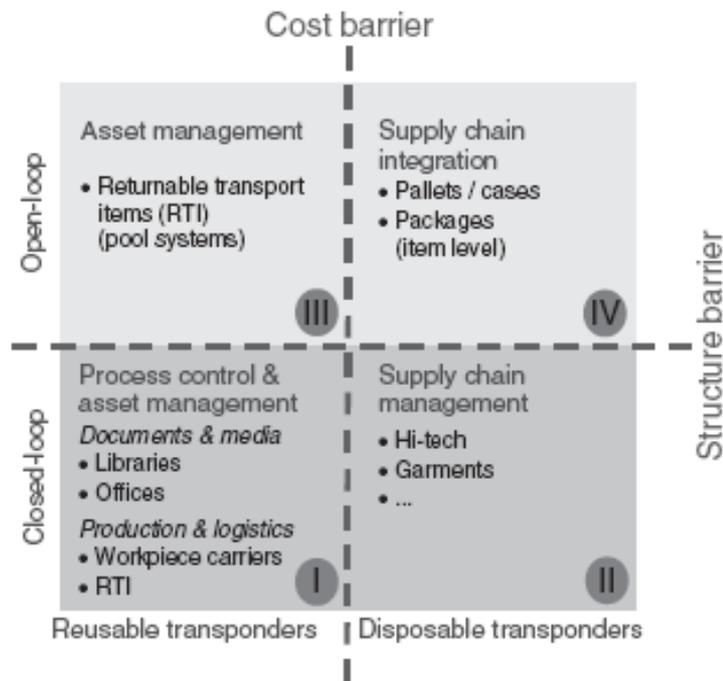
Figure 2.1 shows the current situation from the perspective of suppliers of enterprise resource planning (ERP) systems, which are the central organs of the digital nervous system of an enterprise. It is thus understandable that users often approach ERP suppliers with the expectation that they will provide RFID solutions that match the IT structure of their ERP systems.

### 3. Application-Specific Trends in the RFID Market

How can a supplier of RFID products optimize its activities in the current environment? Which application structures must users take into account in order to obtain realistic project plans? The previously described obstacles arise primarily from two market barriers: a structure barrier and a cost barrier. The quadrant chart shown in Figure 3.1 is intended to illustrate how these barriers work and how they arise from various types of business processes. In the vertical direction, the business processes shown on the chart are divided into closed-loop and open-loop types. ‘Closed loop’ designates a closed system in which the responsibility for all material, information and financial flows is internal to the enterprise. Fleisch uses the term ‘unitary balance boundary’ in this connection [Flei2005]. By contrast, ‘open loop’ designates a process that extends across two or more enterprises. Agreement between these enterprises is thus necessary in order to optimize the entire process, distribute the costs and allocate appropriate benefits to all participants. This is the classic case with a supply chain in the consumer goods sector.

The form of use of RFID tags is shown on the horizontal axis of Figure 3.1. ‘Reusable’ means that the tag remains attached to the product for its entire lifetime – such as a tag attached to a container, tool or library book. By contrast, tags on retail items are ‘disposable’ because they remain attached to the product as far as the consumer and pass through the logistics process only

once. In the case of reusable tags (such as tags on returnable containers), the tag costs can be apportioned over their frequency of use and are thus significantly lower per pass through the process than the acquisition costs of the tags.



**Fig. 3.1.** Market structure and application areas for RFID

The coordinate scheme shown in Figure 3.1 yields four quadrants, with each pair divided vertically by a cost barrier and horizontally by a structure barrier. The tags to the left of the cost barrier are reused, so tag costs on this side approach zero due to repeated use. One-time use is necessary to the right of the barrier, which means the cost is incurred anew for each pass through the process.

## 4. Conclusion

The media hype around the use of RFID in the supply chain (quadrant IV) overshadows its economic successes in the asset management and process control areas (quadrant I). RFID is already a basic technology in the latter area due to the relatively low influence of the cost and structure barriers. However, this does not mean that suppliers or users should limit their efforts to ‘cherry picking’ in the first quadrant. The economic success of small-scale RFID projects not only acts as a motor for evolution of the technology in terms of functionality and cost, but also gives an additional boost to the standardization process. EPCglobal represents the essential standardization process that is necessary to release the extraordinary potential of applications in the fourth quadrant and thus enable suppliers to participate in the resulting market. The quadrant chart shown in Figure 3.1 can also help RFID users decide which entry scenario best matches their situation and which steps can be planned to ramp up their activities.

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## The contract about providing transport service

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**Abstract.** The article is deals with financing of transport companies and contracting in public transport. In the first part of the article the plan to award contracts and identification of the goals of ensuring transport service are analyzed. In the second part the procedure how to develop the contract and control of realized performance is processed.

**Keywords:** transport, contract, service, operator, authority

### 1. Introduction

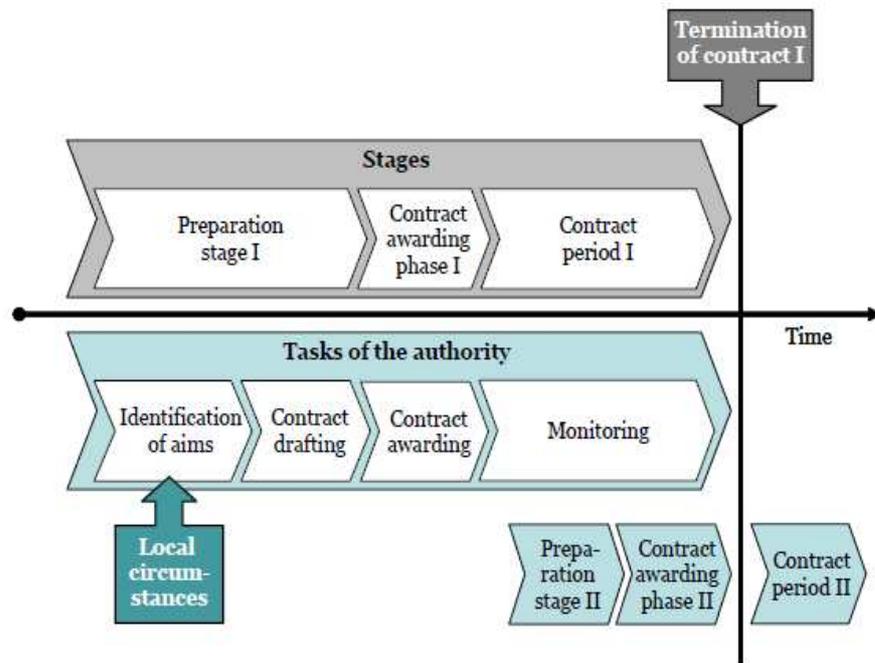
Regulation (EC) No 1370/2007 of the European Parliament on public passenger transport services by rail and by roads has become effective on 3th December 2009. The main aim of the Regulation is to define the process under which the competent authorities to act in urban public transport because of providing rendition of public services. Even though legislation of the EU establishes the same conditions for acquisition of transport performance, there are some differences between acquisition of performance and financing of services in:

- organizational arrangements of the transport service
- range of contracts
- the way how to specify performance
- risks which are taken by the operator

Of the basis of the analysis conditions which exist in the cities of EU it is possible to state, that if the contract between authority and operator exist, transport service is ensured to be more effective. Therefore it is necessary to sign a contract between authority and operator in case of direct award.

### 2. The plan of awarding contract

Before awarding procedure, it is necessary from the point of authority to realize responsibilities which are directed to transport service specification and the manner of its assurance. Figure 1 shows the view of main stages of awarding procedure and suggests the responsibilities of authority. Identification of goals, conduct, award and monitoring of contract belong to the responsibilities of authority.



**Fig. 1.** The main tasks of the contractual authority.

### 3. Identification of goals

Clearly defined aims are the base to achieving good quality services. The first step is to identify political goals of the contracting authority which are based on needs of passengers. The political goals can be divided to various fields- transport policy, social policy, environmental policy, structural policy and economic policy and budget options. The political objectives are always necessary to be confronted with local conditions. Conditions influence is transportation of these objectives into tactical means (design lines, timetables, etc.). Identification of objectives should be respected by main local conditions. E.g., power authorities in an acquisition of transport services, legal restrictions, market structure, existing transport system and geographical restrictions, among others. After confrontation between the political objectives and the local conditions one can proceed with elaboration of transport services. Two different ways are possible to solve the definition of transport services:

- functional planning- ( if authority offers the high level of power to operator- for example design lines and connections, draft timetable etc.)- in this case it isn't necessary to describe transport service from the point of authority in detail. But it is necessary to realize that, then it will have to balance with adequate contractual stimuli because of the operator which must be forced to serve the demand of passengers and to realize policy objectives (it has implications for the contract type and extent of the risk of the acquiring operator),
- constructive planning- in this case authority particularly defines transport service (design lines, connections, tariffs, timetables, etc.).By the contract operator usually isn't responsible for the number of passengers (contract are in price per km, authority takes revenues), because of this fact it is necessary to set contractual relationship so that realized performance will be within quality.

#### 4. Contract drafting

The next task is development of contract. It is necessary to realize, that there exists an applicable contract for each authority. Contracts based on the extent of the risk imparted to operator:

- the operator doesn't take any risk- management contract, in which operator manages assets of authority, but cost and income risk taken by the contracting authority,
- the operator carries cost risk-contract with introduction of gross cost, it means in contract there is a price in €/km. Authority has to pay this price to operator. Cost risk of higher costs is carried by the operator. Income risk is carried by the authority. The authority takes all revenues from transport.
- the operator carries cost risk and income risk, too- called contract with introduction of net costs, in which operator takes transport revenues. From the point of authority in this case exist stimuli for realization of services: for example payments for number of passengers, payment for reduced fare etc.

In the development of contract is also necessary to deal with extent power of the operator. The power of the operator should come out of the share of risk carried by operator and next with extent of contract (whole network, the part of network or only one line), and period of contractual relationship (with acceptance of economic life of investment operator), too (fig. 2).

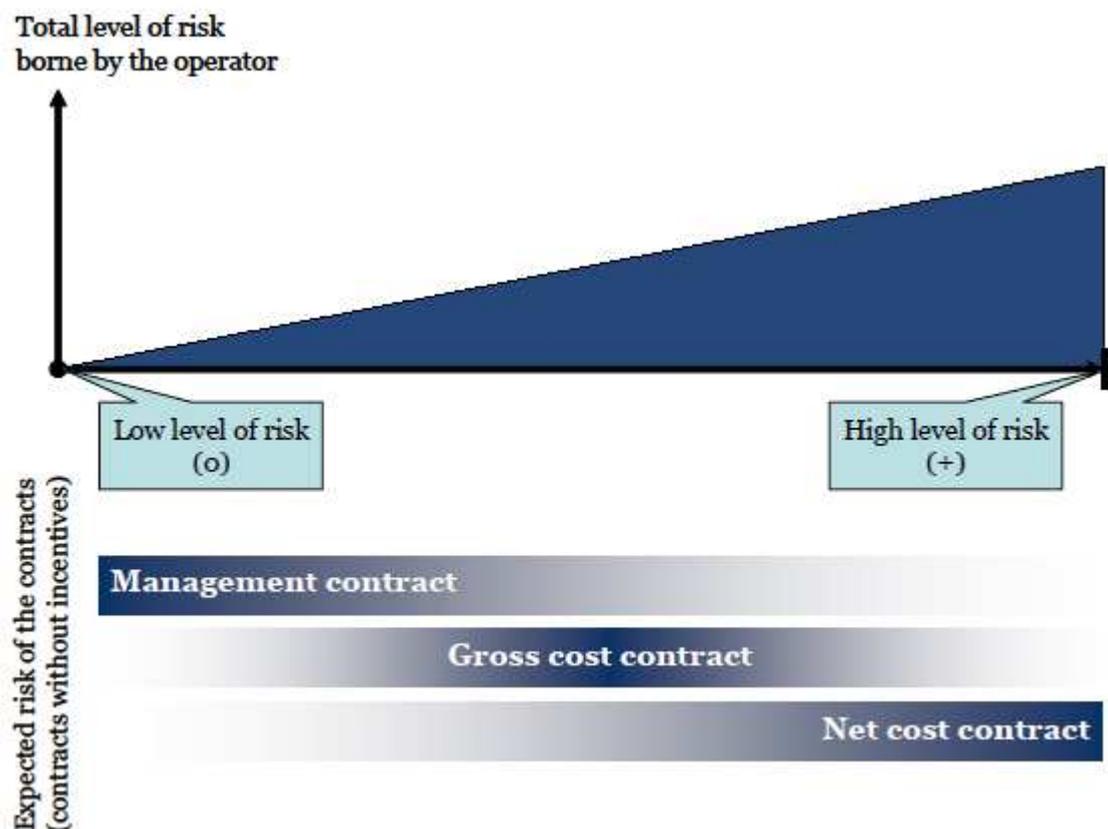


Fig. 2. Contractual relationship of risk and form of contract in providing transport service.

## 5. Control of performance – monitoring

The control of performance relates with fact of providing financial remuneration, sole right or another benefit from authority to operator. It usually compensates commitments which are defined by authority. The control of realization of these commitments is necessary. This control can be realized through stimuli (more or less independently operating contract elements) and/ or monitoring (classical control of services which are provided). If the contract defines the penalty for breaching the contract, it is necessary in the event of breaching contract to be enforced, otherwise authority losses seriousness in relation to the operator and the conditions of sanctions in contracts are not of concern.

## 6. Conclusion

To apply the requirements of the Regulation (EC) 1370/2007 is also needed in Slovakia. In the Slovak republic, in urban public transport ordering of performance is realized on the base of contract. However these contracts are not performed within the best practical experience from abroad. Firstly on Slovakia the fair profit of an operator doesn't relate with the risk which is carried by operator.

Therefore in Slovakia it is necessary to deal with design of methodology. The methodology should be presented by level of fair profit in relation to the realized performance and the level of risk, which is carried by operator.

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## Risk Impact on the Company Valuation

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**Abstract.** The valuation is a value detection of an asset for the individual investor. It is necessary to distinguish the concept of price from value. Price is the term basically used in content of offered, required or paid amount of money for a specific good or service, while value is a subjective expression of the relationship both investor and valued assets.

**Keywords:** value, company, business assets, valuation standards, valuation methods, financial value, value of the company.

### 1. Introduction to the valuation

Valuation of the enterprise is perceived differently in the literature according to subject matter. In a broad sense we can define the functional concept of valuation (Matschke, Brosel, 2007) as a holistic process of valuation, including all steps from the choice of the category values in relation to the award entering through the selection and assembly of data, their use to estimate the category value to the use of the results and their interpretation.

Valuation in the strict sense is only a phase transformation of data into the value category. There is need to take into account the causality of some problems that arise in practice, because the valuation process is usually reduced to just a simple mechanical application of basic textbook devices (Krabec, 2009).

When valuing enterprise we are facing the concept of valuation standards, under which the valuation is carried out mainly in the form of expertise and the role of expert is pricing for a particular purpose specified. This process is generally called “Business Valuation”. As conclusion there is a value estimation of a certain category (Zazvonil, 2008). If the value category is chosen, the choice must be in accordance with the purpose for which the award is made. Every value category has explanatory ability, interpretation and applicability of the outcome of such awards.

In the Slovak Republic only small numbers of companies deal with company valuation. The risk is important to consider into account associated with a business valuation. It is necessary to measure and quantify.

#### 1.1. Factors affecting the valuation of the company

Sum price of business assets gives an answer to the question, how much capital would be needed to build a company with the same production possibilities. Pricing of individual assets and the sum must be taken into account in particular:

- the procurement prices of individual equity components included in the balance sheet,
- degree of fixed assets depreciation,
- development of market prices of the equity component since their entry to the time of valuation (replacement price development),
- costs of setting up business in raising capital,

- financial structure of the firm (proportion of equity and foreign capital to cover business property),
- current and expected return on the company (a crucial factor affecting its market value).

The factor of profitability usually relies on the infinite time duration of the company. It is general true that the life of the business is limited in time (for example by the lack of raw materials, based on which company is built) ([www.derivat.sk](http://www.derivat.sk)).

## 2. Qualitative valuation methods

These methods provide relevant and useful information about the importance of incorporeal property in development planning, decision making for investment needs, the need and scope of legal protection.

Simply we distinguish:

1. Methods using point scales - different variants of points systems, which examines key value factors and their weight (valuation point mark, the value of corporate identity),
2. Combined approach determining the value of intangible assets - represents a combination of qualitative and quantitative determination of the value of intangible assets (method VALCALC; a method based on the use technological factors; a method using a pricing matrix),
3. Method based on the use of technological factor - is a combination of quality and yield methods used in particular to the valuation of technical solutions. The main advantage is that it takes into account the aspects which searching for the incorporeal property as the most important, the future income, as well as the associated risk, because it isolates incorporeal property value from the value of the whole enterprise and enables to apprise it either as individual.

## 3. Valuation methods of the company

We recognize following methods and variations:

- Method based on state variables
  - the method of book value,
  - value method of substance,
  - method of liquidation.
- Yields Methods
  - the method based on the capitalization of profits,
  - the methods of return based on discounted cash flows,
  - the method of economic value added.
- Combined Methods
  - method of weighted mean,
  - the method of over profit.

For each method is used different input value. (Mařík, 2007)

### 3.1. Comparison of different methods

The company is applying the above methods when it sets its value. Valuing the undertaking equity method are time consuming. Within the property valuation is each property business component valued separately. After aggregation of individual property values there is the sum of components of asset company valuation given. If we subtract that value from the value of all commitments the value of equity is calculated.

We get three different assets: financial, substance and liquidation value. Accounting value is easily available from the balance sheet, but to set the substance and the liquidation value is time-consuming. Labor and coordination is necessary because the individual components of property are valued separately. This requires the cooperation of experts from various areas.

Equity method foresees the future development of the company. In the method of substance value is a correction of the accounting values present. It provides reliable and relatively easily verifiable results. Its disadvantage is that it does not reflect the goodwill and future prospects of the company.

Method of liquidation value of assets allows the sale of components individually, which value may be some proprietary components to decrease significantly. It is used especially when a limited life company, or in consideration of his rehabilitation. As the above figure is higher than the profitable value, owners should think about liquidating the company.

More preferred is the use of yield methods for business valuation, because it takes into account future expected development company. Choosing a particular method is dependent on the yield of target valuation range of information available, as well as experience appraiser. The quality of the outcome depends not only on the choice of calculation procedure and the accuracy and feasibility of the projected data for expected future development of the enterprise. While detailed analysis is labor intensive and time, but allows you to accurately assess the return on a proposed investment. We know the basic yield methods: a method of capitalization of profits, the discounted free cash flow and economic value added (EVA below). Benefits and problems of yield methods:

- are able to capture the dynamics of the company and the value of intangible assets,
- are currently most commonly used in businesses,
- are susceptible to subjective influences,
- major problem is the accuracy of the input data, prediction of future returns, taking into account the risk and time horizon going concern,
- measure of value are future earnings, taking into account the time and risk.

Method of capitalization profit is preferable to discount free cash flows, in particular because of the difficulties in determining free cash flow expected in each future period, resulting from planning for future capital expenditures.

Method of discounted cash flows in calculating the value of the company based on free cash flow. Recently the method was applied mainly in USA and UK, but gradually the influence of globalization has been spread to Europe. The advantage of this method is its low influence of the application of accounting procedures. Its disadvantage is the impossibility of accurate planning for future capital expenditure and thus free cash flow.

Use of the method of economic value added has many applications. It may be applied in evaluating business performance, in the rating company in analyzing the effectiveness of investment projects, and in stimulating enterprise workers. By using this method are potential company's shareholders valued while wishing to invest their available capital in selected company (Harum, 2002).

EVA is a business management tool, which aims to develop and increase its market value. Although the evaluation of the holding is not only focus on it is necessary to predict the future development of the company.

The method tries to overcome problems that appear in accounting (such as activation of goodwill or expenditure on research and development).

This may follow other subjective approaches:

- Distinction between operational and inoperative division of assets and impact on the calculation of operational profit,
- Distinguish of normal and abnormal profit components,
- Uncover hidden reserves, which are added to a form of equity capital,
- Activation of the leased asset,
- WACC calculation.

Combined yield methods are methods that are a combination of substance and the yield method, which presents the results of the input data to evaluate the company. They are used in the synthesis results of the assessment enterprise.

We distinguish methods of balancing the mean value and the method of over profit. Method of balancing the mean value is applied primarily in Germany and count it as a weighted average yield and the substance's value with the weights depend on the setting in the industry attaches greater importance. If the difference between the yield and value of a substance's capital is too great, should be given to yield value. That method is used quite often in practice, because it combines the calculation of market values on a weight-based stocks and flows.

Responds to the shortcomings of substance methods and accepted in the final half of the value and goodwill.

The over profit method of enterprise value is determined as the sum of the substance's value and the value of the fact that the company makes higher profits than those that would result from the alternative risk-free rate of interest.

## **Acknowledgement**

This paper has been published within The Project VEGA 1/0357/11 Výskum možnosti aplikácie fuzzy-stochastického prístupu a CorporateMatrics ako nástrojov kvantifikácie a diverzifikácie podnikových rizík.

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# New Opportunities in Logistics Management in Practice

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**Abstract.** This article was prepared based on the answers of a survey consolidated from the various types of industries and confirms the fact that organizations apply new methods and tools in order to improve logistics processes in practice. Mapping logistics processes within organizations of various types of industries is a part of my thesis and the partial results are shown in this article.

**Keywords:** Logistics, Organization, Questionnaire, Research, Methods and Tools in Logistics

## 1. Introduction

Nowadays, the organizations are in a turbulent environment and under strong competitive pressure. Successful organizations react flexibly to the market requirements and produce high-quality products at low prices. In a new age of economy, with short product lifecycles, demand can change quickly from one day to the next and the organizations need to be ready for a quick turnaround and a prompt delivery. Therefore, it is necessary to seek new opportunities in logistics management in an organization.

### 1.1. Methods and tools in Logistics

There are currently several methods and tools in logistics management. Back in September and October 2010, I conducted a questionnaire survey on a sample of 32 companies operating in Slovakia and Czech Republic. A questionnaire survey was conducted in different industries and it's one of a kind. From the results we can say, that 63% of businesses operate in the global market with a various types of industries, mostly from automotive industry, followed by electrical and IT industry. Although there are many industries, it is good to see that logistics processes are essential for improving their businesses and provide a competitive advantage. As for the organization size, the vast majority are medium and large organizations

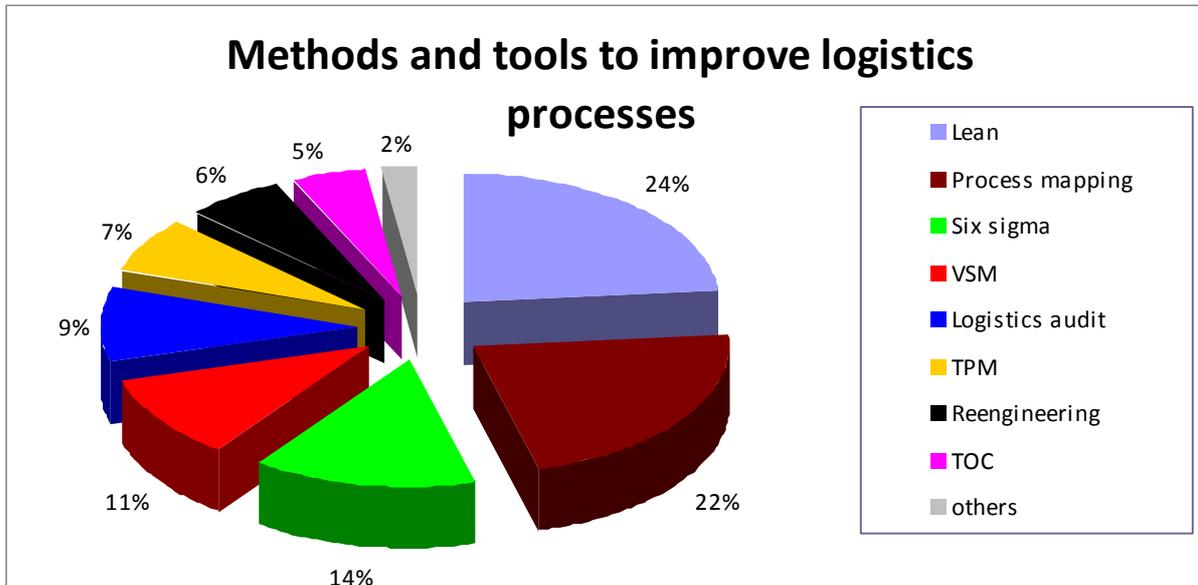
## 2. Using of new possibilities in practice

Respondents had the possibility to choose methods and tools to improve logistics processes. I consolidated the list from several sources - literature, internet, managers and my own practical experience.

Selected methods and tools:

- Lean
- Process mapping
- Six Sigma
- VSM (Value Stream Mapping)
- Logistic audit
- TPM (Total Productive Maintenance)
- Reengineering
- TOC (Theory of Constraints)
- other

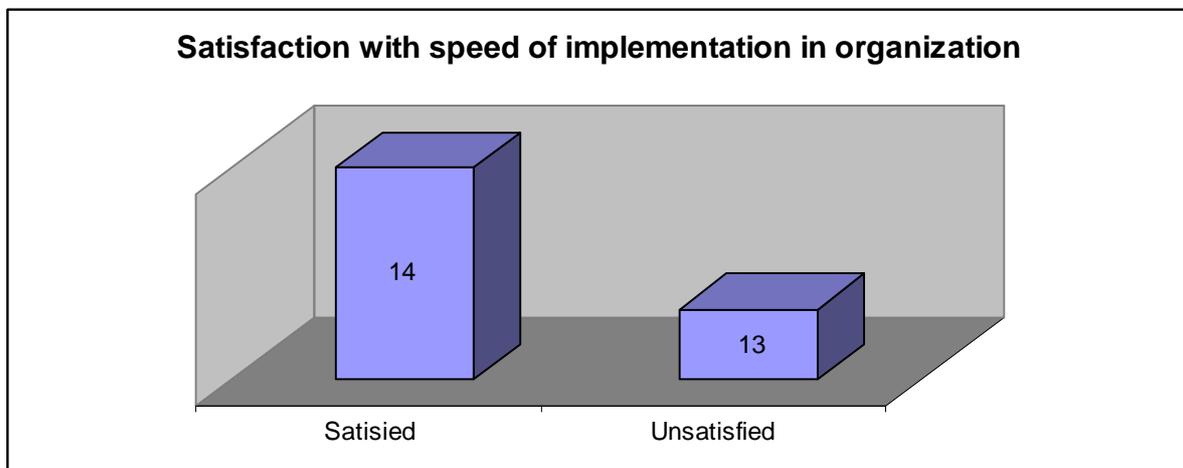
The below figure 1 shows that only 2% of respondents used other methods which confirms that the list of the methods for the selection was compiled well.



**Fig.1** Methods and tools in Logistics

47% of respondents provided the specific percentage or the amount of the financial savings by using various methods. Those respondents are mostly from the automotive and IT industries with 250 or more employees and apply Six Sigma, Lean, Process mapping and Logistics audit. The savings are 10-30% of total costs. Businesses have expressed a financial indicator; say that amount is worth about 2 million Euros per year. Quantification of savings is very important and helps businesses to evaluate the success of the project. Not all benefits are measurable, however, they can bring the significant improvements, such as the better communication and collaboration between departments, relationships in the buying process and an overall business culture increase.

In Figure 2, we can see that 44% of businesses are satisfied with the speed of implementation of the methods and tools to improve logistics processes. This value represents 14 companies. Almost the same percentage, 41% (13 companies) are dissatisfied. It follows that despite efforts to improve logistics business processes with their results non-governmental satisfactions. Five respondents did not reply to this question, or could not indicate whether they are satisfied with the speed of implementation.



**Fig.2** Satisfaction with speed of implementation

When implementing the methods and tools for improving logistics processes more than half of the respondents replied that they met with reluctance to adopt these processes at work. Frequency of 66% is well represented. Only 22% of respondents received the processes with enthusiasm. In case an employee is open to change, it is easier to run these processes and its success probability is high. Changes and preparing projects must have the support line and everyone must believe in the success of the project. 12% of respondents did not answer to this question.

### **3. Conclusion**

Finally, I noticed from the survey that mainly large organizations use methods to improve the logistics processes within the organization. Organizations, however, not fully exploit the scope of processes. More than a half of all companies have no measurable impact of the implementation of these methods, which means that they can not clearly claim that these methods improved the processes. Using of these methods should be associated with measurable goals and tied for the mapping process.

Further results show that in case the method is chosen and the company management believes in its success and supports its implementation, the results were positive. Employees are not very pleased with the introduction of changes and establishment of the processes and show the lack of support for the introduction of new products. They do not welcome the implementation of new methods and tools.

This research is unique. So far I have not found anywhere – neither in literature nor in any other professional articles - the comparison of the various industries and their focus on improving logistics processes

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## Strategy and Operations

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**Abstract.** Operations function is usually the most expensive function of a company. The purpose of operations is to add the value to customers. Operations significantly contribute to building the competitive advantage of the company. Operations strategy plays a significant role in this process, because it transforms corporate and business strategy to operations. This article deals with types of strategy from top-down perspective. The objectives of operation strategy are closer discussed.

**Keywords:** strategy, operations, operations strategy, hierarchical objectives

### 1. Introduction

Operations manager is responsible for effective production of goods and services of company. This responsibilities can be divide into following categories [4]: *direct responsibility* (for the activities which deals with production of product or services), *indirect responsibilities* (which deal with other functions of company) and *broad responsibility* (to deal with appearing challenges).

This article focuses on direct responsibility of operations manager, especially operations strategy issues. These issues are providing by two following steps: understanding the operation's strategic objectives and developing an operations strategy for the company.

It is necessary to describe term 'strategy' at first. We can find many different definitions. For purpose of this article it can be utilized the following definition: "Strategy is the *direction* and *scope* of an organization over the *long-term*: which achieves *advantage* for the organization through its configuration of *resources* within a challenging *environment*, to meet the needs of *markets* and to fulfill *stakeholder* expectations." [7]

This definition contains (or highlights) some key terms. Each of them must be closer discussed. The direction defines the long-term inclination of business. The scope deals with identifying the proper markets and the definition of required activities on these concrete markets. Because of competition it is necessary to build the competition advantages. Competition advantages are closely related with the company possibilities; in other words with company's resources (information, knowledge, skills, finance, technology, marketing, etc.). Company as open system, that means it is part of a higher system and company influence (and is influenced by) the environment. It is very hard to identify (or grasp) all significant relations between company and environment in today hyper-competitiveness era. The last highlighted term of the definition is the stakeholder<sup>1</sup>. To fulfill the stakeholder expectations it is necessary at first identify the values and predict expectations.

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<sup>1</sup> A stakeholder can be described using the followed definition. Stakeholder is „a person, group, or organization that has direct or indirect stake in an organization because it can affect or be affected by the organization's actions, objectives, and policies. Key stakeholders in a business organization include creditors, customers, directors, employees, government (and its agencies), owners (shareholders), suppliers, unions, and the community from which the business draws its resources.“ [8]

## 2. Levels of strategy from ‘top-down’<sup>2</sup> perspective

At first it must be mentioned that we can divide companies on two main types. The first type consists from different profit centers or strategic business units (SBUs) because of different character of product groups or direction of business. The second are single product companies [6]. The SBU concept was invented by General Electric Company to identification of independent market/product segments, because of different character of segments. Each SBU must have indentified market/product segment and defined proper strategy and also allocates the required resources. This business level strategy is between corporate and functional level strategies.

“In these organizations, corporate level strategy serves the whole business” [6] and the strategy are adopted at the lower level and create functional strategies.

We distinguish following categories (or levels) of strategy: (i) corporate level strategy, (ii) business level strategy and (iii) functional level strategy.



**Fig. 1.** Organization chart showing corporate, strategic business unit and functional strategies. [9]

**Corporate level strategy** is the top level strategy and it deals with the overall scope of company and how could the different parts of company create the value. The decision making is usually about choosing the correct geographical region, diversity of products/services or business units, relations with key external stakeholders (such as investors, government and regulatory bodies), decisions to embrace new technologies, “development of corporate policies on issues such as public image, employment practices or information systems” [3] and how to allocate required resources [2]. The decisions are made by top management of the company and usually deal with structural redesign, diversification, acquisition, etc.

According to Norton and Hughes [3] the corporate strategy deals with overall purpose and scope of business and the target is to meet stakeholder expectations. Corporate strategy can be explicitly expressed in a “mission statement”.

The degree of concreteness of corporate level strategy is lower than on the other two levels. In case of small and medium enterprises (SMEs) it is the situation very similar; decisions are made by general manager and strategic manager. Most of corporate strategies are futuristic and innovative. Decisions at corporate level are complex in nature, because they deal with high level of uncertainty.

**Business level strategy** arises from corporate level strategy and it is about the question: “How to various businesses included in the corporate strategy should compete in their particular markets?” [2] In literature it is also called ‘competitive strategy’. In very small companies are the corporate and business strategies are very similar or sometimes identical.

Business level strategy is usually a comprehensive plan to achieve objectives of the concrete part of company and it describes how to allocate the required resources for functional areas. This plan must contain the way how to coordinate the functional areas to achieve the long term

<sup>2</sup> We can find many different views and definitions of operations strategy. Generally speaking (according to [4]) the operations strategy can be viewed from 4 main perspectives: (i) top-down (it means that operations strategy is reflection of what business wants to do), (ii) bottom-up (it is an activity where operations improvement build strategy), (iii) market requirements (operations strategy involves translating customers requirements into operations decisions) and (iv) capability of resources (operations strategy involves exploiting the capabilities of operations resource in chosen market).

objectives, which emerged from corporate strategy. In other words, the corporate strategy defines “what” and business strategy “how” [6].

Business strategy provides framework for **functional strategies**. From ‘top-done’ perspective functional strategies need to consider what part each function should play in contributing to the strategic objectives of the business. Each functions of company (operations, marketing, product/services development etc.) must consider how they could support the business. Different business objectives may result in a very different operations strategy.

### 3. Strategic and operational objectives

From fundamental point of view we can distinguish manufacturing system on *descriptive* and *prescriptive models*. Generally speaking, descriptive models simplify complex realities to emphasize the essential behavior/character of object. Science is based on this type. Because management is objective-oriented discipline it need also second type of models. The prescriptive models help to quality increase of decision making<sup>3</sup>.

From prescriptive point of view on manufacturing system and related objectives, because operations management is applied discipline and understands the behavior of manufacturing system is important. So it is necessary at first formulate the clear objective and then we are able to evaluate policies.

#### 3.1. Hierarchical objectives

To achieve the fundamental objective, it is important also to identify narrow objectives<sup>4</sup>. Example of a narrow objective can be “Make a ‘good’ return on investment (ROI) over the long term.” [1] This statement satisfied many stakeholders (owners, employees and also customers<sup>5</sup>). ROI is related to *revenue*, *costs* and *assets*. All this measures are closely related to operations and operations strategy.

Generally speaking we have two main ways of operations strategy: (i) the way of low costs production or (ii) the way of high sales. Each of these two ways of choosing the suitable operations strategy offers additional possibilities, which can be seen in the following table. The decision making must always take existence of *principles* into consideration. Character of principles is more long-term than rules. Hierarchical objectives in a manufacturing company are in following table.

<i>1<sup>st</sup> step of choosing alternatives</i>	<i>2<sup>nd</sup> step</i>	<i>3<sup>rd</sup> step</i>	<i>result</i>
Way of low costs	Low units costs	High throughput	Less variability
		High utilization	
		Low inventory	Short cycle time
Way of high sales	Product quality	-	
	High customer service	Fast response	Low utilization
			High inventory

<sup>3</sup> Typical example of prescriptive models is a set of mathematical assumptions. Operation management is rooted in operations research and it contains many descriptive models. Little [1] shows that “many mathematical models used in operation management and industrial engineering are *tautologies*”. It means that the *truth* is self-contained. Little adds that also ‘Little’s law’ “is not a law at all, but is a tautology” [1].

<sup>4</sup> We can find many examples of fundamental objectives. Amazon.com formulate mission by following words: “...We seek to be Earth’s most customer-centric company for three primary customer sets: consumers, sellers, and developers...”[5] “...to buy online at a great price” [1]. This implies the importance secondary objectives – price and service.

<sup>5</sup> Customers must be satisfied because if not then the ‘good’ ROI cannot be achieved for long time.

		Many products	
			More variability

**Tab. 1.** Operational strategy dilemma of company [1]

It is not possible to provide more detailed description of these alternatives, because of length and the focus of this article. But it must be mentioned, that this hierarchy contains some conflicts that implies many *trade-offs* to resolve the conflicts [1].

## 4. Conclusion

Generally speaking operations function is usually the most expensive function of organisation. It is caused by two types of assets: fixed assets (capacity) and current assets (inventory). These two types of assets are closely interrelated. The purpose of operations is to add the value to customers and it helps to build the competitive advantage of the company. Operations strategy plays a significant role in this process, because it transforms business strategy to operations. It is realized by setting broad policies and plans to support company's long-term strategy.

## Epilogue

Japanese firms showed the power of the operational effectiveness in the 1970s and 1980s that was caused by adopting principles of total quality management, continuous improvement and just-in-time. Nowadays many concepts and ideas are often implemented in many companies. Despite the need to change the company culture and solve many problems, the operational effectiveness inspired by best practices is usually relatively easy to achieve. Operational effectiveness became no so important because of its massive implementation of all competitors in an industry. These competitors focus on maximization of added value, cost reduction etc. Many organizations are limited by the broadly available technology, common management practices. Widely used benchmarking techniques foster the convergence between companies and it resulted in escalation of uniformity. Each company may learn how to build one's production system like Bata or Toyota and not only to follow the "best practices".

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## Whistleblowing – Hero's Acts Still Not Rewarded

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**Abstract.** A whistleblower is a person who raises a concern about alleged wrongdoing occurring in an organization. The alleged misconduct may be classified in many ways, a violation of a law, rule, regulation or a direct threat to public interest, such as fraud, health and safety violations, and corruption. Whistleblowers may make their allegations internally within the organisation or externally to regulators or to the media. The term whistleblower derives from the practice of British police officers, who would blow their whistles when they noticed the commission of a crime. The whistle would alert other law enforcement officers and the general public of danger. Persecution of whistleblowers has become a serious issue in many countries. Although whistleblowers are often protected under law from employer retaliation, there have been many cases where punishment for whistleblowing has occurred, such as termination, suspension, wage decreasing or mobbing by other employees. In Slovakia, there is still no specific law regulation oriented on whistleblowing.

**Keywords:** whistleblowing, corruption, persecution, Sarbanes-Oxley Act, whistleblower's protection

### 1. Introduction

There are nowadays lots of companies in Slovakia which have not yet implemented an internal reporting system focused on work-related problems as well as any kind of wrongdoing at the workplace. If the employees encounter a serious problem (illegal or unethical activity within the organization, corruption etc.), they do not know how to approach this situation and even if they do decide to act, they prefer notifying external institutions such as the media, the police or non-governmental organizations. If, however, a company has established reporting processes regarding the aforementioned workplace problems, the internal business ethics is strengthened. Small problems can be thus resolved before they are made public and the company reputation gets damaged.

Internal and external reporting of any kind of wrongdoing at the workplace is called the whistleblowing. This term cannot be translated into the Slovak language comprehensibly, which is why it is commonly used in its original form by the media. The word „whistleblowing“ came to existence in the 1970s and is derived from the word collocation „to blow the whistle“. It is meant to evoke blowing a whistle when the rules of the game are not followed, and in historical context, it came from the situation when the British policemen would blow their whistles anytime they saw somebody breaking the law and they needed to call for backup and warn the passersby of the possible danger.

A whistleblower is a person who points out a serious problem, regardless of their own personal safety, family well-being or a possible threat of losing their job as a consequence, especially when huge-scale problems are brought to light. In companies, special phone lines along with the electronic and real post office boxes have been set up for this purpose. A lot of international companies operating in Slovakia have the compulsorily established whistleblowers' phone lines and the rules for their protection. Employees must believe that their reporting activities are useful. Some companies make a terrible mistake when the management receives anonymous information and instead of looking for the problem solution, a search for the identity of the information disseminator is immediately launched. Such practice makes the whole whistleblowing system inefficient and

discourages the employees from internal reporting of illegal and unethical behaviour in the future. Anonymity is regarded as the best protection by employees. If an employee publicizes the information externally, he/she comes directly under great pressure of the media. It should be noted, though, that in some cases nobody but the journalists are willing to offer help with their activities leading to the proper investigation. Revelation moments are not always simple and black and white. The personal revenge is sometimes the issue and the fault often lies in a forever-complaining employee, too. Many times, employers can prevent the scandal just by listening to the staff and eagerness to solve problems.

Whistleblowing is one of the most powerful tools for fraud and corruption detection both in the private and public sector, it helps detect abuse of authority, economic crime, any kind of illegal action. In addition, it enhances business transparency and improves business culture. In Slovakia, opinions about the whistleblowers differ. Having experienced the socialist regime with the practices of State Security (STB), many people do not approve of reporting about another citizens` behaviour to state authorities whatsoever. Any kind of reporting to the authorities is considered to have a negative connotation in Slovakia – a whistleblower is often labelled as an informer or a denouncer. On the other hand, many people find a whistleblower to be a hero or a fighter, who is not afraid of the threat of retaliation – many times in the form of dismissal or a negative reaction of her/his colleagues. A whistleblower is in this sense often considered a windmill fighter since someone who is involved in a dispute with the company is not likely to succeed, even though his/her assertions are fully justified. In a global view, whistleblowers are people who have, for instance, alerted the public to car system faults, illegal actions in some tobacco and pharmaceutical companies and who have also helped reveal plenty of corruption scandals.

## **2. How to Create A Corporate Culture Which Encourages The Staff to Report Wrongdoing at The Workplace**

Whistleblowing should be formally embodied and defined either in the corporate code of ethics or in a separate document. The basic procedures include:

- establishment of an anonymous phone line and a post office box for this purpose
- clear and comprehensible procedure of internal reporting and the person in charge (an ombudsman, a member of HR personnel, top level manager etc.) to whom the problems are to be reported
- if an employee helps to prevent huge company problems through reporting, a reward or a prize can be awarded as a form of encouragement
- top level management should act as an advocate for whistleblowing practices and should adapt an open-door policy so that the employees are not afraid of reporting any problem
- it is necessary to often repeat the whistleblowing rules to the personnel, top management should address the whistleblowing issue at annual meetings, in company brochures etc.
- a deadline for a responsible person to act in the issue should be exactly stipulated

Despite having their codes of ethics, corruption fight initiatives of many companies usually end by placing the codes on the intranet. Ethical rules are not followed in a daily practice and the employees who poke their noses into the company actions more than they should are squeezed out of the company either through mobbing or bossing practices, or they are forced to leave for „organizational reasons“.

Yet neither the corporate support nor the law violation threat does guarantee sufficient prevention, as evidenced by the examples from the past (economic crime committed by white-collar workers from Enron or Parmalat). In the wake of these scandals, Sarbanes-Oxley Act (SOX) – one of the most influential and controversial acts in the modern American history - was enacted in 2002. The

Act is aimed to increase transparency in the accounting, improve quality of the financial statements as well as the quality and effectiveness of corporate internal control mechanisms.

### **3. Practice Examples**

In 1972, Thomas A. Robertson, the head of R&D of the car tyre manufacturer Firestone, warned the top management about the poor quality of a certain tyre type which might cause severe problems at high speeds. His warnings remained ignored and Firestone kept selling the tyres on the market despite receiving negative feedbacks from customers, such as General Motors. As a consequence, the tyres caused the death of 41 people and hundreds of injuries, with the company having to change 3 million tyres and pay millions of dollars as a legal penalty. Had Robertson been taken seriously by the management or had he gone public, the disaster could have been avoided. One of the most famous whistleblowers in recent history is David Graham who warned about the dangerous medicine marketed by a big pharmaceutical company. A British scientist and a former UNO inspector specializing in Iraq and weapons of mass destruction issue, David Kelly, drew the public attention to the false reasons of invasion of Iraq. He eventually committed suicide but the exact circumstances still remain unclear. In Slovakia, intense media interest was generated in 2009, when the employees of a public institution Forests of the Slovak Republic sent an open letter to the institution director, then Prime Minister and to the Minister of Agriculture, in which they made a complaint about an irresponsible and inefficient fund management and they also criticized suspicious property sales, bad contracts and rent of hunting grounds. Transparency International Slovakia nominated the initiator of the complaint, Jan Micovsky, for a state medal for his civil bravery. The movies Erin Brockovich or Insider were based on true whistleblowers' stories.

### **4. Slovak Legislation**

In the Slovak Republic, there is currently no official act aimed at whistleblowing matters in place. Neither the term whistleblowing nor any similar term which would function as a synonym is directly used in any valid and effective legal act of Slovak Republic. Slovak legal system does, however, include several clauses in some provisions which either guarantee a whistleblower's protection or state his/her legal duties.

#### **4.1. The Public Sector**

Act No. 312/2001 Coll. on Civil Service (hereinafter „Act on Civil Service“) as amended by later legislation regulates rights and duties of public sector employees. These employees are not subject to the Labour Code.

Pursuant to Act on Civil Service Par. 52 Section 1(g), a civil servant shall have the right to file complaints to the Service Office in matters regarding performance of civil service. Beside this right, public sector employees are obliged to report to their superior or to the criminal justice agencies any loss or damage of the property in ownership or under administration of the Service Office. The legislation allows right to file a complaint. Act on Civil Service also refers to the Labour Code which guarantees roughly the same level of protection of the public sector employees as the private sector employees are provided with.

A similar approach is used in regulation the group of employees in civil service. Act No. 552/2003 Coll. on Performance of Work in the Public Interest as amended by later legislation (hereinafter „Act on Performance of Work in the Public Interest“) states in Par.13 that, if an individual or a private entity reports the employee's violation of duties or restrictions pursuant to this Act, the employer is obliged to discover whether the employee has in fact violated the duties or restrictions, and is obliged to inform the reporting individual or a private entity of the result as well as measures taken not later than after 30 days.

## 4.2. The Private Sector

The private sector follows in particular the Labour Code. Within the meaning of Section 13, Par. 3 of the Labour Code, the exercise of rights and obligations arising from the labour relationships shall be in accordance with good moral. No one may abuse these rights and obligations to the detriment of another participant of the labour relationship or co-employees. No one can be persecuted or otherwise sanctioned at the workplace in connection with the exercise of labour relationships for filing a complaint, action or petition for the commencement of prosecution against another employee. This provision may be understood as a certain principle valid for the entire area of labour relationships, thus also for the application of the whistleblowing system. The provision of Section 81 (f) of the Labour Code is problematic and also conflicting to certain extent. According to this provision the employee shall be obliged to “keep confidential the facts he/she has learnt during the execution of employment and which may not be, in the interest of the employer, disclosed to other persons”. Of course, there is no legal definition of the “fact which may not be disclosed to other persons in the interest of the employer”.

Also Section 340 of the Criminal Code is interesting from the perspective of the issue of whistleblowing. Within its meaning a person who learns, in a trustworthy manner, that other person has committed e.g. one of the crimes of corruption, and fails to immediately notify the law enforcement authority or police forces of such offence or crime, shall be sentenced to imprisonment of up to three years. This provision may be regarded as the laying down of the general whistleblowing obligation in the case of the criminal acts reaching a certain level of social danger as specified in the provision in question, under the sanction of imprisonment of up to three years. However, the provision in question is double-edged, since it might also function as a threat against the whistleblower, in the case she/he only makes the notification within the organization and fails to notify the law enforcement authorities. Restrictions concerning the obligation to provide information follow from several legal regulations on the protection of secrecy, personal data protection. Certain restrictions for an employee also result from the Labour Code as specified above [2].

## 5. Conclusion

The stories of Slovak and worldwide-known whistleblowers emphasize the great heroism and huge psychic pressure the whistleblowers and their families have to face. In order to be proactive and report illegal or unethical behaviour in the company without the fear of losing their job, Slovak employees need to have inspirational heroes and solid legal protection, too. It is good news that the current Minister of Interior, Daniel Lipsic, has announced that new legislation on whistleblowing is in preparation. He even considers giving financial rewards to whistleblowers in cases when the report proves to be justified. Act proposal is supposed to be finished by the second half of 2011.

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# Analysis of the value of reputation and brand power based on The ranking of Polish brands

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**Abstract.** Analysis of the value of reputation and brand power based on the ranking of Polish brands. The article analyzes the value of the brand's power. The aim of the paper is an analysis of the market transformation of Polish brands, the analysis of rankings in various categories, evaluating the causes of changes in the market. The results of the analyzed studies come from the Ranking of the most valuable Polish brands.

**Keywords:** brand, value of reputation, brand power, The ranking of Polish brands

## 1. Introduction

A brand is a name, term, sign, symbol, drawing, or a combination of these elements created or developed to identify the product (or service) and to distinguish it from competitors' offers [1].

The importance of brands in the development of marketing activities is undisputed. Brand is the determinant of the value of a product, it affects the sales volume and consumer market. The article analyzes one category associated with brand - its power. The aim of the paper is the analysis of the polish brands' market transformation, the analysis of rankings in various categories, evaluating the causes of changes in this market. The results of the analyzed studies come from the Ranking of the most valuable Polish brands [2].

## 2. Brand power

Brand Power is a measure of management efficiency - the relationship of its value to the volume of annual sales. In the ranking all brands have a chance because size of business is not taken into account.

*Prestige.* This indicator shows the relative users ratings of brands' prestige in different categories. They estimate, what is the prestige of the brand over other brands of this type on the market.

*Perceived quality.* This indicator shows the relative users' assessment of perceived quality of brands, which is a consumers' judgment about the overall excellence and superiority of the brand. This is not always an objective assessment, it depends on the consumer's personal feelings. It often differs from the actual quality. Customers evaluate the product basing on the subjective feelings, signals and symbols. Where quality is difficult to assess in the absence of relevant criteria, the main signal of quality may be the price.

*Brand awareness* is its recognition. The study uses two measures: supported memory and spontaneous memory. Brand awareness increases the likelihood that the brand will be taken into account by the purchase of the product.

Category	2010	2009	2008	2007	2006
Sweets and ice cream	Wedel	Wedel	Wedel	Wedel	Wedel
Other food products	Pudliszki	Pudliszki	Bebiko		
Soft drinks	Żywiec Zdrój	Żywiec Zdrój	Żywiec Zdrój	Żywiec Zdrój	Żywiec Zdrój
Alcoholic beverages	Tyskie	Tyskie	Żywiec		
Clothing and footwear	Reserved	Reserved	Wólczanka	Wólczanka	Apart
Other non-food products	Apart	Apart	Apart		
Cosmetics and hygiene	Luksja	Dr Irena Eris	Luksja		

**Tab. 1.** The winners of the title strongest brand over the years.

Source: A. Błaszczak, *Kotwica w trudnych czasach, Ranking of most valuable Polish brands*, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.4

In the following part of the article detailed charts in selected categories will be presented. First place in the category of sweets has belonged for years to brand Wedel, which very intensively invests in brand building. Next ones: Wawel and Goplana are both at the similar level, but distant from the leader.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Wedel	855	846	81	62	94	93	88
2	Wawel	673	676	61	62	83	82	61
3	Goplana	664	667	60	66	74	77	69
4	Solidarność	660	653	60	60	80	81	51
5	Koral	640	653	69	70	77	79	75
6	Zielona Budka	623	610	67	66	81	81	63
7	Mieszko	613	639	55	60	74	77	43
8	Jutrzenka	609	623	55	69	69	74	46
9	Lajkonik	605	589	65	72	83	85	56
10	Odra	576	586	52	62	70	73	22

**Tab. 2.** Sweets and ice cream.

Source: K. Kucharczyk, *Czekoladowy nestor nie do pobicia, Ranking of most valuable Polish brands*, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, s.15.

According to information presented in Table 4, a slightly different are the ratings in terms such as perceived value, perceived quality, prestige and brand awareness.

l. p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Pudliszki	683	682	75	62	87	87	84
2	Sokołów	650	663	71	58	87	86	74
3	Kujawski	643	645	70	57	85	85	66
4	Hortex (frozen food)	638	666	69	57	88	85	76
5	Łowicz	638	640	69	65	84	84	73
6	Bakoma	630	644	68	71	81	82	73
7	Bobovita	620	647	67	65	88	86	77
8	Morliny	617	622	67	56	83	83	67
9	Łaciate	612	639	66	62	82	84	67
10	Bebiko	608	620	65	66	85	86	85

**Tab. 3.** Food products.

Source: B. Drewnowska, *Moc wyciśnięta z pomidorów, Ranking of most valuable Polish brands*, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.16-17

Pudliszki, Sokołów and Oil Kujawski, Hortex, Lowicz, Bakoma and BoboVita are included to the strongest among the other food products. The highest perceived value reached Łowicz, prestige - BoboVita and Hortex, and the highest brand awareness - Bebiko. Table 4 shows the ranking of alcoholic beverages.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Tyskie	624	630	65	67	83	81	82
2	Żywiec	615	613	64	58	85	81	80
3	Lech	597	591	62	59	79	79	78
4	Warka	582	574	60	67	78	77	70
5	Żubrówka	580	-	60	67	78	78	65
6	Żołądkowa Gorzka	558	-	57	68	72	73	63
7	Pan Tadeusz	555	-	57	52	83	83	50
8	Żubr	554	544	57	70	72	71	70
9	Sobieski	540	-	55	56	74	73	60
10	Gin Lubuski	516	-	52	52	75	76	33

**Tab. 4.** Alcoholic beverages.

Source: B. Drewnowska, *Śląska ikona podbija Polskę, Ranking of most valuable Polish brands*, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.17-18

Among the alcoholic beverage Tyskie, Żywiec and Lech have the greatest power, which are beer brands. The average Pole consumes about 85 liters of beer per year, although the last two years the demand is falling slightly. Only in the fifth place is the vodka brand - Żubrówka. In the case of this ranking the remaining categories look similarly. Table 5 presents the ranking of soft drinks.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Żywiec Zdrój	726	728	72	63	88	87	84
2	Tymbark	720	691	72	64	87	87	80
3	Hortex (juices)	700	696	70	56	89	87	77
4	Kubuś	645	649	63	72	84	85	64
5	Fortuna	619	620	60	56	80	80	66
6	Cisowianka	618	625	60	76	75	74	71
7	Nałęczowianka	606	616	59	63	78	75	68
8	Garden	594	589	58	61	73	74	61
9	Muszynianka	591	589	57	67	72	74	53
10	Kropla Beskidu	588	601	57	61	77	74	59

**Tab. 5.** Soft drinks.

Source: B. Drewnowska, *Woda z Żywca dystansuje konkurentów, Ranking of most valuable Polish brands, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.18*

The greatest power belongs to Żywiec Zdrój, Tymbark, Hortex, Kubuś, Fortuna. The greatest perceived value reached Cisowianka. Water is the third most popular drink in Poland. According to research made by agency Nielsen, Poles spend about 2.5 billion Zloty each year for it. The Poles spend most money for juices, nectars and drinks - more than 3.8 billion Zloty. The market leader is Maspex group, which possesses Kubuś and Tymbark. Table 6 shows the ranking of clothing and footwear.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Reserved	546	574	60	54	77	77	40
2	Gatta	535	551	59	57	81	84	24
3	Wólczanka	533	559	58	50	81	80	42
4	Bytom	517	530	56	56	78	79	22
5	Diverse	516	533	56	54	78	77	30
6	Atlantic	514	550	56	53	77	77	29
7	House	509	529	55	52	77	75	18
8	Tatum	500	534	54	47	80	73	29
9	Top Secret	499	514	54	56	73	75	36
10	Vistula	498	536	54	48	81	78	26

**Tab. 6.** Clothing and footwear.

Source: B. Drewnowska, *Polska moda w światowym stylu, Ranking of most valuable Polish brands, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.19*

The greatest brand power have brands: Reserved, Gatta and Wólczanka - leaders of the Polish market. Ranking shows the competition of "old" brands, with a long tradition and history and makes the "new" ones, which have been for quite a short period on the market, successfully fighting for the top places in the rankings, for example, Diverse, House, Tatum. Top places in the ranking are clothing brands. The first footwear brand - Gino Rossi is only in

13th place (outside of the presented table). Table 7 shows the ranking of brands specialized in cosmetics and hygiene products.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Luksja	557	562	57	73	72	74	54
2	Ziaja	540	552	55	71	74	76	47
3	Dr Irena Eris	526	570	53	50	81	79	37
4	Soraya	517	554	52	56	76	74	46
5	Colodent	516	534	52	70	65	68	48
6	AA	508	522	51	62	76	78	29
7	Lirene	492	535	49	52	76	75	28
8	Ingot	490	526	49	53	75	77	20
9	Polsilver	482	503	48	62	64	65	44
10	Joanna	482	503	48	68	66	69	38

**Tab. 7.** Cosmetics and hygiene.

Source: A. Błaszczak, *Popularność służby mocy, Ranking of most valuable Polish brands, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, December 2, 2010, p.21*

The greatest power of the brand have: Luksja, Ziaja and Dr Irena Eris. The largest prestige has Dr Irena Eris. The statement shows that lowest declines were experienced by the most popular, mass and cheap brands, which have attractive relationship of perceived value to the offered prices.

### 3. Conclusion

The analysis showed that the leaders on the Polish market are mainly traditional brands, brands that are committed permanent creating of their image and attach importance to promotional activities. The strongest Polish brands are: Orlen, Polish Bank PKO, PZU, Telekomunikacja Polska (Polish Telecom), Era, Biedronka, TVN, Bank Pekso, Plus, Bank BPH. The most valuable brand for five years has been Orlen. The methodology used in the analysis contains certain simplifications, which means that a professional valuation with the usage of more precise methods might give different results. The differences between brands are often small. Analyzed were consumer brands. As a result, their value does not reflect sales targeted to corporate customers.

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# Evaluation of Brand Strength of Product Based on the Ranking of Polish Brands

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**Abstract.** The article analyzes the selected categories connected with the strength of the brand. The aim of the paper is an analysis of the market transformation of Polish brands, the analysis of rankings in various categories, evaluating the causes of changes in the market. The results of the studies come from the ranking of the most valuable Polish brands.

**Keywords:** brand, brand strength, the ranking of Polish brands.

## 1. Introduction

Brand is the determinant of the value of a product. It affects the sales volume on the consumer market. The article analyzes one of the categories describing the brand - brand strength. The aim of the paper is an analysis of transformations on the market of Polish brands, evaluation of causes of these changes, analysis of factors determining the strength of the brand and how the rankings are being made. The results from the included studies come from the Ranking of the most valuable Polish brands [1]. The primary selection criterium for the ranking of brands is a place of their birth - Polishness.

## 2. Analysis of brand strength

Brand strength can be determined by comparing the positions of competing brands, using the marketing research. The study cited from the newspaper "Rzeczpospolita" was conducted by direct personal interviews in October 2010 on a random 1200 respondents aged over 15 years from the cities over 20 thousand citizens. Questions addressed to respondents included: knowledge of brands, purchase and recommending brands, brand evaluation in different categories [2].

Based on the results of the studies, an assessment of the brands in the following areas has been made: market position, customer behaviour toward the brand, its perception and the kind of market where the brand operates [3].

*Position in the market* indicates how strongly a brand set on the market is. It is evidenced by the three factors: the rate of consumer preferences (market share), knowledge of brand name and a priority in awareness (brand remembered as the first).

*Relationships with customer's* show how consumers behave towards brands, how loyal are they by repeating purchase or recommending purchase of the brand to family and friends.

*Brand evaluation* reflects the perception of the brand, how customers see one brand compared with others.

*Type of market* is an important factor in determining the brand strength. Brands are more important and have greater impact in categories such as luxury goods and consumer goods, much less in the case of intermediate goods. Even the memberships to a particular product category have a significant effect on the brand strength.

Factors of a brand strength	Weight	Indicators	Weight of indicators
Position in the market	21	Consumer preferences	0-15
		Brand awareness	0-3
		Awareness priority	0-3
Relationships with customers	24	Customer loyalty	0-16
		Reference rate	0-8
Brand evaluation	45	Prestige	0-20
		Perceived Quality	0-20
		Perceived value	0-5
Market	10	Type of market	0-10
Sum	100	Sum	0-100

**Tab.1.** Factors influencing the brand strength.

(Source: G. Urbanek, *Calculating brand strength, Ranking of the most valuable Polish brands, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, 2 December 2010, p.27*)

#### *Consumer preferences [4]*

The indicator of consumer preferences gives an overview of the industry's opposition among national brands. This indicator is obtained by purchasing preferences of consumers and enables to determine the approximately relative market share. It is calculated separately for each product category.

#### *Brand awareness*

*Brand awareness* is its recognition. The study uses two measures: supported memory and spontaneous memory. Brand awareness increases the likelihood that the brand will be taken into account by the purchase of the product.

#### *The priority in the awareness*

This means that the brand is mentioned as first by a respondent in the test of the memory brand. This is a strong source of competitive advantage.

*Loyalty indicator* shows the extent to which users will take it into consideration at the next purchase of a product in a given category. Customer loyalty is one of the main determinants of competitive advantage for the brand.

#### *Reference rate*

The indicator determines the percentage of customers ready to recommend it to others. Which one from the given brands would they recommend to their friends or relatives? Reference customers purchase under the influence of family, friends, etc. The development of the Internet greatly influenced the use of references.

#### *Prestige.*

This indicator shows the relative users ratings of brands' prestige in different categories. They estimate, what is the prestige of the brand over other brands of this type on the market.

#### *Perceived quality.*

This indicator shows the relative users' assessment of perceived quality of brands, which is a consumers' judgment about the overall excellence and superiority of the brand. This is not always an objective assessment; it depends on the consumer's personal feelings. It often differs from the actual quality. Customers evaluate the product basing on the subjective feelings, signals and symbols. Where quality is difficult to assess in the absence of relevant criteria, the main signal of quality may be the price.

### Perceived value

Was constructed as the ratio of perceived quality and perceived brand price. This is a general assessment of the usefulness of the product by the consumer. Contains a choice between "get" and "give" (money, time wasted in exchange for benefits, features). The higher the ratio, the higher the assessment of consumer value which provides the brand relative to the price.

Table 2 presents the ranking of the strongest brands in Poland.

Position	Brand	Brand strength	Change since 2009
1	Wedel	81	1
2	Winiary	78	3
3	Lubella	75	0
4	TVN	75	0
5	Pudliszki	75	0
6	Apart	73	3
7	Żywiec Zdrój	72	-1
8	Tymbark	72	3
9	Sokołów	71	-2
10	Saga	70	0
11	Olej Kujawski	70	0
12	Hortex (juices)	70	0
13	Koral (ice cream)	69	-2
14	Hortex (frozen products)	69	-4
15	Biedronka	69	1
16	Łowicz (food)	69	-1
17	Kamis	69	0
18	RMF FM	69	0
19	Bakoma	68	-2
20	Ludwik	68	0
21	Zielona Budka	67	1
22	Allegro.pl	67	1
23	Neptun	67	-3
24	Polsat	67	-1
25	Bobovita	67	-4
26	PWN	67	-2
27	CCC	67	-1
28	Morliny	67	-1
29	Orlen	66	1
30	W.Kruk	66	-1

**Tab. 2.** The strongest brands 2010.

(Source: G. Urbanek, *Sweet success of the chocolate legend, Ranking of the most valuable Polish brands*, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, 2 December 2010, s.26)

Once again in the ranking of brand strength prevailed Wedel, whose strength was rated at 81 points. A small group remained the strongest brands in the consumers' ratings, while the perception of the majority of brands was significantly deteriorated. This regularity can be attributed to the Pareto rule, in which approximately 20% of the top brands has gained in 2010, and 80% lost in the eyes of buyers. Table 3 shows the leading brands in various product categories.

l.p.	Brand name	Brand power 2010	Brand power 2009	Brand strength (0-100)	Perceived value (0-100)	Prestige (0-100)	Perceived quality (0-100)	Brand awareness (0-100)
1	Wedel	855	846	81	62	94	93	88
2	Pudliszki	683	682	75	62	87	87	84
3	Tyskie	624	630	65	67	83	81	82
4	Żywiec Zdrój	726	728	72	63	88	87	84
5	Reserved	546	574	60	54	77	77	40
6	Luksja	557	562	57	73	72	74	54
7	Allegro.pl	508	504	67	95	87	84	81
8	Nasza-Klasa.pl	468	-	61	84	80	76	82
9	PKO Bank Polski	514	524	57	57	77	71	80

**Tab. 3.** Leading brands (leaders) in the various categories of products.

(Source: own study based on: *Ranking of the most valuable Polish brands, Rzeczpospolita, Appendix "Polish Brands" ISSN 0208-9130, 2 December 2010*)

Taking into account the results obtained in various categories, it should be noted that the leader remains Wedel, dominant in most of the analyzed factors.

*The most popular brands are:* Biedronka, TVN, Wedel, Winiary, and Orlen.

*The highest customer loyalty enjoy:* TVN, Wedel, Winiary, Pudliszki, and Lubella.

*The highest rate of reference achieved:* J.W. Construction, Benefis, Toya, Dom Development, and Apart.

*The greatest prestige reached:* Wedel, Apart, Kler, Gerda, Hortex, PWN, W. Kruk, and Empik.

*The highest perceived quality reached:* Wedel, Apart, Kler, Gerda, Winiary, TVN, and Libella.

*The largest brand awareness recorded:* Orlen, Biedronka, Polsat, TVN, TVN 1, and TVN 2.

*The highest awareness priority reached:* Biedronka, Orlen, Bebiko, Dębica, PZU, Wedel, and PWN.

*The highest perceived value reached:* TVN, Biedronka, Allegro.pl RMF FM, and Onet.pl.

### 3. Conclusion

The strength of the brand is the determinant of the products position against competitors; affect the volume of sales on consumer market. The strength of the brand is affected by many factors, which can be grouped into: creating a market position, relationships with the customers, perception of the brand and type of market. The analysis showed that the leaders on the Polish market are mainly traditional brands, brands that are committed to forming a permanent image, attach importance to promotional activities. The strongest brands are: Wedel, Winiary, Lubella, TYVN, Pudliszki, and Apart.

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## DEKRA Award as High Quality Determinant of Provided Medical Services on the Basis on the Stationary Health Care in Poland

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**Abstract.** The DEKRA Award influence on the level quality of stationary health care provided medical services in Poland was showed in the article. It was showed that hospitals aiming to the DEKRA Award try to be the best medical services supplier.

**Keywords:** DEKRA Award, client/patient, quality, hospital.

“ The bitterness of the poor quality is left long after it, when the sweetness of the minimum price was forgotten”  
Stebbing L.

### 1. Introduction

Contemporary companies are trying to attract consumers for various methods, presenting one's products and services in maximally for the most attractive form. Entrepreneurs to consolidate one's market position, they are perfecting technologies, raising the commodities quality and offered services and they are adapting themselves before everything to more rigorous standards. They are supposed to be the confirmation of these achievements:

- certificates,
- recognizing the certificate,
- control symbols,
- quality marks,
- as well as quality prizes [1].

Currently more medical posts are undertaking the decision about to introduce the quality management system to put up oneself the purpose to insertion effective methods, tools and procedures of actions which they would ensure on the one hand that the medical service offered by them is answering with one's quality level and reliability for patients' stand-bies, from other whereas will tolerate such decrease in expenses (through applying the rational economic policy) that the offered service was competitive by the price, terms or improved solutions.

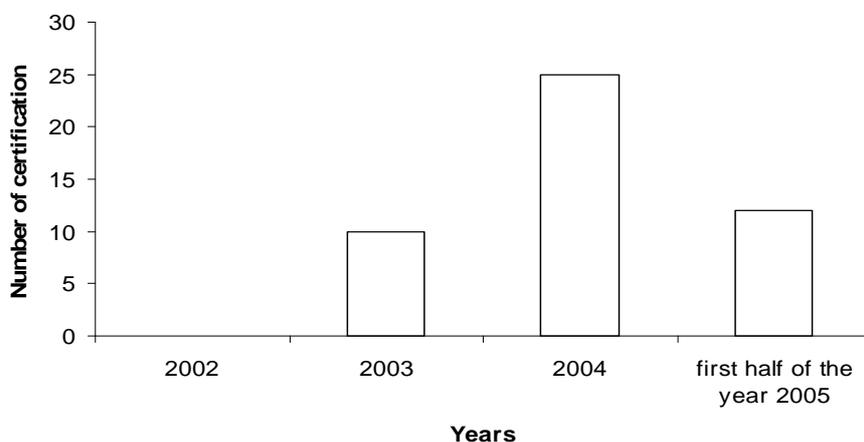
### 2. DEKRA Award

International multiple-branch prize in the DEKRA Award management field, both in Poland, and border countries, is considered as the huge honorable mention from many years. DEKRA Award is the prize organized from 1999 through DEKRA - one of leading expert organizations in the world, serving from the range of certification [2]. The prize is being granted the determined company yearly for standing out, model effects at the realization the Complex Management System.

Company to be able to forestall oneself for the prize has to fulfill occurring conditions:

- to possess the ISO 9001 management system with the certificate or to be during suitable procedures,
- didn't receive within three last DEKRA Award years.

A number of certification according to ISO 9001:2005 standards executed by DEKRA in Poland [3] in the health care was presented in the figure 1. DEKRA Intertek [4] Certification is numbered among excelling units certificating on the international market [5].



**Fig. 1.** Number of certification executed according to ISO 9001:2000 standards in Poland through DEKRA in the health care.

(Source: Own study basis on: <http://www.dekraintertek.pl/polish/index.html>)

It can be seen on the basis of the figure 1 that an interest in certification according to the ISO 9001:2000 standards requirements is increasing. Thinking about the quality management system implementation it is necessary to determine obviously a range of this system. The system isn't able to interfere in directly medical procedures. The system isn't able to dictate to the surgeon when he is supposed to carry the operation out, doctor how is supposed to execute the patient's examinations and to make a diagnosis, nurse how is supposed to do the patient's boost. And so the system refers to the sphere of the medical center management rather than the activity strict medical.

Benefits from ISO 9001 to the health service are following:

1. Tolerating for easier gaining money from NFZ and other budgetary funds.
2. Permitting to raise the provided services standard.
3. Protecting hospital before legal processes.
4. Required when containing agreements with contracting parties from UE.
5. Increasing patients' confidence.
6. It is the standard during going by oneself for money from the European Union [6].

The company size doesn't have importance in regard to participation in the competition. Clear making the estimation for DEKRA Award purposes is enabling all participants the direct comparison achievements to other companies possessing certificates - irrespective of state frontiers and branches.

Active endeavor at the DEKRA Award prize is supporting every company participating and its workers during introducing or applying the comprehensive management system. Companies going by the prize are making self-assessments basing on EFQM Excellence model. Six thematic blocks are evaluated in the prize:

- workers' and customers' satisfaction,
- managing to workers' needs,
- management,
- strategy,
- management system,

- processes and criteria tied with the economy and financial effects.

The self-assessment by workers' groups coming from various departments is using as the practical tool for determining strong sides and the potential to the improvement. Then DEKRA Certification assessors are carrying out an audit showing objective and full image of strong sides and potential chances to the organization improvement. As a result of audit, assessors are choosing winners in three categories:

- DEKRA Award winner,
- DEKRA Ethics Award - prize for ethical management with company,
- DEKRA Innovation Award - prize for innovations. The DEKRA Innovation Award category is very important because the company innovative level is deciding repeatedly about the success or the market failure of the product or the service. Innovations are the factor deciding about getting the leader's positions on appeased markets (be different or die).

The winners of each competitions are:

#### **DEKRA Award 2008**

- Clinic St. Marien Amberg,
- ABB Automation Products GmbH,
- Trenkwalder Deutschland.

#### **DEKRA Ethics Award 2008**

- Voss AG.

#### **DEKRA Innovation Award 2008**

- Karl Meyer Umweltdienste GmbH.

### **3. Characteristic of the test object**

A St. Marien Amberg clinic in Germany got the first DEKRA Award 2008 prize. It was appreciated the consistent quality management in the clinic and directing the hospital both to patients and workers. Decision-makers confronted the alternative at the beginning of 90 years: to liquidate or to sell the metropolitan hospital to the private investor. The mayor and the management of the clinic decided on investing 250 million euro in the infrastructure and the hospital equipment. Consistently it was being compared to other centers and were being oriented at the quality management system. Activities were crowned with success: 580 beds of the clinic are imposed to 85%, the company is generating profits and employing 40 extra workers. Reports from the quality researches made regularly are providing documentation for the high quality standard in the clinic from quality examinations. On the base of high quality standard and obtaining strategy of company development were established three operating criteria, so how:

- medical treatment,
- human treatment,
- and spirituals support.

The clinic is going an aim consistently putting them into practice in order to become the best provider at the region of medical services. Patients are anticipating the best medical treatment at the hospital of such size.

It is necessary to realize also two remaining purposes in order getting the position of the market leader. Companies were written down in the strategy of company development, that "having rights to the worker's privacy on the remark they are taking every patient's individual problems up" that is guaranteeing the best maintenance - both on the personal surface, and humanitarian. The clinic management isn't limiting itself only to the declaration in writing, but is supporting this process actively. Patronages between workers of each branches strengthen coexisting feeling at the hospital. Profitable adjustments referring to work in the incomplete measurement of hours, 30 various models of the working time and destination payment are being caused to work to high employing

of workers and the increase in efficiency. The special remark is devoted to the behavior oneself of workers at the hospital. All head of hospital wards were accepted few days training in this range. Moreover the quantity of sickness days and the foot of workers' rotation are being registered in the pointer system. St. Marien Amberg clinic is convincing himself through specialist maintenance of patients, but also thanks to utilizing effective and thrifty teleinformatic systems. Incessant development of the technology is reducing the written assignment considerably in the field of lead of the operating documentation.

Putting into practice pro quality actions have been started already in 1999, in accordance to guidelines the centre of quality monitoring in the health care what was confirmed with the next accreditation certificates from 1999, 2002, 2005 and 2008. The implementation quality management system in accordance to the ISO 9001 standard was logical continuation of this process, and therefore also in 2005 the hospital obtained the ISO certificate. Recertification of the system take place in the default year. The hospital joined the DEKRA Award competition at the same time obtaining 5. place. The status of the Accredited Hospital, the ISO 9001:2000 certificate, the Dekra Award 2008 prize, high positions in rankings of hospitals in Poland and positive opinions are the confirmation of full professionalism in patients' opinion polls and safety provided by the medical centers. The quality of services provided by the research object is on the high level. The hospital is the leader in the discipline of the medical services provision at home.

#### 4. Conclusion

In the age of the health care reform systems, changes methods of financing and functioning units and forming market of services, and which is following it of striving for the customer - patient, the concern for the high quality of services will become the basic deciding element about to be or not to be of providers. Increase demand for knowledge from the range of modern quality management, methods the assurance high level of giving consideration and introducing as well as developing effective mechanisms raising the quality of maintenance and care of the patient. To the most known effective and checked methods belong the accreditation system as well as the ISO 9001 quality system. But hospitals being careful about higher level of offered services are still forestalling for the DEKRA AWARD prize, underlining the same that they are careful and they have on the remark the client's/patient's health

It was noticed that the most beautiful is the fact that by Award a virus "Best Excellence" spread itself [7, 8]. DEKRA Award is judged as the meter of organization future.

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# Supply Chain Management and the Implications of its Interrelation with Lean Management

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**Abstract.** This paper is concerned about Supply Chain Management and its interrelation to Lean Management. These new approaches can be applied to any kind of manufacturing or service organizations. The transformation phase brings new challenges for the organizations. Literature on these topics is very fragmented and not coherent in definitions even of the basic terms. This paper tries to define the basic building blocks of the terms and their interrelation.

**Keywords:** Supply Chain Management, Lean manufacturing, Key Performance Indexes,

## 1. Introduction

In the current global competitive environment the Supply Chain Management assumes an important role, as companies are challenged with ever-rising customer expectations with minimal possible costs. To do so, businesses are searching for new ways how to approach the Supply Chain Management subject. Parts of these initiatives are concerned with the combination of improvement tools and philosophies that were successfully applied in internal processes, mostly manufacturing. Nowadays the main drivers for the transformation are becoming the customers. Learning and adaptability of the manufacturers to the customer demand becomes one of the key business enablers. These enablers improve the overall KPIs (Key Performance Indexes) of the businesses and help to define the strategies and tactics used by the organizations managements. Given the increasing focus on SCM in correlation with Lean and Six Sigma philosophies, I will concentrate in this article on the main definition blocks of the Supply Chain Management term, and its interrelation with Lean Management definition.

As for this study, the purpose is to:

- Define the supply chain management term basic building blocks
- Explore the possibility of the Lean Management interrelation with the SCM basic areas

## 2. Supply Chain Management, its definition and its main building blocks

The term SCM has been approached and interpreted by various researchers in many articles throughout the time. The views on SCM definition are differing from the network point of view where organizations perform the functions of logistics, like procurement of raw materials, transportation, transformation processes and the distribution to customers [1]. On the other hand Christopher [2] is approaching this issue from the value creation point of view. Mentzer [3] defines the SCM as “The systemic, strategic coordination of the traditional business functions and the tactics across these business functions within a particular company and across businesses within the supply chain, for the purposes of improving the long-term performance of the individual companies and the supply chain as a whole.” [3] This article tries to analyze the main field definitions and their interpretation into main building blocks. The next section is not written to be a precise catalogue, nor does it try to grasp all the definitions available. Rather it is an attempt to cover most of the

approaches and main views covered in the literature. Various connotations were decomposed. This decomposition is shown in Tab. 1.

<i>Supply Chain Management blocks</i>		<i>Lean Management blocks</i>	
1.	Interconnections and Networks	Elimination of seven types of waste	
2.	Systematical and strategic coordination	Systematical and strategic coordination	
3.	Business processes, functions and tactics	Business processes, functions and tactics	
4.	KPIs Improvement	KPIs Improvement	
5.	Flow	Flow	
6.	Transformation process	Transformation process	
7.	Information process	Elimination of variability in supply chain	
8.	Value creation	Value creation	
9.	Customer satisfaction	Customer satisfaction	
10.	Distribution	Quality	
11.	Management		

**Tab. 1.** Main definition blocks.

We can see the interrelations between the main definition building blocks of the terms of Lean Manufacturing and Supply Chain Management (grey rows). According to these main building blocks a matrix of incidence between the blocks and the articles was defined. This matrix is shown in the Tab. 2.

<i>Building blocks of Supply Chain Management term definition incidence matrix</i>	Interconnections and Networks	Systematical and strategic coordination	Business processes, functions and tactics	KPIs Improvement	Flow	Transformation process	Information process	Value creation	Customer satisfaction	Distribution	Management
	[3] Mentzer et al. (2001)		1	1	1						
[4] Handfield & Nichols (1999)			1		1	1	1				
[2] Christopher (1998)	1		1					1	1		
[5] Chopra and Meindl (2001)	1								1		
[6] Scott & Westbrook (1991)	1		1						1		
[7] Lee & Corey (1995)	1					1			1	1	
[1] Ganeshan and Harrison (1995)	1		1			1			1	1	
[8] Cooper & Ellram (1993)		1			1				1	1	1
[9] Novack & Simco (1991)					1				1		1
[10] Cavinato (1992)			1		1			1	1	1	1
<b>Number of occurrences</b>	5	2	6	1	4	3	1	2	8	4	3
<b>Occurrence rating</b>	3	6	2	7	4	5	7	6	1	4	5

**Tab. 2.** Incidence matrix of the building blocks of Supply Chain Management definition

The table includes also the number of occurrences. The rating of occurrence in the table shows which block is the most common. As for the matrix for SCM, it shows that the Customer satisfaction is covered in most of the definitions of Supply chain management. Right after the Customer satisfaction, the Business processes, functions and tactics form a strong block. The Interconnections & Networks, Flow and Distribution makes a separate group split through out the definitions. The rather surprising outcome is that only few definitions are concerned with the Value

creation, Information processes, and KPIs improvements. Somewhere between the last two groups are the transformation processes.

From this outcome we can say that the biggest emphasis in the literature right now is on the Customer satisfaction combined with the business processes, functions and tactics. The Interconnections & Networks, Flow and Distribution is a group of idea blocks that emerged before Supply Chain Management and are remnants of the Logistics science research, that the researchers are trying to incorporate into the newly established science of Supply Chain Management. The emerging blocks represented also in Lean and Six Sigma, that are also a concern of this article are rather a partial field at this time.

### 3. Lean management, its definition and its main building blocks

Principles of the Lean Management have been approached by many manufacturers and have been applied across many disciplines [11]. While many research papers and practical applications of lean manufacturing exist, authors define this term differently.

<i>Building blocks of Lean Management term definition incidence matrix</i>	Elimination of seven types of waste	Elimination of variability in supply chain	Transformation process	Value creation	Quality	Business processes, functions and tactics	KPIs Improvement	Customer satisfaction	Systematical and strategic coordination	Flow
[12] Shah and Ward (2007)	1	1	1	1				1		1
[13] Liker and Wu (2000)			1		1	1		1		
[14] Worley (2004)	1			1						1
[15] Hayes and Pisano (1994)			1	1			1	1		1
[16] Sánchez and Pérez (2001)			1		1		1			
[17] Karlsson and Åhlström (1996)	1		1		1		1	1		
[18] Womack and Jones (1994)	1			1				1	1	1
[19] Wong et al. (2009)						1			1	
[20] Forza (1996)	1				1		1			
[21] Kasul and Motwani (1997)	1		1		1					
<i>Number of occurrences</i>	6	1	6	4	5	2	4	5	2	4
<i>Occurrence rating</i>	1	5	1	3	2	4	3	2	4	3

**Tab. 3.** Incidence matrix of the building blocks of Lean Management definition

According to Tab. 3, the most anticipation of the Lean Management is in Elimination of seven types of waste and the Transformation process. Right after these, the Quality and Customer satisfaction are incorporated. Only after, the Value creation with KPIs improvement and Flow are mentioned. This indicates more anticipation on the applicability of Lean tools, rather than Lean as a management approach. This copies the historical evolution of Lean management. Only after these there are mentions of Business processes, Elimination of Variation and Systematical and strategic coordination. This implicates the Six Sigma approach that is concerned with the variability elimination and Business process standardization.

## 4. Conclusion

The implications of this article show that there are interrelations between Supply Chain Management and Lean Management initiatives definitions. These should be reviewed in further research for next knowledge base development, and could lead to synergic effects of the initiatives. Also some implications for Six Sigma initiative usage and interrelation exist, but right now these are not very strong. This should not prevent the future research from examining these interrelations further.

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# Comprehensive Comparison of Software Support Ergonomics

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**Abstract.** This article presents a simple way of ergonomics and its need in industrial practice. The authors represent one of the current research issues solved at the Department of Industrial Engineering, which resulted from needs of current ergonomics in our country. The authors also represent the way to be forwarded to the steps in solving a comprehensive comparison of software support ergonomics. At the end, is outlined further apply knowledge gained from the present reality and the need for education and research. The authors highlight the fact that the solution will be fully exploited for the needs of industrial practice in Slovakia in the design and assessment of ergonomic workplaces.

**Keywords:** Ergonomics, software support of ergonomics, ergonomic analysis, design ergonomic workstations.

## 1. The importance of ergonomics in work process

Man as the heart of every company is central to the success of each company. It is necessary to control the incidence of risk factors for health workers. It is, because only healthy operator make quality and productive. That one could make effective use of their workforce and their personality, must have for professional activity created optimal conditions, which are a prerequisite for growth performance, and thereby productivity of work.

The objective of ergonomics is the preservation of health, namely physical, mental and social wellbeing of man, creating optimum conditions for human activity, as well as creating a sense of comfort in the workplace. Implementation of ergonomic principles into practice has resulted in the creation of wellbeing, the humanization of work and while delivering the economic effect. Ergonomics is a very difficult adopted a multidisciplinary scientific discipline that is difficult to comprehensively manage also for scientists.

### 1.1. Official definition of ergonomics

Official definition of ergonomics (IEA in San Diego, 2000) tell, that ergonomics is a scientific discipline, which focuses on understanding the interactions between humans and other parts of the system and also the profession that uses the theory, principles, data and design methods to optimize human comfort (health and wellbeing) and of the whole system performance.

Modern ergonomics deals with the effectiveness of human work in complex organizational system of labor-man - machine - working environment through relationships subsystems human – machine, human - work organization and human - the conditions of the working environment. [1]

### 1.2. Ergonomics at us

On Faculty of Mechanical Engineering of University of Žilina, in Department of Industrial Engineering is largely devoted an experts to the field of ergonomics.

Ergonomics in industrial engineering is considered a scientific discipline aimed at creating optimal conditions for the performance of a worker at the collateralizing maintaining health worker, that his physical, mental and social wellbeing and job satisfaction. In addition to these factors, the use of ergonomic principles has a positive impact on economic indicators. These are directly

affected by reducing the cost of incapacity for work, injuries, increase efficiency and hence growth of productivity of work. [2]

In the laboratory ergonomics, work measurement and analysis use different measuring devices, software tools and other equipment for research and education. For effective implementation and presentation of known and lesser known methods and analyzes the ergonomics are the new technologies and various ergonomic modules of software packages. In implementing of certain analysis, such as RULA (Rapid Upper Limb Assessment), or presentations ergonomic analysis of the Department of Industrial Engineering we started using stereoscopic records. It's because we have actually seen an enormous effort to develop and commercialize 3D imaging technologies based on the principle of stereoscopy. [3]

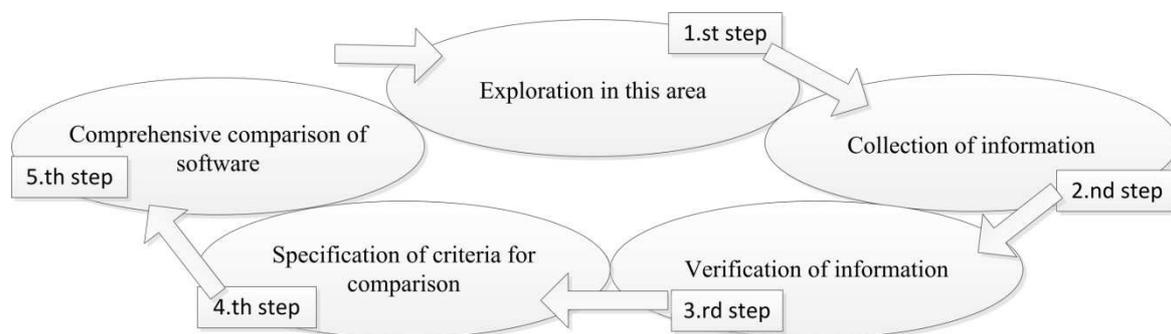
In this modern times with the maximum demands for efficiency and productivity of work no longer sufficient basic knowledge of ergonomics, but just the possibility of the addition of modern ergonomic tools for digital factory. At present it as 3D laser scanning, planning, interactive design planning, virtual reality or the latest contribution to the creation and active use of stereoscopic records. All these options enhance and more efficient evaluation and ergonomic design of workplaces. [4]

## 2. One of the solutions to research problems in the ergonomics of the Department of Industrial Engineering in the last year.

One of the recent problems in the field of ergonomics at us concerned the absence of information about available software support ergonomics, the absence of options analysis software support ergonomics and the need for comparison of options in relation to specified requirements. This research problem has been solved for several months and is described below, resulted on several points:

- In terms of ergonomics needs further development with us.
- In terms of the absence of a comprehensive comparison of available software support ergonomics.
- In terms of further development of the research problem of analyzing the impact of increasing labor productivity of work through ergonomic solutions for the humanization of work.
- In terms of current demand for ergonomic solutions in industrial enterprises in Slovakia.

Fig. No. 1 is shown the steps that were taken to meet requirements, a comprehensive comparison of software ergonomics.



**Fig. 1.** Five steps of a comprehensive comparison of software ergonomics.

The first three steps have been made on the basis of domestic and foreign resources and expertise by working with some software and advice to users of the software. Detailed information was collected several months of specialized publications in Poland, the Czech Republic, Greece, France, Italy, Croatia, USA, UK, Germany, Serbia and the like.

If we continue to deal with research, information collection and verification, we can go to 4.th step - specification criteria for a comprehensive comparison of software.

Individual criteria were specified based on the experience of solving projects in the field of ergonomic design work, current needs of industry practice and in particular on the ergonomic factors of labor productivity of work.

Criteria for complex comparison of software	Ergonomic factors influencing productivity of work
Possibility of creating a 3D manikin and its location in space	
Number of segments manikin	Movements at work
Number of joints manikin	
Possibility of creating simulation	
Analysis of visual space	Spatial subdivision
Analysis of the manipulation space	
Collision detection	
Fatigue analysis	Load at work
Analysis OWAS, NIOSH, RULA	
Analysis of energy consumption	
Time analysis (MTM, MTM UAS and etc.)	Time and motion studies
Using data from anthropometry	Anthropometry
Other options for the ergonomic support	

**Tab. 1.** Influence ergonomic factors influencing productivity of work and criteria for complex comparison of software.

Name of software	Possibility of simulation	Analysis of manipulation and visual space	Collision detection	Fatigue analysis	R U L A	N I O S H	Analysis of energy expenditure	M T M
Delmia DPE	N	Y	N	N	N	N	N	Y
Delmia V5 Human	Y	Y	Y	N	Y	Y	Y	N
TX – Jack	Y	Y	Y	Y	Y	Y	Y	Y
eM-Human	Y	Y	Y	N	N	Y	N	Y
TiCon	N	N	N	N	N	Y	N	Y
EnvisionErgo	Y	Y	Y	N	Y	Y	Y	Y
MASSoft	Y	Y	Y	N	Y	Y	N	N
ErgoMAS	Y	Y	Y	N	Y	Y	N	Y
RAMSIS	Y	Y	Y	N	N	Y	Y	Y
3D SSPP	Y	Y	Y	N	N	Y	Y	N
HumanCAD	N	Y	N	N	N	Y	Y	N
MVTA	Y	N	N	N	Y	N	N	Y
Anthropos ErgoMAX	Y	Y	Y	Y	N	N	N	N
ErgoEASE	N	Y	Y	Y	Y	Y	Y	N
SAMMIE	Y	Y	N	N	Y	Y	N	N
Ergointelligence	N	N	N	N	Y	Y	Y	N
BHMS	Y	Y	Y	N	N	N	N	N
MANECROS	Y	Y	Y	N	N	N	Y	Y

**Tab. 2.** Comprehensive comparison of software support ergonomics.

On tab. 2 is a simplification of the large table a comprehensive comparison of software support ergonomics. The left side of the table is various software that was compared on the bottom they are some of the criteria under which they were compared. Letters in the table marks are the first letter of the answer YES / NO to the question, if the software contains specific ergonomic analysis.

### 3. Conclusion

At the end of this article is important to write another approach in dealing with research. Detailed and comprehensive information about software's were used for educational purposes and were issued as university textbooks titled: *Methods and software support in ergonomics*, (ISBN 978-80-970525-6-0).

Results of output will be further used to construct an algorithm for choosing the right software tool for designing ergonomic industrial workstations. For effective assessment of software options with regard to practical use in real company will be used except other for example, the weight evaluation.

Real industry factory on base of the outputs of the algorithm will be able to choose the software suitable just for her.

## **Acknowledgement**

This paper was made about research work support: KRGGA no. 202-071ŽU-4/2010.

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# Benefits and Barriers in Development of E-learning as a Source of Knowledge in SME Sector

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**Abstract.** This article describes aspect of e-learning systems implementation in modern enterprises, with special consideration of benefits coming from this type of implementations. Results of studies conducted on the group of Polish enterprises within the area of using online methods of teaching were presented as well.

**Keywords:** e-learning, SME sector

## 1. Essence of e-learning

Recent development in technology and informatization socioeconomic life leads to more and more popularization of using virtual communication techniques for the enterprise development. It does not refer only to opportunities, which are provided by Internet in terms of sale of products or services. It also refers to internal function of the company, including its development by training with assistance of the electronic network. This method of knowledge acquisition is defined as e-learning training or course.

Expression “e-learning” means “electronic teaching”, but the verb “to learn” means “to acquire knowledge”, so from the student’s point of view, it indicates process of acquiring knowledge and skills.

Literature on the subject provides many broad and narrow definitions describing e-learning process. Broad definition indicates that e-learning includes all types of the computer network used for providing knowledge and information. However, according to narrow definition, e-learning provides training and control over their teaching process using specialist information systems, which use e-learning platforms.

1 <sup>st</sup> Generation Correspondence model	⇒ Scripts and manuals – printed materials.
2 <sup>nd</sup> Generation Multimedia model	⇒ Lessons on the audio and video tapes, ⇒ Computer discs with software.
3 <sup>rd</sup> Generation Synchronized tele-education model	⇒ Audio-conferences, ⇒ Video-conferences, ⇒ Radio and TV lessons.
4 <sup>th</sup> Generation Asynchronous model via computer network	⇒ Interactive multimedia, CD and DVD ROMs, ⇒ Materials presented in Intranet and Internet, ⇒ Tele-education with a computer as medium.

**Tab. 1.** List of features in the consecutive generation of the Distance Education.

(Source Galwas B.A. (red.): *Edukacja w Internecie. Ośrodek Kształcenia na Odległość Politechniki Warszawskiej, Warszawa 2001* za: K. Niklański, *E-learning w: IV Studencka Konferencja Informatyczna 2002 w: <http://icis.pcz.pl/ski/ski02/>*)

Distance education, i.e. outside of the lecture base, in any time, without direct supervision, is not a new phenomenon. It was invented nearly 100 years ago. At the beginning it involved exchange of mail correspondence between a recipient, a student, and institution running the course. This method of knowledge acquisition has been popular till now. Also, “educational radio” appeared in 1920s. In 1945, “educational television” created by the University of Iowa started operations. In

1990s, popularization of the Internet and the beginning of 21<sup>st</sup> century together with emphasis of the “information society” development, “learning economy” trend and an expression the “information society era” resulted in situation that the distance learning becomes equal with traditional, stationary education, and in some aspects it may be even superior to it. More and more natural and legal persons use this method of learning due to its advantages. [1]

## **2. Benefits and barriers in use of e-learning for the entrepreneur and the employee**

Study on effect of e-learning on development of intangible resources in business entities was conducted on 158 enterprises in SME sector in Zachodniopomorskie Province, which were randomly selected under consideration of the purpose of the studies. Out of all, 134 questionnaires were qualified for the evaluation. Slightly over a half of examined responders were service providers (57 %). 55 % of enterprises focused their operations on local and regional markets. Other offered their services or products at national and international markets.

Analysis of data gathered during the study and corresponding literature on a subject indicated that the first basic factor, which justifies running courses using the virtual platform, is their low cost on a long-term basis. It was a response of 40% of subjects. The employer do not need to rent conference and education rooms, and do not need to hire lecturers or contract training company to organize training based on outsourcing. Running online courses do not disorganize work in the company, because it does not need to consolidate all employees at the same time at the same place (conference room) in order to transfer the knowledge (30% of evaluated entrepreneurs). The next advantage, which was pointed out by the subjects, includes opportunity to use e-learning in the company, which eliminates expenses related to delegation of the employee for training in other place and corresponding costs of allowance, trips, lodgings. Also, the employee does not need to be concerned about bearing additional costs of training related to a trip, lodgings and other costs. It also eliminates so called barriers related to “sink costs”. Costs of running e-learning courses are advantageous for this type of employee in-service training, because cost of training 5 or 150 persons is the same, despite initial investment outlays, which the employer has to spend in order to create such course and provide possibility to execute it. According to the entrepreneurs’ opinion, it allows educating practically unlimited number of employees at the same time. The only limitation results from computing power of the equipment, which will be servicing center of e-learning program and flow capacity of connections, which will deliver the course.

The employer does not need to bear any additional costs related to absence of the employee and repeated necessity to hire a replacement for the employee. Moreover, the training is organized in such time, when the employer sees necessity to provide it. On the other hand, the employees do not need to interrupt work, which influences and facilitates many processes in functioning of the business entity. Knowledge transferred to employees has the same substantive and cognitive value for each the course participant. [2, 4, 5, 6] Furthermore, online courses eliminate barriers in terms of knowledge acquisition for the employer, as well as for the entrepreneur: geographic, time, personal, and health barriers. The next benefit for the employer is monitoring of work progress (refer to the table 2).

Benefits	Barriers
<ul style="list-style-type: none"> <li>• complementing conventional training</li> <li>• cost reduction of the employee training</li> <li>• adjusting education for the needs and abilities of the employee</li> <li>• possible defining of the employees' knowledge level</li> <li>• time saving for the employees</li> <li>• increase in speed of knowledge acquisition by the employees</li> <li>• increasing the group of trained employees</li> <li>• repeatable training quality</li> <li>• possible use of support tools (chat, discussion forum)</li> <li>• possible provision of an additional attraction for the employees</li> <li>• training management</li> <li>• possible defining the degree of knowledge acquisition and progress</li> </ul>	<ul style="list-style-type: none"> <li>• high price of system implementation</li> <li>• no direct contact with a coach</li> <li>• difficulties in motivating employees to complete the training</li> <li>• the employees' concerns that results of e-learning will be used against them</li> <li>• limited ability to learn in the team, in the group</li> <li>• necessity to provide suitable computer base</li> <li>• necessity to update purchased training content</li> <li>• limited employee integration as it is during trips</li> <li>• prolonging time of work in front of the computer</li> <li>• technical problems with functioning e-learning</li> <li>• and overload of the computer network</li> <li>• long-term implantation of e-learning platform</li> <li>• time consuming design of ordered content (scenario, etc.)</li> <li>• necessary high level of self-discipline of learning persons</li> </ul>

**Tab. 2.** Benefits and barriers in development of e-learning as a source of knowledge in SME sector.  
(Source: own analysis)

As it was noticed during discussions with the entrepreneurs, they believe that possibility of constant improvement of the program is the advantage of e-learning. Each year, when the training is used, it may be better and more effective, because it considers suggestions and comments of previous training participants. Moreover, each participant may adjust speed of knowledge transfer to his/her own needs and ability to learn. The employer is able to integrate training system with other systems: library, accounting and payroll, scholarship, social and other. [2,4,5,6]

However, it is worth indicating that subjective impressions of the subjects provide that the most important factors are so called "soft" benefits, related to competition, resulted from integrated education. It is difficult to specify value of such benefits, as: directness, uniform execution, certification and knowledge transfer, feedback, focusing on missing qualifications, constant acquisition of control information, and higher morale of the employees, which often become factors, which decide about competitive advantage. [2, 4, 5, 6]

The literature on the subject provides that e-learning, which characterizes with complex environment, is significantly superior to other forms of training. Also subjects agreed that supporting human resource management process, e-learning facilitates: improvement of economic factors of the organization, precise management of competencies and skills of the trained persons, organizing process of preparation of teaching material of any kind, management of any form of training, communication and cooperation in distance (effective "education" of the customers, servicing products, distant support), management of the corporate database, carrying multidimensional evaluation of the learning process, publishing training resources via different media.[3]

Main disadvantages of e-learning mentioned by the employers include, among other things, mental concerns. Older employees are concerned and indicate limitation resulted from necessity of skillful use of the computer and surfing through the Internet. It is also disadvantage that initial cost of e-learning course preparation is high. The entrepreneur bears costs related to necessity to purchase software for training provision, as well as employing the personnel, who will be involved in technical preparation of the platform, as well as a team of teaching method specialists and experts taking care of the substantive accuracy of the training material. It is worth mentioning that efficacy

of the training depends on the subject specifics, which the course is related to. For the trained persons, limited contact with other participants of the training, usually possible only with the educational platform tools such as chat, discussion forum or videoconference, is also an important barrier. However, the most important disadvantage emphasized by e-learning participants is self-discipline and internal motivation problem which distracts active participation in training. [8]

### 3. Conclusion

Detailed analysis of e-learning use in Poland shows that despite high costs borne at the beginning of the investment, it may provide huge savings for the company in short period of time. Investing in e-learning education is very profitable for employers with over 50 employees, because it reduces training costs. In case of smaller companies, it may turn out to be less beneficial form, because in case of 5 persons, cost of sending them for training session is much lower than investing in e-learning system. Solution for this situation for micro entrepreneur may be use of e-learning courses using platforms available at education centers. Such investment in small enterprise may return over many years, but in large company, return of costs may be seen as early as after 2 years.

Undoubtedly, e-learning education is not going to eliminate conventional training from the market, because many persons do not become convinced to participate in training with the computer and Internet. People used to traditional training model and the most often they do not want to replace presence of the coach, with presence of the computer. As a conclusion, it may be said that e-learning has a significant chance to takeover a part of training market; however, it does not replace traditional training due to unquestionable advantages of direct contact with other human.

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# The Advantages of Management by ROI

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**Abstract.** Management by ROI (return on invested capital) aims on basic and most important goal of business and enterprise; maximal improvement of ROI. Achieving this goal requires precise use of ROI as a criteria ratio in all management relations. ROI is considered as one of the most current and advanced management tools.

**Keywords:** Management by ROI, Return on Invested Capital, Criteria ratio.

## 1. Introduction

Goals of Management In everyday practice, managers face finding solutions to three fundamental questions: what, how and where to produce? Deciding between alternatives requires the assessment and it requires the measurement. Than it comes to another problem: what to measure alternatives, respectively which rate to use as criteria ratio? If managers choose as their criteria ratio ROI, which means return on invested capital, than this can be called as management by ROI, (MBROI).

## 2. by ROI

MBROI can be only used in such a company, which seeks to maximize ROI, and all employees are aware of and motivated to such a mode of management and respect the decisions taken on the basis of this management style. MBROI is necessary to use when searching for opportunities to improve, deciding on the implementation of new solutions and controlling reality generating incentives to change.

The enterprise has only one general and natural goal: to assess the maximum of invested capital. This objective is characterized by (Matejka, 2005):

- universality - apply to businesses of any size and division,
- timelessness - valid not only in the past, but should apply now and in the future,
- synthetic - ROI is reflected in all the economic importance not only internal but also external,
- existential meaning - businesses with high ROI are being developed, on the other hand companies with low or negative value gradually perish,
- MBROI is the sole concern of investors and the benchmark assessments.

Management by ROI has a justification, respectively choosing the ROI as the criteria for an enterprise level. It is not appropriate or helpful to choose more criteria ratios, because what may be one rate's of improvement could be one's degradation. Selecting a single ROI as the criteria ratio should be applied to all business processes, decisions about resources and products. Different sub-criteria lead to different product, processes and source solutions. However, they share a basic disadvantage: focusing on sub-criteria does not pursue any business objective – such a maximizing capital investment. If the value of ROI is developing positive, growing, then the deterioration of the values of some other partial ratios is to be seen as inseparable elements of the overall positive changes. MBROI application in all management aspects is management with a single, synthetic

criteria measure, which is also used in finance, so MBROI is management with fully integrated financial criteria, respectively integrated financial management.

The ROI-value of an enterprise doesn't get maximalized by managing the average values of sub-criteria, but through managing of sub-ROI values and capital (Matejka, 2005).

### 3. Partial criteria in management

Managerial accounting is the accounting discipline focused on financial information for management of products, business processes and resources. A key category is therefore costs.

Criteria ratios processes for a particular product are:

- cost of product units (pieces, tones, kWh)

Criteria ratios of product are:

- Cost ratio (1), i.e. cost / unit of product for the price of unit product

- Profitability (2), i.e. ratio of profit per unit of product to product price,

- Rentability - Cost-effectiveness (3), i.e. ratio of profit to the unit product cost of the product.

$$\text{Cost ratio} = \frac{\text{Costs}}{\text{Price}} \quad (1)$$

$$\text{Profitability} = \frac{\text{Profit}}{\text{Price}} = \frac{\text{Price} - \text{Costs}}{\text{Price}} = 1 - \frac{\text{Costs}}{\text{Price}} = 1 - \text{Cost ratio} \quad (2)$$

$$\text{Rentability} = \frac{\text{Profit}}{\text{Costs}} = \frac{\text{Price} - \text{Costs}}{\text{Costs}} = \frac{\text{Price}}{\text{Costs}} - 1 = \frac{1}{\text{Cost ratio}} - 1 \quad (3)$$

Cost ratio, respectively profitability does not provide any information about the capital demand of business processes and neither does any information on the capital-demand of processes defined by different types of products. Capital demand is for a number of reasons often a trade off relations<sup>1</sup> with a cost criteria, therefore the management by cost criteria is generally different from management by ROI. The most of managers in their businesses use only one of the three mentioned cost-income indicators as financial criteria, and they do not distinguish between those criteria on one hand and ROI on the other. They incorrectly identify *profitability* and the *ROI* and believe that processes with the highest profitability are in the same time, the most profitable processes for the company. Different sub-criteria lead to different product, process and source solutions. Also Management by ROI leads to a different portfolio of products, different processes and hence to the different structures of corporate resources. Products, processes and resources determine the character of business and also modify the management by ROI. If managers manage the business according to several criteria, they cannot avoid a criteria problem. They either observe a number of different sub-criteria, without attempt to their synthesis, or even provide a method of synthesis. In the first case the criteria problem is not resolved, and decision is left on the manager, who prefers selected criterion in specific contexts and as a whole works with all criteria. In the second case the multicriteria are formed, subjectively determined and they are fragmented, non-complex. Multicriteria are sub-criteria with unclear significance, which intransparently expand the number of sub-criteria used in the criteria function. Management by ROI takes into account also sub-ratios. These ratios have cause-related, respectively analytical, but not criteria function. Their values, in the management by ROI, are optimized but not extremized (i.e. maximized or minimized). Optimum values of partial ratios are these which maximize ROI.

<sup>1</sup> Trade-off relationship (something for something) - improving the value of some ratio is inseparably linked with worsening the value of another ratio, respectively several indicators. In other contexts, this relationship does not apply, i.e. it is a trade-off-free relationship (without compensation).

Management by ROI is a real, timeless future management; there is no argument that would be against it. Why hasn't the management by ROI been used so far? For such concept of management there was insufficient amount of information and also lack of methodology. Information systems and managerial theory have not been prepared for such a management. ROI is the rate of profits (income) to the capital. While the profits of processes, divided according to products, are normally calculated in the information systems as the difference between prices and costs of the processes, the information about capital for the processes was not present. Therefore also the information on the ROI for process was missing. The capital in the process and ROI in the process both objectively exist therefore can be measured. These measures cannot be conducted with the traditional one-dimensional types of (measurements) ratios that are in management and finance in general use (in money, time, material or other one-dimensional units). Capital in the process is measured by two-dimensional cash-time ratio. Mathematically, it's an integral for the capital function by the process time. ROI is then measured as a ratio of one-dimensional profit share to two-dimensional measurement of capital.

#### **4. Principles of capital management by investors**

Management by ROI represents a fundamental change in the previous management thinking, so that it aligns with the general mind of investors and develops it in the company. At the same time it eliminates the difference in the thinking of managers who think as investors- when outside the company, while inside they think in capital management in business processes on extremalization of different sub-ratios and they disregard ROI. The basic reason for people to invest in banks is an interesting investment return. It is natural, therefore it is illogical begin to think otherwise when step through the company door. Portfolio managers who invest capital in several areas, divide capital in areas with specific revenues, they continuously follow the ROI-values in each area, seek and assess new investment opportunities, detect their potential ROI-values and compare this ROI-values with the values of each ROI in the areas of investment, total modify the structure of capital with the investment in new areas and leaving several areas. This may include changing capital structure between some areas so that the aggregate return of capital would be the highest.

#### **5. Conclusion**

Also due to the nature and logic management by ROI is difficult for knowledge management. This stems from the complexity of the ROI, its reaction to anything that happens within the enterprise, and to the external factors affecting business results.

Managers should understand that ROI is one of the ratios by which has the objective capability to compare different products and process alternatives for each product. They need to get rid of the stereotype thinking, that any improvement sub-ratio, e.g. cost reduction, shortening the interim periods, reducing the error rate, is positive. Management by ROI does not have any equivalent competition in other management methods, whether or not they are explicitly linked to the criteria ratios. MBROI will therefore become a temporary competitive advantage for businesses, which apply it in advance to others.

#### **Acknowledgement**

This article is one of the outcomes of author's study including her dissertation thesis „Financial integrated management”.

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# Terrestrial Television Market and its Barriers in the Integration with Electronic Information Markets

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**Abstract.** Aim of the paper is to present the situation on the terrestrial television market in Poland and its organization character, which limits its fast integration with other media markets; especially with the dynamically developing IT markets. Position durability on the terrestrial television market has lasted for many years. Changes may occur due to digitalization of the terrestrial television. It gives a chance to introduce more than ten channels in the same frequency waveband (until now occupied only by a few channels). Each channel can be given to another sender.

**Keywords:** terrestrial television market, commercial broadcasters, Public service broadcaster

## 1. Introduction

One of the major media markets is the television and radio market. Its peculiarity lies in the fact that television and radio are the most opinion-forming media. This follows from the forms of communication, cost of ownership of these media and accessibility to the media in Poland as well as in other countries.

Aim of this paper is to present the situation in the terrestrial market in Poland and to draw attention to the nature of the market organization, which limits its rapid integration with other media markets, particularly with the dynamically developing telecommunication markets.

## 2. Organization of the terrestrial market

Terrestrial television market is one of the most regulated markets in the economy. It is mostly motivated by technical reasons, in which the most important is the fact that terrestrial broadcasting uses a restricted frequency band, which should be exploited as efficiently as possible. However, for many countries particular importance had media control due to the transfer of information and its importance in shaping political relations in the country. TV, as the most popular news medium has become a tool for influencing public opinion. Television supports and even creates statesmen, the victims, heroes and losers. It has a special role in the building and breaking down authority. Therefore, the power to affect the television broadcast is desired by everyone in authority, and freedom of expression in the most popular media is the subject of the defense and / or attack of almost all political and social forces in the country. These conditions cause that television market, besides the usual technical, organizational and economical restrictions, is so specifically regulated in the European countries, including Poland.

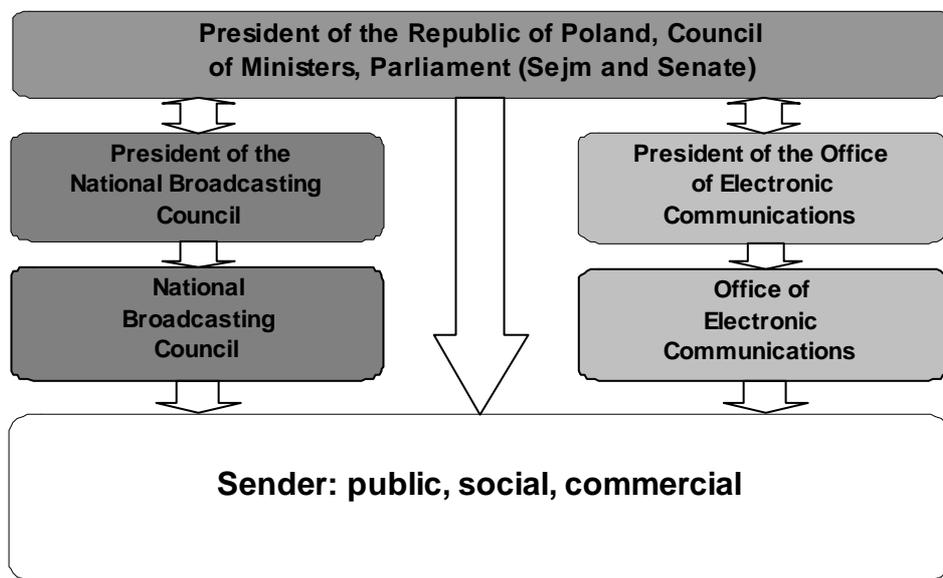
Influence of social and political interests is so great that economic interests are often subordinated to the general, resulting in considerable limitation of activity.

The laws strictly determine what the obligations of the broadcaster are. The public broadcaster needs to pursue the so-called public service mission [1], and only subsequently can be guided by economic calculation in broadcasting a television program. Commercial operators have more freedom in broadcasting, but the same as public television have to keep the proportions of the

sources of the program, particularly programs produced by European operators or in co-productions with European subjects [2].

The scope, detail and control of terrestrial television market regulation are far more extensive than any in other electronic media, particularly regulations relating to telecommunications markets. The spontaneity of the emergence of the projects on the IT market, changing the profile of activities and offered content on the television market is very difficult.

A special place in the market takes its controller, which in Poland is the National Broadcasting Council (Figure 1). This is a subject of long-term duration (6 years); it has become independent from political influence. Its functions are: authorizing senders to the market, controlling of the broadcasters, keeping the license fee, delegating a majority of members to the supervisory boards of public companies in the media (TVP PR regional PR company). This entity has guaranteed the freedom of action even in the Constitution. Other political and regulatory bodies have a much smaller impact on the functioning of the media (TV and radio). UKE fulfills the role of intermediary in the provision of free frequencies.



**Fig. 1.** Regulatory authorities in the television market in Poland.  
(Source: own)

Public service broadcaster in Poland has a privileged position with regard to terrestrial broadcasting, because its own three programs have guaranteed priority in the allocation of frequencies, which gives them a significant advantage over competitors in the market. Thus, receiving range of public television is the largest in the country. In return, the public broadcaster is in responsibility to fulfill the mission, which means, inter alia, to guarantee the right of free speech to political parties, especially the chief authority of government and social organizations, including trade unions. Simultaneously, the law provides additional funding for public broadcasters from the proceeds of the subscription fee, which is to compensate for the costs of the imposed obligations [3]. In other markets of electronic media, the public broadcaster operates independently, which means that in e-business there is not as strong opposition as on the primary market.

Commercial broadcasters on the terrestrial TV market may appear only when they receive a license to broadcast issued by the regulatory authority. The regulatory authority determines the number and scope of issued licenses to broadcast television. The result is that the number of broadcasters for years is strictly limited to a few subjects (Polsat, TVN, TV4, and TV Puls). The scope and status of commercial broadcasters is presented in Table 1.

Broadcaster	Scope (proportion of Polish residents that can receive the signal station)	Status nadawcy
Polsat	85,6%	nationwide broadcaster
TVN	47,1%	cross-regional broadcaster
TV4	26,7%	cross-regional broadcaster
TV Puls	25,1%	cross-regional broadcaster

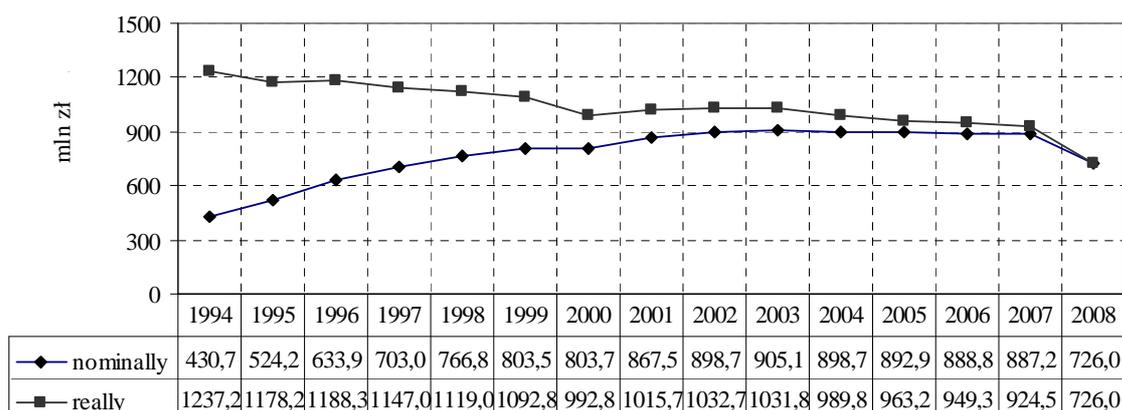
**Tab. 1.** Availability of commercial broadcasters' programmers in terrestrial television in Poland.

(Source: Information compiled on the basis of the fundamental problems of radio and television in 2008. The National Broadcasting Council, Warsaw 2009, p. 42)

Such a large restrictions in the possibility of transmission mean that many of the terrestrial broadcasters are seeking of distribution channels for its programs in satellite and cable networks. At the end of 2008 Polsat had six licensees to broadcast additional programs in these networks, and the ITI Group (TVN broadcaster) - 14 licenses. Even the public broadcaster had four licenses to broadcast programs on satellite and cable networks. The satellite and cable networks are developing much larger number of broadcasters, the largest of which is a group CANAL +. In the markets for electronic media is the most important is the Group ITI which has control over the portal Onet.pl.

The strict limitation of access to the frequency (dependent mostly technical conditions) resulted in stagnation in the Polish television market on the supply side. An opportunity for expanding the competition can be only digitization of terrestrial digital television, which will enable activity of dozens of broadcasters / programs in the Polish market. However, it should be taken into account that many broadcasters have already made a big effort to enter the satellite or cable systems and is totally or partially not interested in the development of digital terrestrial television, which is specifically regulated by the law.

Funding of public media is a problem for every country that has established an own broadcaster. Mostly the public tribute is collected, which aims to fund public service activities and ensure its independence from other funds and decision-makers. In Poland such a tribute to the public media is a subscription to television and radio. The majority of users of public television tend not to pay subscription and this tendency is steadily decreasing. It is so, because there are not fairly efficient procedures for the collection of an unpaid subscription. The income from the subscription fees in the years 1994-2009 is shown in Figure 2.

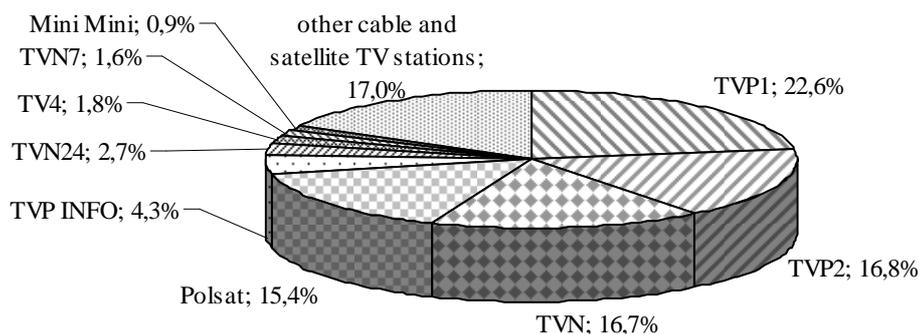


**Fig. 2.** Income from subscription fees in Poland in 1994-2008.

(Source: Report of the National Broadcasting Council of the activities in 2008. The National Broadcasting Council, Warsaw 2009, p. 106<sup>th</sup>)

Public television in Poland has an additional large source of funding - the fees for broadcasting television commercials. Commercial broadcasters operate mainly from the incomes from the advertising market, sponsoring and own funds. Restrictive technical conditions for licensing, privilege arising from the prescription of the market, the two sources of funding gives the Polish

Television a maintaining dominant position in the domestic television market. Shares in the television market are presented in the Figure 3.



**Fig. 3.** Shares in the television market of the terrestrial, cable and satellite subjects in 2008.

(Source: *Information on the basic problems of radio and television in 2008. The National Broadcasting Council, Warsaw 2009, p. 112<sup>th</sup>*)

This division of the market means that the public broadcaster has the greatest possibilities on other news markets, but since it was established primarily to the mission of public service, its media activities in new markets are limited.

### 3. Conclusion

Petrification of positions on terrestrial television market has existed for many years, but changes may be forced by digitalization of terrestrial TV. It offers the opportunity to bring dozens of channels in the same range of frequencies, each of which can be used for any other broadcaster. The regulatory body will have to allow greater number of subjects to enter the market. The only problem might be interests of broadcasters to appear in the terrestrial television. Many broadcasters are present on cable and satellite television. Therefore, interest in the development of digital terrestrial television may be limited. However, it creates opportunities for the new subjects to enter the market, which should intensify competition in this market. No change in the liberalization of the terrestrial TV market will cause most of the subjects to remain outside the main trends of e-business markets due to meet the regulatory requirements, or to operate in a second separate business, which will suit the dynamics of development and the requirements of e-business.

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- [1] According to Article 21 paragraph 1 of the Act of 29 December 1992 on radio and television, Coll. Laws 1993, No. 7, item. 34 (as amended): The public broadcasting service has public mission of offering on the terms specified in the Act, the entire society and its individual parts, diverse programs and other information services, journalism, culture, entertainment, education and sport, with a pluralism, impartiality, balancing freedom and innovation, quality and integrity of communication.
- [2] Provisions of the Act on radio and television are regulated by the amount of time for programs from domestic producers, European and other foreign producers, and amount of time allocated for the so-called independent producers from the sender.
- [3] Funding for public broadcasting is described later in this paper.



# SIMPLIFICATION OF MARKETING SCHEME FOR BUSINESS START-UPS

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**Abstract.** This paper deals with the topic of marketing planning simplification in order to use it for start-ups in the field of small & medium enterprises. There are 11 main question areas which can be used for logical and empiric marketing approaches. These questions are elaborated on the basis of standard marketing planning methods and approaches from the literature given in references.

**Keywords:** marketing, marketing planning, simplification, business start-up, marketing management.

## 1. Introduction to the topic

Nowadays development on the markets is strongly focused on new technologies and where they are used. Idea is always the main point but marketing is sometimes left behind. Of course, the product and its parameters are a crucial part of corporate strategy. Without relevant information about market and customers and without funds the idea, no matter how good it is, is doomed to oblivion. Education institutions play an important role in society, should therefore also contribute to the growth of innovation, creative solutions and the increasing competitiveness of the nation [11].

Present markets have also a lot of opportunities for cooperation and partnership, e.g. entrepreneurial and technological incubators, start-up's subvention funds, etc. There are a lot of possibilities how to bring an idea on the market. The problem is often not the lack of opportunities but the lack of information. There are a lot of marketing publications oriented on planning and strategy. This works are often of high quality – their scientific value and the amount of pages are great. Creative people want to work on their ideas only as they are not interested in marketing plans structures and competition analysis methods.

Let us introduce a fictive but realistic example: University is a great environment for new ideas. A few young scientists have made an improvement in technology with high possibility to be successful on the market. Yet the inventors are not interested in marketing. They just want to develop their product. What would they do? They either can offer their idea to the people who have some marketing notion or they can start studying marketing or they just can start using logical and critical thinking and relevant information.

Elaborated marketing structure is a logical construction. It is an approach which enables, by using relevant information and critical stance, to make simple but accurate marketing plans and strategies.

## 2. Theoretical background

According to the marketing management literature authors<sup>1</sup> there are some rules bound to the market success. One of the main current marketing approaches is **customer orientation**. Satisfaction of customers is a never-ending process which depends on various factors. Management must define these factors precisely. The main ones are:

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<sup>1</sup> See the references.

- *Relevant information* about customers which must lead to appropriate segmentation.
- *Quick and appropriate reaction* on customers' needs opinions and demands.
- *Effective use of company's resources* in terms of customer's satisfaction.

Other approaches are more oriented to single marketing areas. For example, **analysis of competition** is focused on a deep study of company's rivals, on their strengths and weaknesses. The main goal of this method is to have actual information about competitors and to know how to be better or different. **Monitoring of relevant environment** is a method for gathering significant information. Every business exists in specific environment. For example, for a software development company the progress in software technologies is crucial. They have to watch this development and try to use the acquired information. There are, of course, a lot of other analysis methods, e.g. product and portfolio analysis, monitoring of marketing communication effectiveness, balanced scorecard, etc.

### 3. Marketing planning for business start-ups

The following structure is a modification of standard marketing planning structures in terms of simplicity. There are provided 11 questions considering marketing planning. All these questions are logical constructions for basic marketing analysis. This method is intended to be used in small and medium enterprise start-ups, particularly in the field of technological innovations marketing. The application of this method consists in responding to all the questions raised using relevant and significant data.

**Know your product!** Obviously it is not a question. It is a must. Deep knowledge of the product is an essential part of marketing process. The main elements of knowledge about product are: technical and other parameters; production process and transformation processes; production costs; possibilities for savings in productions, e.g. with a higher production, etc.; complexity of a product – warranty, packing, servicing, etc.

**Who is the customer of this product?** It cannot be said that there is a business without selling. If there is no demand for the product, the product is not relevant for the market. One of the marketing methods used for customer analysis is called **segmentation**. It refers to the arrangement of customers to groups which are homogenous inside and between each other heterogeneous as much as possible. Segmentation is based on the use of segmentation criteria. These are picked in order of their relevance for the case given: economical (e.g. average income), industrial sector (for selecting only the companies from the relevant sector), technology usage level (for some companies technology is more crucial), etc. The primary segment or segments should be specific as much as possible – in b2b there should be specific companies.

**How, where and when will the customers know about your product?** The whole industrial branch nowadays is marketing communication. Mass media are the most expensive ones. Traditional communication channels are overloaded with communication. If I know my primary segment, I can be precise and specific and I can choose media and techniques which are “for optimal price”. In some cases it could be just e-mail or event presentation. Content of communication should be adapted for the taste, style and tendencies of target group (primary segment). For example, there is a huge difference between marketing communications of products of the same brand to various segments: cameras for mass consumer segment are advertised on TV, radio and newspapers; cameras for professionals in annual expositions, professional magazines and webzines, etc. It is also necessary to know the sum which could be used for marketing communication. Simple decisions on marketing communication can be performed through answering the following questions: Who do I want to address?; How much money do I have for it?; What do I want to say?; Which techniques will be used?; Which media do I chose?; What will be the time and frequency framework?; What can I handle and what do I need any help with?; What kind of effects can be expected?

**How will your product reach the customers?** We are speaking about distribution, which should have exact parameters. We also speak about the place where the customer meets the product or consumes it (the point of purchase, web pages, etc). In order to ensure the customer's satisfaction it is necessary to reach comfort, security and speed of product delivery. The company's goal should be the same in order to gain payment and also customer's satisfaction.

**How much will your product cost?** Price of the product can be simple set by responding the following question: How much do you have to earn to have a profit? There is crucial to know the production costs. It is not only the production, it could also be energies, rent, licenses, taxes, etc. If there is a profit, it is good to know how to use it (expand, invest, etc). There should be a system of discounts (quantity, closeness of delivery, promptness of payment, the way of payment, reciprocity – barter, etc). It is also good to know the prices of competitors. So, the final price could be set by counting all costs for production with the projected profit.

**Who are your competitors, what are they good at and why is that so (and vice versa)?** We are talking about the substitution – your competition is everything that can replace your product by the customer. So, competition is not only homogenous – the same or similar products as yours – but also substitution – different products assigned for the same group of consumers. It is necessary to have a deep interest in competition. We can learn from competition. We can find their strong and weak sites and use it in our strategies.

**Who can be your partner?** Currently, partnership and cooperation are considered to be business strategies. It is always possible to use some start-up funding mechanism, incubation, join the cluster or network. These opportunities could raise your competitiveness. In business partnership is always important one question: What benefits can I get and what do I have to offer?

**What else opportunities, threats or limitations exist on the market where you want to realize yourself?** If we are talking about business we must also consider impacts from wider environment. Mostly they are: legislature (civil law, business law, taxes, charges, judicial system, etc); macro-economical stage of market (average salaries, income per capita, willingness to investments, willingness to buy, GDP, GNP, etc); technology, R&D (availability, access, stage, prices, etc); cultural and social issues; natural environment impacts, etc.

**What are your business goals?** Your goals should reflect the answers to the previous questions. You can set your goals properly after you have relevant information about market. The goals should be set within the **S.M.A.R.T.** method. This method tells us that every goal must be specific, measurable, attainable, relevant and time-bounded<sup>2</sup>.

**What are your plans and strategies for reaching your goals?** In terms of simplification here you can just work out your approaches for reaching your goals. There are a lot of methods in the field of strategic management and marketing literature you can use. To do it simple follow these rules:

- Logical structure. Allocate main processes and connect them in order to achieve your goals.
- Time limitations. Every process should be performed in delimited time.
- Setting of competencies.
- Setting of budget or expenses.
- Use of visualization – e.g. Gantt charts.

**Control!** We have started with the command and finish also with another one. When all plans are made you are ready to launch them on the market. When you have set your plans and strategies into logical processes you will be able to control them. Just mark the main points or parts of your plan and control if the reality responds to the project. If there are any differences you can learn about the reasons and make corrections.

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<sup>2</sup> More information to the S.M.A.R.T. method here: <http://www.projectsart.co.uk/smart-goals.html>;  
[http://en.wikipedia.org/wiki/SMART\\_criteria](http://en.wikipedia.org/wiki/SMART_criteria)

## 4. Conclusion

It is always good to know the successful marketing conceptions. All the questions are elaborated from the main planning approaches and case studies of successful start-ups. To use these questions for planning of marketing process it is necessary to be critical – critical in the way of approach. Answers of single questions should be precise and accurate. There should be used arguments and facts. All data used for answering must be relevant and actual. Simplification doesn't mean easiness. Questions and approach are simple for understanding - for performing it is a quite hard work. There are a few recommendations for improving marketing planning:

- Consulting with people who are relevant or have relevant information and are accessible
- Be critical to your projects
- Use information and criticism to your advantage
- Be interested in the market, about all relevant events and information
- Watching the competitors
- Listen to your customers and potential customers

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## Advertisement in an International Environment

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**Abstract.** There is a very significant trend in increase of which companies decide to carry out their commercial activities not only in domestic markets but also abroad. This article highlights the specifics of the design and implementation of advertising in an international environment. It deals with the cultural influences and perceptions of advertising in different cultures.

**Keywords:** Advertisement, Marketing communications, International environment, Culture.

### 1. Introduction

Acting in foreign markets in various forms of transnational cooperation (direct/indirect export, expansion, fusion, acquisition, etc.) becomes mainly for big companies with sufficient capital an important factor to survive and to be successful. However, when doing this, it is important not to concentrate only on financial-commercial aspects, i.e. bald-headed to expand and extend the activities, but at least from the medium term aspects point of view, it is necessary to consider specifics of the particular country, its economic-social, political-legislative, demographic, cultural, mass medial and also religious aspects. Particularly the impact of culture in a broad sense is the most principal for the long-lasting success of transnational companies.

### 2. International marketing environment

Thanks to progress in technology, communications and transport, in particular, our world has greatly declined. We got up to the time when international trade is growing rapidly. Many companies intend to enter and entering new markets, often outside their "national territory" — beyond the boundaries of their country. Nearly every business, whether big or small, must deal with the international marketing. The manager must learn foreign languages, manage international business operations. Businesses no longer have a role only analyze the home environment, but also potentially foreign environment, where you want to enter. Therefore, it is necessary that these businesses know the specifics of the business, political and legislative environment, the economy, as well as the local culture, traditions, values and religion. 'Know what to do in a foreign country, is as important as knowing what not to do'<sup>1</sup>. It is important that the companies have tried to adapt their products or services to the different needs and expectations of customers. Companies which are not willing to do business outside the domestic sphere are risking failure, weakness in the future against the competition, or even extinction.

Businesses entering foreign markets, they must first understand international trade policy. The selling products abroad often faced with many trade barriers as a duty, quota, embargo or non-monetary barriers. To do the business in an international environment easier so as to assist international organizations and regional agreement on free trade zones. It should be here to mention the General Agreement on Tariffs and Trade GATT, which aims to promote trade by reducing customs duties. The World Trade Organization WTO, founded during the so-called the Uruguay

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<sup>1</sup> WILK, R.: Emulation and Global Consumerism. 1996. [online]. Available on the Internet: <<http://www.indiana.edu/~wanthro/nrc2.html>>.

Round of interview, in addition to the reduction of customs duties takes care of the compliance with the rules and provisions, and addresses the international disputes that occur in the shop at the international level. Free trade zones constitute economic communities with a common foreign trade policy. This includes the European Union with the free movement of products and services, people and capital, the NAFTA (the agreement on the North American Free Trade Agreement) between USA, Canada and Mexico that MERCOSUR between Brazil, Argentina, Uruguay, Paraguay and Venezuela.

### 3. Marketing Communications Mix in an International environment

International communication policy is the most visible and also the most culturally conditioned function of marketing enterprise. Communication policy as part of international marketing is a combination of the global strategy and local tactics and its purpose is usually to create a desired vision of the company, its products, or services.

This objective, the target group and the ways of communication for the individual markets differ, depending on how different is the cultural and social environment.

Presentation of the communication of the concept, in particular, this affects the cultural factors: approaches, consumer preferences and prejudices, their values, standards, practices, habits, feelings, motives, way of thinking, mentality, temperament, morality and aesthetic sensibility, context and manner of use of the product.

#### 3.1 Advertising in an international environment

*"Advertising is one of the oldest, the most visible and most important tools in the marketing communications mix. It helps to create a fixed image of the product/brand or enterprise and can also be quickly applied to the purchase of the stimulus".<sup>2</sup>*

Advertising is a good tool to keep marketing communications and to persuade the people, regardless of whether it supports the product, service or idea.

Advertising has the ability to influence the formation and change of needs, the demand, but also interests, habits, traditions. It has many forms and uses. It is therefore difficult to generalize its different characteristics. Basic characteristics of the ads are:

- public presentation,
- the effectiveness,
- discontented nature.

Probably none of the instruments of international marketing communications does not require such attention than just advertising. When communicating with foreign market advertising means there are risk incorrect translated messages incorrectly understanding the culture of the nation or the disproportionate rate of standardising the messages.

*"International advertising represents the dissemination of commercial messages, notice of the target group in more than one country. The target groups vary from country to country within the meaning of perception and understanding of the symbols and incentives, reacting to the humour and emotional appeal and level of literacy".<sup>3</sup>*

Many businesses doing mistakes in the translation of advertising messages from one language to another. This error was relatively widespread in the 1960s of last century, when **translations into the other language** have done mechanically. Although in the rest of the time such mistakes occur less, it is necessary for the international communication strategy to devote attention to the language.

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<sup>2</sup> BIRNEROVÁ, E. – KRIŽANOVÁ, A.: Základy marketingu II., 2008, str. 96

<sup>3</sup> DOUGLAS, S. P. – CRAIG, C. S.: International Advertising. [online]. Available on Internet: <<http://pages.stern.nyu.edu/~sdouglas/rpubs/intad.html>>.

Businesses are trying to eliminate the risk in this area by the communication mix involving local advertising agencies or local independent distributors in the target market.

Some of the undertakings active on the international market is also committing mistakes in communicating the fact that **do not accept the local culture** and selected appeal incoherence motivation which results from a given culture. The RCE objective is appeal even if, because of cultural differences be taken into account the actual use of the presented product.

An important feature of the application of the specificities of culture and a tendency to delete some cultural differences is also the performance of the actors in advertising. If we talk about personalities in the world of advertising, so it should be noted that the greater the success and the effect reaches advertising, in which stars world personality. The personality that you know almost all over the world. This is only the top of the world's top athletes, singers, actors or models.

One of the important decisions of enterprises, delivering the goods on the international market, is to determine the **degree of standardisation of advertising messages (themes)** and its creative application. In the post-war period, had an extremely distinguished swagger his ad campaign for each market. In the 1960s, particularly in Europe, were the efforts of advertising significantly to standardise. Based on the fact that European customers are living in similar conditions, even though they speak different languages. Their consumption is considered to be international and mass. It is therefore considered necessary to differentiate the advertising for the market of each country.

Businesses are looking to advertising sometimes standardized on the grounds that they do not have enough skills to creatively apply or it is for them economically more advantageous as compared e.g. with twenty different notices. Sometimes it is motivated by the efforts of the normalization of the promotional notice on the notion of the trade name of the enterprise global or its product.

Not only has the customer decided whether advertisements will be standardised. Often decide to legislative or other restrictions of the country.

Under close scrutiny of the laws of individual States is advertising for cigarettes and tobacco products. From the countries of the EU only Greece has the advertising of cigarettes allowed. In some countries, such advertising is prohibited on television or radio, but not on posters. The European Parliament has been prohibited in 1990, the advertising of cigarettes and tobacco products in EU countries. The enterprise sometimes succeeding such restrictions not to circumvent the advertising-oriented product-cigarettes, but the logo or trade mark of the product.

A second area where the business to the right to restrict or prohibit the operation of advertising is advertising-oriented for children. Some countries prohibit the advertising of toys with a military theme, ad multi-vitamin preparations, etc. Even in developed countries, for example advertising on television is limited by the number of channels that it may broadcast, or the time at which advertising may be broadcast or its total time on daily broadcasts. In Belgium or in Sweden are not television commercial channels aimed at broadcast ads. In Norway and Sweden are not allowed billboards around the roads. These can be placed only on the buildings in the cities. A number of countries limit the transmission time for advertising in the course of the day (Turkey) or the total volume of expenditure for the ad campaign (India). In order to protect the consumer in the Scandinavian (but also other) countries created by *the Ombudsman*, assessing the clarity of the advertising message. Special restrictions adopted by the European Union in the field of regulation, or restrictions on the advertising of cigarettes in 2002. Between the **further restrictions on the advertising of** include the prohibition of:

- the use of foreign language texts and foreign words,
- application of a foreign environment and background of the presentation of the product,
- sex in advertising
- comparative advertising,
- foreign advertising agencies or at the property,
- use superlatives "best",
- use the Western style of dress of women in advertising in some Islamic countries and others.

## 4. Conclusion

In the international environment there are more and more companies, which have increased enormously the need for international communication. International marketing communications is not without problems, because it takes place in an environment with different demographic, economic, geographic, political, technological and legislative terms. Cultural differences give rise to the need to change the access from the "what to say" to "how to say". It is therefore necessary that businesses understand the basic elements of the environment of foreign markets, local customers and partners in the business sphere. It means knowing what they are interested in what you most cherish, whether it is for them to price and quality are important and what are the words, colors, characters and other components of the culture it is necessary to be avoided.

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## Analysis of Decision Process in Building Investment

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**Abstract.** The decision in the building process carried out by the chosen enterprise of the construction industry was the object of the analysis in the article. This enterprise specializes in residential construction and the construction of public buildings. The main points of that kind of process were identified in short analysis of presented process.

**Keywords:** investment process, building investment, technological and building documentation

### 1. Introduction

The building practice indicates an increase in the number of irregularities in the construction process. Design errors, tight execution deadlines, lack of qualified staff and the savings associated with the quality level of used building materials, consequently cause the appearing of defects in buildings.

Construction process is carried out under specific conditions, because it is closely linked with the implementation terms. The inherent element accompanying building processes is the quality control. The contractor is responsible for carrying out works in accordance with the contract terms and the quality of materials and performed works for their compliance with the design documentation, client requirements and regulatory bodies, the proposed organization of work developed by the contractor and the instructions engineer / project manager. The company seeking a high service quality level must timely identify quality problems appearing during the construction process.

### 2. Research analysis

The enterprise, which leads production and service activity in the sphere public buildings, industrial buildings and housing since 1992, is the research object. The plant conducts construction and renovation works in industry, steel and reinforced concrete constructions. It also conducts works: plumbing - plumbing, heating and other (in order).

All offer inquiries, the information about the tender, order forms being received by an analyzed enterprise are registered by the site manager and directed directly at the owner who takes a decision about preparing the offer (of cost estimate), for examining the order. Preparing the offer (cost settlement) or contract depend on the kind of the investment. In the situation of the offer preparing the site manager checks the offer and takes decisions in accordance with all organizational cells which are involved in the investment process, in order to consult the offer. The building works offer is hereby approved, and then transferred to the client. If the client introduces changes to the offer there offer shall be re-examined in the frame of the issues that have been modified.

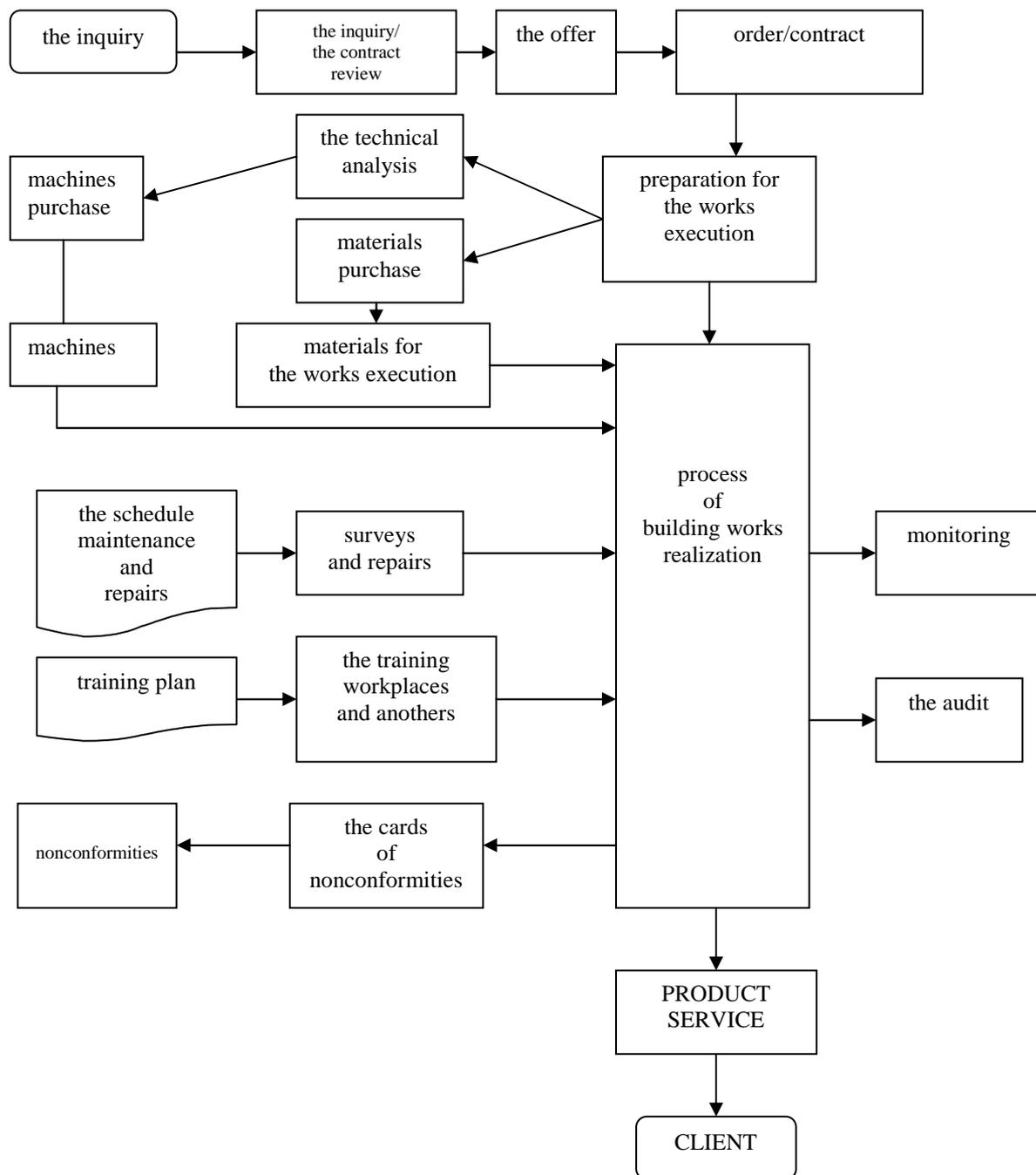
In the case of the order adoption, the appropriate organizational units, prepare and verify the documentation necessary to implement the service. Specific client requirements are verified during the review before approving it offers news, and works in progress - in case of changes made

by the client. Responsibility for the correct course of action in the review and revision of the bid contract is on the side of the construction manager and the building owner.

Product information shall be provided in the form of brochures, descriptive documentation, and/or photography. The client inquiries for products can be obtained in the form of a letter by e-mail, fax, telephone. The feedback and complaints from the client may have either of the above-described forms, they are subject of registration and directed to implementation by a designated organizational units. The algorithm of decision-making process concerning the implementation of the construction project has been presented in Figure 1. Services/products providing by the analyzed company are realized basing on the documentation provided by the client or own documentation. The main task of the owner and construction manager is to coordinate all activities related to the contract implementation since its approval for processing until the completion and sale. The construction manager and/or persons pointed by him, shall prepare a set of records based on: the contract / agreement, technical documentation, negotiated with the client, on-site inspection of work.

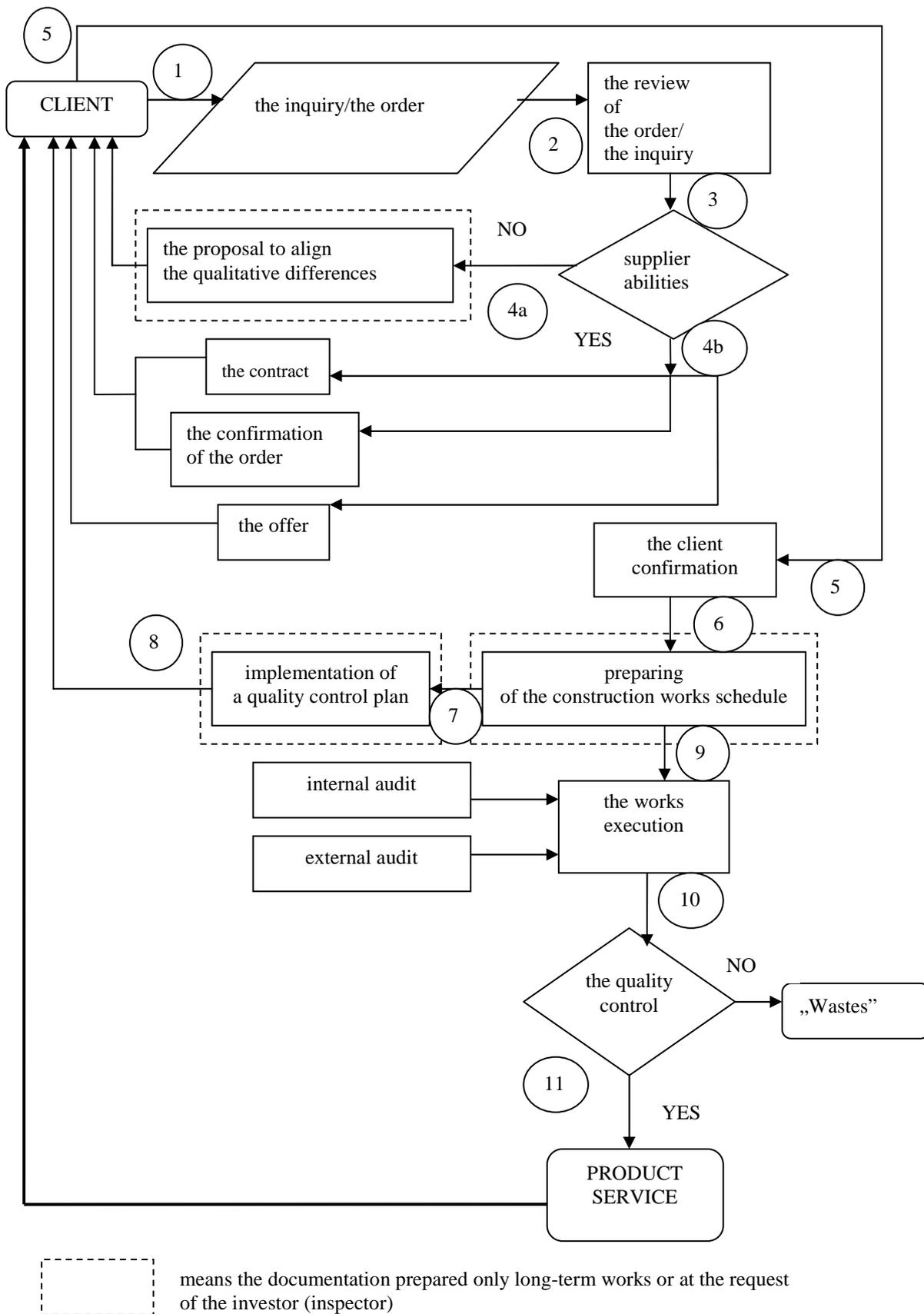
Full documentation must include: a signed contract, performance documentation, bill of materials, prefabricated products, components, a list of principal deliveries (equipment, blanks, etc.), quality control plan. The course of technical and contract documentation was presented on Figure 2. The duties of a construction manager are the following: drawing up a construction plan and schedule and preliminary cost estimate of works together with a list of materials needed for their implementation. On the basis of these documents, the investor has a clear picture of how much time and money must provide for the implementation of the various stages of construction. The construction works schedule is essential to the investor due to the fact, that it allows monitoring of the works progress and the financial settlement of the contract, while it allows for the planning of expenditure. The costs of various construction works result from the financial cost estimation. The estimate also allows for planning of material supply, irrespective of whether the materials ordered the contractor, or investor. The schedule contains all jobs in order of their execution.

The date of starting and ending date of the construction project and its duration are marked in the construction works schedule (Table 1). Takeoff (quantity) of the works and the hours required for their implementation shall be based on data from the shedule. The construction worsk schedule is performed assuming a certain number of workers engaged in construction work, from this fact depends on the duration of individual works. An example of the construction Schedule was show on the table 1.



**Figure 1.** The algorithm of decision processes realized in the course of building investment in the chosen enterprise.

*Source: own study on the base of analyzed enterprises.*



**Figure 2.** The algorithm concerning the technical and contract documentation course.

Source: own study on the base of analyzed enterprises.

	the works stage	the execution deadline												the execution deadline											
		months – 2008 year												months – 2009 year											
		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1	Preparing the ground					x	x																		
2	Utilities					x	x																		
3	Excavation, earthmoving					x	x	x																	
4	Foundations					x	x	x	x	x															
5	Basement walls						x	x	x	x															
6	horizontal and vertical isolations						x	x	x																
7	the ceiling over the basement, cellar stairs						x	x	x																
8	external walls						x	x	x	x	x														
9	external, construction and partition walls							x	x	x	x														
10	ceilings, stairs, landings						x	x	x	x	x	x	x												
11	the roof construction							x	x	x	x														
12	the roof cover									x	x	x	x												
13	insulation: damp proofing, thermal														x	x	x	x	x						
14	the central heating installations with accessories															x	x	x	x	x	x	x	x		
15	the electrical installations. and teletechn. with accessories															x	x	x	x	x	x				
16	the water, sewage and gas pipes																x	x	x	x	x	x	x		
17	internal plasters, screeds														x	x	x	x	x						
18	the external joinery										x	x	x												
19	external doors																x	x	x						
20	floors, carpets, tiles															x	x	x							
21	painting works																		x	x	x	x	x		
22	the whiteware																			x	x	x	x		
23	the plastering and other work elevation																		x	x	x	x	x		
24	different external finishing works																					x	x		
25	arrange land, small architecture																	x	x	x	x	x	x		

**Table 1.** The construction works schedule  
Source: own study on the base of analyzed enterprises.

### 3. Conclusion

In the analysis of decision-making process regarding the construction project there is the need of analysing of the following parameters such as: the investment execution time, the cost of implementing the various building works, number of persons engaged in the work, the number and quality of building materials and those responsible for preparing the appropriate documentation. These factors determine the overall cost of the investment and its duration.

Quality, safety and durability of the building depend not only on the proper execution, but to a large extent on the quality of building materials used. Products used in improper way may affect the users health and safety threat. To avoid this, the quality control should be periodically used during the building investment project.

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## Economic Determinants of Bank Computerization

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**Abstract.** In accordance with current view of the contemporary management, the priority of the organization action is not only searching of economic effectiveness, but it is also the reply to essential and additional needs of customers through best organized processes basing on the criterion “*High Technology*”. It is stated that economic results are the consequence of automation and right computerization. As a result of the inevitable expansion of enterprises and the necessity of the service of large amounts of customers as well as the progressing financial crisis, a tendency of using the newest achievements in the field of computer technologies appeared.

**Keywords:** computerization, bank

### 1. Introduction

This instruction file can be used as a template for participants who use MS Word for manuscript preparation. All the authors are asked to prepare their papers in compliance with the following guidelines. The most often recalled factors deciding about success of the computerization are: the selection of the technology, experience of project participants (staff, Software Company and users), the size of the project, the time of the project realization, the cost of the realization and appropriate management. Most often recalled factor is appropriate selection of technology solution, appropriate to needs of business organizations (30% of the answer in the research questionnaire). On the second place, experience of participants is pointed. It is connected with the attitude to changes, which is accompanying the computerization (25% of the answer). These are most often organizational changes, which are usually connected with a reduction in the employment. There is this adverse phenomenon, mainly because of remaining workers. However, a possibility of qualifications improvement and level of the knowledge improvement, according to the idea “the next project, the new knowledge, new experience, new ideas”, seems to be beneficial (15% of the reply). The time of project lasting is an equally important criterion, what remaining (15% of the reply). Because it turns out, that often, in the process of technological solution implementing, a possibility of introducing the newer technology appears (solution, which parameters more meet needs of the enterprise than so far implemented). Then, irrespective of incurred costs so far, current project is rejected (example of projects carried out at the PKO BP Bank S.A. in period: 2000 - 2008). It is the problem connected with the process of fast “growing old” oneself of computer technologies.

The other problem connected with computerization project is disagreement of views as for the criterion of the project success assessment, between the executor and the user (10% of the reply). The crucial factor, which is not even mentioning in literature, not even in press publications, is a role of shareholders and their attitude to projects carried out from the scope of IT implementations (5% of the reply). They often have the final word in taking decisions concerning the bank computerization. It is also happening, that the realization of the project is staying given up because of the change in the structure of shareholders (it is connected with a change of capital

management participation in the bank), who often represent approach of IT selection - different from its predecessors.

### 1.1. Determinants of bank computerization process

Defining business needs, which should serve a purposes of bank development strategy, is a base of the completion of the entire process. The stages of preparing the project of IT implementing, following after oneself are:

1. Analysis of costs and benefits.
2. Organization of the project (determining the work scope and the persons responsible for its realization).
3. Trainings and trainings, being aimed at preparing users for using the implemented solution.
4. Choice of the computer solution, made on the defined business needs and choice of the development team.

A reorganization of business processes is accompanying introducing computer technologies (Eng. business process reengineering), which caused generally the higher quality of enterprise functioning, the action effects improvement. Business process reengineering (reengineering), it is an idea consisting in radical restyling of processes in the organization, causing the crucial improvement in its realization, results at using contemporary measures achieved (costs, the quality, the speed, the service).

Economic aspects of bank computerization are closely connected with the subject matter of introducing of computer technologies, because decisions connected with the purchase and exploitation of computer solutions are preceded with multifaceted analysis of the legitimacy of its taking. It is possible to divide factors having the influence on the assessment of the computerization on:

- **technical**, which are connected with a computer hardware and a software
- **economic**, which appoint the profitability level (measured via indicators and comparative analysis of prices and costs),
- **organizational** (in particular philosophy of management and organizational structures),
- **sociological**, concerning on one hand directing the style, the culture of the organization and on the other the side - the preference and needs and a lifestyle of customers.

Factors mentioned above appear in different correlations, and from it of also a reason the economic assessment is never synonymous. The generalized assessment of the computerization is carried out on the basis of the rate of effectiveness, comprehended as the relation between total circulations and effects. It is difficult to estimate because of the need of effects and investments assessment, what is named as a technical and organizational progress. The other problem of effectiveness estimation is connected with computerization effect estimation, what is represented by information value.

Assessment of information system influence on organization activity is made by using factors like: the sale value, the gross profit, the economic value added, the market value of the enterprise, the productivity of human resources (understood as the sale value with reference to the employment level), the rate of the assets profitability, the effectiveness of the equipment (understood as value of the gross profit for equipping value), the rate of the profitability of the sale etc.

Determining the level of computer technology using is applied: expenses of the computer technology, other expenses after subtracting expenses of computer systems, materials, assets. Sometimes econometric models take into consideration also strategic indicators of computer investments, which are ranked among others: the punctuality, the service improvement, the comfort, the diversity.

It is also important, in the process of the computerization effects analysis, meaning of both the effect and implemented usefulness. On the other side we are dealing with the effectiveness, on the other - with the usefulness, where the results of a calculation of applied computer solutions are assessment subject. There are barriers, important aspect of analysis, which are the point of decision

process in the bank computerization. The most recalled barriers are: financial (prices of IT solution), technical (lack of appropriate information solution), organizational (structure of organization, responsible structure), human resources (qualifications, need of procedures implementing, resist of people, client resist regard to new solutions awareness), law (procedures, need of client safety in Internet, providing with the safety of the transaction and protections of personal details).

## 2. Analysis of computerization activities and costs in the chosen banks

The fast access to bank services, possible owing to online services and modernization of computer systems, became the most important challenges for the retail banking in Poland. Chosen banks offering bank retail services with the considerable share of foreign capital (of, Italian, Dutch and American German) were the subject of the research. A problem of bank equipment modernity and service improvement is connected unavoidably with the development of the retail banking in Poland, what is contributing for lowering both costs of the client service and costs of action of banks. The issue of implementing new computer solutions became the critical factor of not only a development, but staying at the market of bank services. Banks made themselves aware of the need of implementing new computer solutions particularly under the influence of rival west banks, which its agencies and units started opening in Poland in the nineties of the 20th century.

The assessment of bank investments size in new computer technologies isn't a simple matter, because banks not always reveal the unabridged information about already carried out or also planned investments, whereas data published by subjects dealing with examinations in this area often seems to diverge. Five banks from the group of twenty respondents, determined the information about the computerization as confidential. When it results from examinations, expenses of the computerization are diversified very much. In 1996 it developed on the level from 10 up to the 25% of action costs, what expenses of the so-called hardware constitute the considerable part from. In consecutive years, 1997 - 2001, according to data announced by the company *D sharp*, the computer expenditure of banks grew incessantly. The biggest and fastest increase in expenses of new computer technologies was made a note in 1998 and of 2001 (height till previous years by the 57% in 1998 and the 82% in 2001), and freest in 2000 - on average 6.8% in comparing to the previous year.

In the period 2002-2008, in polish financial institutions, realization of many different IT projects were planned and carried out, like e.g.:

- creating the network by the intranet, what pulled the structure of the extensive web of the electronic service system of orders and construction of portals for corporate and retail customers. (BRE Bank S.A.),
- implementation the integrated and shared for both banks, the ICBS system of the Fiserv company, creating of system of corporate banking by PolSoft for need of the new bank of the *Minibank24*, introducing the system of the own economy *Applications Oracle* through Computerland,
- beginning of the credit information system's construction (information about small and secondary companies), called Office of the Credit Information,
- introducing the system with mobile phones in the STK technology (SIM ToolKit) for needs of bank services, implementing of analytical systems enabling the assessment of the products and clients profitability (*Inteligo S.A.*),
- creating the integrated Base of Economic Data; implementing the system of the home banking for over 3 thousand budget individuals; preparing introducing the integrated System of the Accountant (for internal use and for the exchange given as part of European Central Banks System (National Bank of Poland).

Banks more and more often spend money for computer services improvement and the software solutions implementing. However the participation of equipment purchases is slowly falling, what

caused growth of banks interests in outsourcing services. It is one of main factors of the market development of the computer science in Poland. Still, for example in 2008, almost 85% of computer services in Poland was carried out by outside companies, but value of the outsourcing market were assessing at the about 5 bln PLN. The bank sector spends more on providing software than on average in different sectors. For comparison, in the last years, in the entire economy averages expenses of the software constituted 15 - 18% of the whole expenditure of the computer science, however a dozen per cent was already spent on very appliqué software in the banking. Expenses of the software consist: the 10% expenses allocated to the system and office software (e.g. editors, spreadsheets), what in the process determines the per cent of banks expenses of the software, which are developing on the level of the 30% of the annual expenditure on the computer science.

According to analysts of Boston Group Consultancy (BCG), three sorts of the bank attempt at investment in IT became apparent. The first group of banks is **aggressive investors**, who clearly are increasing expenses on IT, at the lack of it distinct height of incomes. These are usually large investments in the restructuring of the IT system or a new IT implementation. **Moderate investors** (the group largest of examined banks) are also spending a lot on computer solutions, but at the stable rise of incomes. Investments result shit from adapting the need for Basel requirements II. And finally the third group - **banks actively seeking the savings** - are aspiring for lowering IT costs to the appropriate level up to get incomes in the course of 3 last years.

According to results of bank expenses analysis, the most important positions in budgets of computer banks were the equipment and the infrastructure expenditure, in particular servers of the Internet network and intranets. PKO BP S.A. was concentrated on Zorbas system implementing, which was connected with system integrating after organization modernization. This process improves bank service and owing to it is the number of cash machines grew. Devices, system and management software constituted almost 20% of the whole bank expenditure.

Table 1 presents ranking of banks in Poland with regard to level of incomes and expenditures connected with information solutions at the beginning of 2000.

### 3. Conclusion

The main investment project of banks, realized after 2000 year, were connected with information technology implementing and these serve mainly for: new distribution channels implementing or modification of old channel structure (cash machines, modification of call – centre), client need analysis (CRM system and e - CRM systems), safety improvement, information system stream ling or unit work improvement (in the scope of bank – office).

Strategies, realized by banks in this period, were connected with bank modernization. It was linking with activity improvement and creates new structure, which are still elastic for market needs and requirements. These activities have character of strategy based on low costs, because these are concentrating above of all on effective and “lean” organizational structure maintenance. So it means liquidation of unprofitable institutions, reorganization of departments or operational system improvement (e.g. PKO BP S.A., Volkswagen Bank S.A., and BZ WBK S.A.).

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## System Support of Visual Information in Real Time

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**Abstract.** This article is focused on indication of the importance of Collaborative Manufacturing strategy. This is strategy by which supply chains can effectively compete. In CM people and the systems working together to support critical business processes. For companies are very important have data in real-time and online from all their parts. Without real-time information they can't have good overview about what is happening in their company. To have real-time information is just one of other conditions of collaboration. This requirement can be assured by an application of information systems Manufacturing Execution Systems. MES provide many sources of information necessary to build closer relationships and to real-time/on-line information from plant floor to shop floor.

**Keywords:** Collaborative Manufacturing, integration of information systems, Manufacturing Execution Systems.

### 1. Introduction

Orientation business to global processes brings the need to produce more efficient with regard to all the critical factors of corporate competitiveness. With a changing conditions of markets and customers requirements, enterprise began to think how best to adapt their conditions of this situation. Ambition to be successful, reduce costs, increase of productivity, orientation of customers and their needs and much more other aspects are an inseparable part of the business environment. Successful are only those, who can quickly adapt and are able to exploit the opportunities that are available. Ensuring that data are available at the right time, place, scale and quality is becoming certainty. In consequence of this requirement enterprises significantly focus on production management through mutual cooperation of all its parts and the foolproof transfer of information subject to right functioning of information systems.

### 2. Collaborative Manufacturing

Many companies have increased their productivity and efficiency by implementing new strategies, business processes and new IT solutions. This approach have brought to them more visibility, consistency and efficiency. Companies have started to appreciate importance of the relation between all entities inside and outside the enterprise. To maintain a corporate competitiveness must be synchronized all of different organizations (distributors, logistics partners, materials suppliers etc.).[4] These assignments have given impulse to formation of Collaborative Manufacturing. This strategy can help a company maximize effectiveness of its value chain to better control profits and reaction of changing market demands. MESA International defined Collaborative Manufacturing as [2]: “A strategy by which all appropriate individuals and organizations - both internal and external to the legal enterprise - work together.” These strategies will play important role in helping to international companies increase business value in the emerging global economy. Manufacturers should create business processes that are based on shared information.

A correct Collaborative Manufacturing application (Fig. 1) structure combines real-time operational information with supply chain, enterprise planning, product lifecycle and customer relationship management.

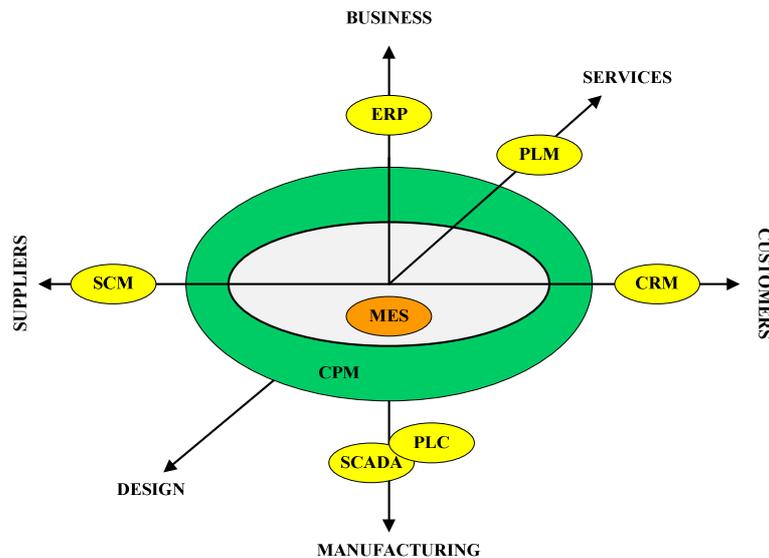


Fig.1. Collaborative Manufacturing application [3]

The end result of this strategy is responsive, high velocity supply chain performance. It provides rapid collaboration to resolve issues as they arise in design, planning, operations and execution. Manufacturing are driving of a variety market drivers toward Collaborative Manufacturing. The impact of each organization which participates of manufacturing is increasingly obvious. This approach of manufacturing will have a different emphasis for companies in different industries that hold different positions in the supply chain.[2] In consequence of customer many companies are moving from its manufacturing strategy to demand strategies for example from mass customization, to make-to-order (MTO), or make-to-demand strategies. These strategies provide them many advantages and move them closer to actual demand. Functional boundaries within a corporation are also becoming blurred because today is necessary that the information in collaborative groups is up-to-date and timely.

## 2.1. Aims of Collaborative Manufacturing

A Collaborative Manufacturing strategy is simple terms as:

1. Identification of critical business processes across a manufacturing company and in its outside environment,
2. Making those business processes efficient and flexible so as possible to the market demands of today and of future.

This strategy for many companies means not only identification of critical processes but also identification of people and information system which support them. Individual systems should be configured so that can work together and can be synchronized. The flow of data and information between the systems and people should be shared in real-time. Critical business processes are different in variety industry. A process cannot be judged whether it is critically if it has not metrics to its measure. A successful Collaborative Manufacturing strategy will re-examine those metrics to understand which processes (or parts of processes) relate to those metrics. It also identifies their main factors to search other metrics. To the key aspects for business process implementation or change to execute a Collaboration Manufacturing strategy include:

- **Who:** Definition groups which have impact on process and how is their impact.

- **What:** Common designing the process, setting up plans and performance targets, appropriate exception limits, roles and responsibilities and common metrics.
- **Where:** Definition all of the sources of data for each decision in process.
- **Interactions:** Mapping common dependencies between processes.
- **How:** Definition key points to monitor process and developing measurement systems.
- **When:** Definition for which changes and exception each side need to be alerted.

Success with this strategy rests firmly on having processes, exceptions and metrics established up front. Implementing of Collaborative Manufacturing strategy is a policy for the efficiency and agility of a company today and into the future. Software systems infrastructure to its support must combine supply chain, enterprise, plant floor, design engineering, product lifecycle and customer relationship. In every group from this group we are finding a lot of manufacturing enterprise solutions. Some of these solutions support collaboration directly; others solutions provide basic information from which is collaborative processes dependent.

### 3. System support of plant floor visibility

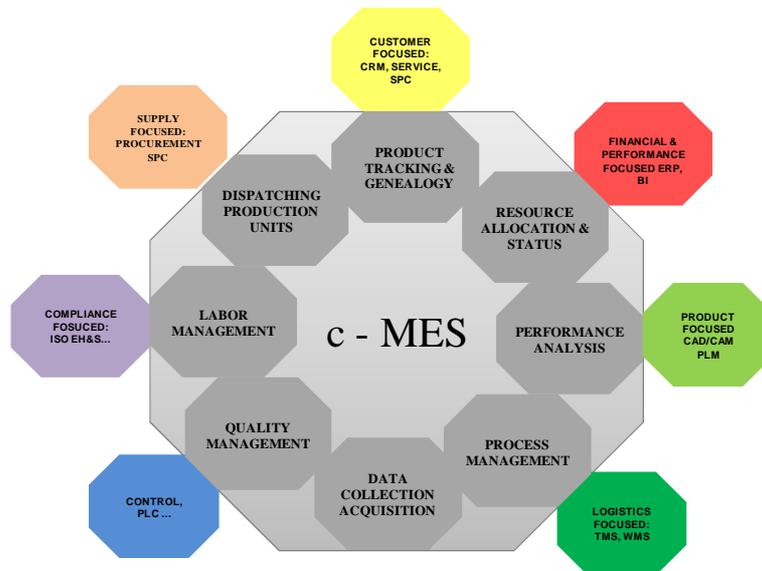
Collaboration will drive manufacturing in the 21st century. On this approach are based Collaborative Manufacturing Execution Systems (c-MES). This system is very important part of Collaborative Manufacturing. MESA International developed c-MES model as a requirement of market. Offered systems solutions are more configurable and designed to integrate and provide data in useful forms to other systems. Model of c-MES introduce "Next Generation" of MES.

#### 3.1. Next generation of MES (c-MES)

Collaborative MES is more effective in sharing information with other systems. This extended systems reference of available capacity (what), capacity (how much), schedule (when), and quality (available value) directly into supply chain and enterprise decision. They are supplemented beyond traditional MES role of productivity optimization, the requirement to exchange accurate, detailed and timely data with systems also about people in the value chain. [1] C-MES applications help companies improving high quality product in shorter delivery dates and provides more value-added services to their customers and suppliers. Traditional MES was defined by MESA as: "systems that deliver information enabling the optimization of production activities for order launch to finished goods. Using current and accurate real-time data, MES guides, responds to, and reports on plant activities as they occur. The resulting rapid response to changing conditions, coupled with a focus on reducing non-value added activities, drives effective plant operation and processes." Exchange of some data has been shared through traditional communications but the Internet and web-based technologies such as XML and web services provide a significant leap in accuracy and timeliness of communications. Although the MES as defined by the MESA. The final character and usually part in these systems and those that are offered as separable systems were determined by the market. Each enterprise need different functions and they usually have different priorities depending on [1]:

1. the vertical industry,
2. the production process (discrete, batch, continuous),
3. the production mode (make-to-stock, make-to-order, or engineer-to-order).

C-MES model (Fig. 2) includes eight major functions that interact with other systems and people both inside the enterprise and in the extended supply chain.



**Fig. 2** c-MES model [5]

MES are built with their functionality to support shop floor operation and integration facilities for connection this level with enterprise floor. Good considered integration of MES in organization IT landscape offers plant floor visibility: top-down and near real-time insight in status and performance of the operation.

## 4. Conclusion

C-MES is a core system to support Collaborative Manufacturing. This model is not a plan for what manufacturers need for information systems in production operation, but rather a framework. For businesses is becoming approximate to real-time, where is an ambition to data are timely and available from the production level. As a result, it is important deployment and use of MES systems, which play an important role in companies.

## Acknowledgement

This paper was made about research work support: VEGA no. 1/0241/10.

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# The measurement of airport economic performance

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**Abstract.** Paper examines evolution in measuring and evaluating the airport economic performance worldwide. In past, the measuring of airport economic performance was not widely discussed issue. The airports were publicly owned entities built to satisfy a social welfare. With the boom of privatization and commercialization they turned into separate entities with the only goal; to maximize profit. The benchmarking has become very important managerial tool in peer-to-peer comparisons. Since the one-dimensional approaches had not been sufficient enough; multi-dimensional approach came into practice. The Data Envelopment Analysis (DEA) as the most applicable method is a non-parametric approach for the estimation of production frontier. The main advantage of this practice is its ability to easily recognize efficiency frontier and consequently adjust steps for improvement of parts which realized inefficient.

**Keywords:** Economic performance, Efficiency, Airport, Data Envelopment Analysis, Key Performance Indicators.

## 1. Introduction

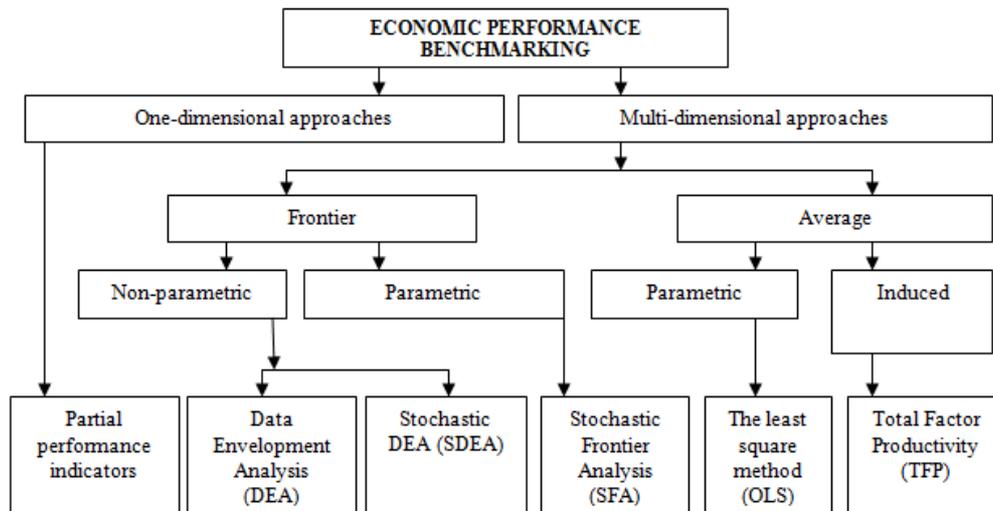
In recent years is the economic performance of airports one of the most debated issues in air transport industry. The commercialization and privatization of airports in 1980s gave rise to revolution in the field of economic comparisons and benchmarking of economic performance in the airport's market. The fact that airports have become sophisticated business-oriented enterprises with very specific operational and economic features sets number of questions how to measure and compare their economic performance.

## 2. Airport as a subject of economic research

Because each airport is made up of the system of various input (employees, costs, etc.) and output (passengers, cargo tones, aircraft movements, revenues, etc.) indicators the determination of its performance turned into difficult issue. Nowadays airports are more and more considered as a subject of economic research and therefore several research laboratories (ATRS, TRL) and air transport organizations (IATA, ACI, ICAO) focusing on application of different methodology approaches to the sample of airports worldwide.

## 3. Economic performance measurement

There is strong effort to asses and consequently apply best practices for the purpose of economic performance evaluation.



**Fig. 1.** The methodology approaches widely used to assess economic performance.

### 3.1. One-dimensional approaches

The one-dimensional methodology approach is based on partial efficiency ratios, which are input and output-components airports. In the past most scientific studies analyzed airport efficiency with use of the key performance indicators (KPI). The most popular partial indicators of efficiency are given in publications of authors Graham (2003) and Doganis (1978). Using these indicators, managers are able to easily identify the strengths and weaknesses of airports under analysis. Graham (2003) in its publication "Managing airports, an international perspective" states the economic performance indicators into several economic sectors: cost efficiency, labour productivity, capital productivity, revenue generation, commercial performance and profitability [5].

Fundamental shortcoming of this practice has been observed in the evaluation of economic performance by the assessing of several economic segments partially. The partial performance indicators can provide useful insight into particular areas of inefficiency; however they can also provide a distorted picture of performance by ignoring the interaction between inputs used and outputs produced [1].

### 3.2. Multi-dimensional approaches

As far as the analyses using partial indicators were not sufficient enough due to their inconsistent conclusions economic research has stressed more attention to application of multi-dimensional approaches widely used in other economic sectors.

There are several approaches used for the multidimensional assessment of the effectiveness of airport:

- Data Envelopment Analysis
- Stochastic Frontier Analysis
- Total Factor Productivity

#### 3.2.1. Data Envelopment Analysis

The Data Envelopment analysis (DEA) is a popular and frequently used technique to encompass the relative efficiency of airport. The DEA model was formulated in the 1970s (Charnes et al., 1978), building on the ideas of Farrell's (1957) non-parametric production frontier function.

The general purpose of DEA by providing a comparative airport performance analysis is to determine decision making unit (DMU) while paying attention to discover how to improve airport efficiency and how to reach efficiency frontier by reducing the inputs or increasing the outputs.

As was aforementioned, the DEA is non-parametric approach that uses linear programming to construct linear “efficient frontier” that envelops the data based on multiple inputs and multiple outputs. Efficiency measurements are then calculated relative to this frontier.

Mainly two up to five DEA models are commonly used by airport managers to stipulate relative efficiency. These are the CCR (Charnes et al., 1978) based on constant return to scale measurements, and the second model is BCC (Banker et al., 1984) focusing on variable return to scale measurements.

Regarding many advantages, the approach became popular and used by economists all over the world. Some of the benefits of DEA are:

- No need to explicitly specify a mathematical form for the production function
- Proven to be useful in uncovering relationships that remain hidden for other methodologies
- Capable of handling multiple inputs and outputs
- Capable of being used with any input-output measurement
- The source of inefficiency can be analysed and quantified for every evaluated unit

The main criticism of DEA is that as it is not a statistical estimation technique it does not offer a diagnostic statistic for determining whether or not the chosen model is appropriate [2].

### **3.2.2. Stochastic Frontier Analysis**

In comparison to DEA and TFP, the Stochastic Frontier analysis (SFA) has been only used in very scarce occasions. The reason for this choice is personal beliefs and competences of researchers as well as availability of data.

The SFA is an econometric method which is usually applied by airports to estimate technical efficiency. According to Coelli (1998), the main advantages of this approach are [7]:

- It is easy to deal with environmental variables
- It allows to conducting statistical tests of hypotheses concerning any parameter restrictions associated with economic theory
- It allows an easier identification of outliers

### **3.2.3. Total Factor Productivity**

Factor Productivity (TFP) index is rather as popular among economists as DEA does. The TFP is variable which accounts for effects in total output not caused by inputs. The approach is often considered as the real driver of growth within economy. However, some economists believe that the method and its results are invalid [1].

## **4. Application of the methodology approaches**

In recent years valuable source of literature discussing airport economic performance has arise worldwide. More and more research laboratories and air transport institutions have taken part in airport economic performance evaluation.

Studies differ by several features set in the early (e.g. chosen methodology approach, given input and output variables, influencing factors taken into account, sample of airports under analysis).

Following table will give the overview of the studies in chronological order examining airport economic performance by applying different methodology approaches.

<b>AUTHOR</b>	<b>INPUTS</b>	<b>OUTPUTS</b>	<b>METHODOLOGY APPROACH</b>
<b>Vasigh/Hamzaee (1998)</b>	Neuvádza sa	PAX, ATM, Aeronautical revenues, Non-aeronautical revenues, Total operating revenues, Operating expenditures	OLS
<b>Pels/Nijkamp/Rietveld (2001)</b>	Size of Airport, Aprons, RWYs, check-in desks, Employees	ATM, PAX	SFA, DEA
<b>Francis/Humphreys/Fry (2002)</b>	Size of airport, employees, RWYs	PAX, Cargo	Best Practice Benchmarking
<b>Humphreys/Francis (2002)</b>	Employees, Costs, terminal area	PAX, Cargo	DEA, TFP
<b>Thompson (2002)</b>	RWYs, Gates, Employees, Total costs	ATM, PAX, Cargo	KPI – One-dimensional approach
<b>Sarkis/Talluri (2004)</b>	Operating costs, Employees, gates, RWYs	Operating revenues, ATM, PAX, Cargo	DEA
<b>Huh (2006)</b>	Costs, RWY Capacity, Employees	PAX, Cargo, ATM, Operating profit, Net profit, Revenues	One-dimensional approach based on partial performance indicators
<b>Lin/Hong (2006)</b>	Check-in desks, gates, employees, aprons, RWYs, parking lots, terminal area	ATM, PAX, Cargo	DEA
<b>Oum/Adler/Yu (2006)</b>	Labour, Purchased material and services	ATM, PAX, Cargo, Concessions	DEA, TFP
<b>Oum/Yan/Yu (2008)</b>	Labour, Purchased material and services	ATM, PAX, Cargo, Non-aeronautical revenues	SFA
<b>Tseng/Ho/Liu (2008)</b>	RWYs, aprons, airport size, employees	ATM, PAX, Cargo	DEA
<b>Muller/Ulku/Živanovic (2008)</b>	Gates, Length of RWY, terminal area, employees, total costs	PAX, Cargo, ATM, total revenues	PPF, DEA, SFA, 2 <sup>nd</sup> Stage Tobit Regression
<b>Curi/Gitto/Mancuso (2009)</b>	Labour, Invested Capital, Operating costs	Number of aircraft, PAX, Cargo, Aeronautical income, non-aeronautical income	DEA
<b>Suzuki/Nijkamp/Pels/Rietveld (2009)</b>	RWYs, Gates, Labour, Purchased material and services	ATM, PAX, Cargo	DEA
<b>Martin/Roman/Voltes-Dorta (2009)</b>	Labour, Purchased material and services	ATM, PAX, Cargo	SFA
<b>Assaf (2009)</b>	Employees, total assets, operating costs,	Operating income	Metafrontier method

**Tab. 1.** Studies review

## 5. Conclusion

The main objective of this paper was to summarize the past and present state of the field and establish the best practice method. The one-dimensional approach is based on the use of partial indicators and therefore in the field of economic research is used only as a complementary approach. Increasing interest of the professional community and airport managers draws to evaluate the economic performance by using multi-dimensional approaches. Among the best known is data envelopment analysis (DEA), followed by methods of SFA and TFP.

In general, the attention is mainly devoted to five main factors influence the performance of the airport. These factors are the size of airport ownership form, the region's economic growth, the competitive environment and attractiveness of the region where the airport is located.

By the application of both methodology approaches most authors in the world conclude that the large international airports are much more efficient than smaller airports. Privately owned airports usually work more effectively as airports owned or managed by state authorities. Airports located in regions with higher GDP growth are significantly more powerful than those found in areas with low economic growth. It is similar to airports located in the tourist or work-attractive areas as opposed to airports located in areas with sparse population and weak competitive environment.

Since it is necessary to fill the gap in economic research and contribute to resolving issues relating to the questionable assessment of economic performance abroad, it is assumed that the concept of airport economic performance will be the subject of future discussions in air transport industry.

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Potvrdenie o zaplatení do 31. 8. 2011  
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Medzinárodná vedecká konferencia je tematicky zameraná na proces globalizácie a jej vplyv na ekonomický, sociálny a kultúrny život ľudskej spoločnosti

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spolupráca s domácimi a zahraničnými vzdelávadmi a vedecko-výskumnými inštitúciami vzájomná výmena vedeckých a praktických poznatkov s pozitívnymi a negatívnymi dôsledkami globalizácie v podmienkach hospodárskej krízy identifikácia, analýza a vyhodnotenie činiteľov procesu globalizácie hľadanie optimálnych riešení v prípade negatívnych vplyvov globalizácie na civilizáciu

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## Trends in Optimization of Enterprise Logistics

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**Abstract.** Recent trends in logistics are gradually applied under the conditions of Slovak and Czech companies in view of the ever increasing competitive pressure. There is a wide range of methods, which are still more widely applied. If the company wants to proceed with any changes in the logistics field, it is necessary to consider whether it really knows the current state, can describe deficiencies, problem areas and propose optimization steps.

**Keywords:** enterprise logistics, optimization, purchasing logistics, warehouse logistics, financial indicators.

### 1. Introduction

Specific activities and functions that involve the corporate logistics include: customer service, demand forecasting, information flow, movement of goods among companies, management and service life of machines, order processing, packaging, warehousing, decision support, choice of location of machines, production lines, warehouses, acquisition logistics, transportation management, distribution and warehouse management. These activities must be linked and precisely coordinated.

### 2. Financial indicators and logistics

It is essential to realize that the logistics largely affects important financial indicators in the companies. Additional logistics costs increase the amount of company's costs by up to 10 % and therefore reduce the value of profits. And therefore the given selected financial indicators:

- ROI – Return On Investment

$$ROI = \frac{\text{net profit}}{\text{total invested capital}} \quad [2]$$

- ROE – Return On Equity

$$ROE = \frac{\text{net profit}}{\text{equity}} \quad [2]$$

- Indicators of Liquidity

$$1. \text{ Instance} = \frac{\text{current assets}}{\text{current liabilities}} \quad [2]$$

$$2. \text{ Instance} = \frac{\text{current assets} - \text{stocks}}{\text{current liabilities}} \quad [2]$$

$$3. \text{ Instance} = \frac{\text{prompt payment resources}}{\text{outstanding liabilities}} \quad [2]$$

Financial Result - surplus logistics costs, but particularly those associated with the destruction idle good (the scrapping of surplus and obsolete inventory, disposing of idle goods, consumed in production) and logistics complaints (service customer service, increase transport costs - additional supplies to customers, improperly selected system supply and storage costs due to inappropriate ordering policy).

Economic outcome is largely influenced by the amount of stock purchased, unfinished and finished products. Stocks are “necessary evil”, their maintenance costs are 15 to 25 % of all costs, do not contribute to value added production, and bind final appropriation in the amount of 15 to 40 % of financial resources. Material costs constitute 30 to 60 % of the total value of the product.

### 3. Optimization in logistics

At the present time, a key role in the Slovak and Czech companies from the view of the need for a rapid trend of reducing input costs plays increase of profits. Another key task is to ensure the coverage of the production of material items required for the requested period, minimizing the input value of storage and transport costs. When we realize the fact of continuous rise in prices of raw materials and the diversity of delivery dates of the individual components, it is clear that at the present time it is not possible to order input components without satisfactory with the management system.

#### 3.1. Optimization of purchasing and warehousing logistics

Management of supply logistics is in the hands of companies units - manufacture, purchase, trade, which often work by the date to meet the qualifying limit of stocks but essentially does not control them. Management should be sectional, for example in the Logistics Department of Industrial Engineering or so in order to optimize the entire value chain in companies - from purchasing to sales. Management of supply logistics is in many Slovak and Czech businesses non-systematic, inefficient, ordering of material items are only intuitive, which is associated with other problems in production. Management realizes this fact and often when costs rise prohibitively, and the company gets into financial crisis or pressure from the owner.

The main issue of supply logistics is now, how much stock company must maintain in order to best meet two opposing requirements - prompt compliance with the requirements of customers and the related increase in inventories and costs on the one hand, minimizing the value entry stores on the other side. Administrative management system to reduce operating costs, higher utilization of machinery and staff, streamlining the planning system and production management, increase productivity, and thus better indicators of economic enterprise.

The mistakes which often happen when optimizing:

1. Unaware of that the project entrance logistics optimization solution is not only for the individuals, but it is a project that would address the project team, consisting of the

representative of the production planning, production management, purchasing and also representatives of the external consulting companies,

2. Inaccurately defined the main objective and sub-objectives (desired outcomes of the project),
3. Uncertainty of input data - incomplete, inaccurate or otherwise as required, given in different units (eg. kg, m, pc), valued at different prices (cost, market price),
4. System of project team – inner employees are not involved in the whole company,
5. Workshops are not organized by regular team,
6. Performance targets are not controlled,
7. It does not make the tasks arising from the proposals interim measures,
8. If the project team assigned tasks, their performance is not controlled or not enough,
9. Lack of interest in addressing the challenge by some members of the team,
10. Weak support of senior management.

### **3.2. Production logistics**

Nowadays increasing competition is accompanied by an increasing emphasis on the area of manufacturing logistics. The main tasks are to secure the reliability of machines and handling equipment, records capacitive load of service systems, Make or Buy production planning and control, structuring of production from a logistical standpoint.

Several trends are currently realized in manufacturing logistics. The first and the most important step, which is not taken into account by some entrepreneurs, is a detailed analysis of the present state.

### **3.3. Distribution logistics**

Distribution logistics deals mainly with addressing the following areas: where terminals are located and how, as storage and distribution systems will be used, the supply of goods in terms of 4P, the scope and depth of distribution network management chains.

The activities of distribution logistics can be seen on the strategic level, management level and also on the operative level.

On the strategic level:

1. Choice of distribution network
2. Building distribution channels
3. Decision on the structure of vertical and horizontal storages
4. The choice of organization and technical means of storages
5. The choice of commissionable items

On the management level:

1. Handling of orders
2. Choice of carriers of transport and handling
3. Route planning
4. Planning and management of stocks
5. Planning Sales

On the operative level:

1. Commissionable and packing of goods
2. Output of goods and ensure distribution of goods
3. Transport of goods to the customers
4. Verification of goods delivery by 4 P

The current trend is the establishment of large distribution centers and outsourcing of distribution carries a significant risk. It is necessary to consider all costs and risks associated by the outsourcing of activities and to set a turning point for the company before it decides to move.

#### 4. Conclusion

Recent trends in logistics are gradually applied under the conditions of Slovak and Czech companies on the basis of constantly increasing competitive pressure. There is a wide range of industrial engineering methods, which are still more widely applied. If the company wants to carry out any changes in logistics, it is necessary to consider whether it really knows the present state, can describe the deficiencies and problem areas and proposes optimization steps. Every defined project about changes must be timed properly, supported by the top management, accurate and well defined, with well trained and interested staff team; otherwise we do not get the expected benefits. The failure of project in its beginnings, can only lead to unnecessary distrust of possible changes in the project team and the team can finally refuse any changes in the future. Every company has the possibilities of optimization of logistics; you need only reflect on whether it is appropriate to pay more attention to them and what we could bring.

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# Structure of the Initial Phase in the IT Project Management

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**Abstract.** The initial phase of a project consists of a definition of the project scope (WHAT), a definition of a project organization (WHO) and a budget approval process (HOW). The selection of an integration partner, as a part of the initialization phase has two main goals: to find a partner who delivers a desired solution in the required time, quality and budget and to find a partner who can maintain and extend the IT solution when the solution is fully operable. The stability of the implementation partner plays a key role for a long-term cooperation. In this paper we describe the main information categories and their purpose for the selection process. Selected areas can be transferred into the form of a questionnaire, which has to be filled out by an integration partner and is part of the request of information. Gathering this information allows the company to select an implementation partner, who can offer a long-term cooperation and also reduces the risk of the partner going into bankruptcy once the project has been completed.

**Keywords:** Information technology, IT projects, RFI.

## 1. Introduction

Information technology (IT) is relatively new to adopting the concept of project management. Today more than ever before, organizations are dependent on the successful execution of IT projects in order to be competitive. The IT projects directly influence the organization's performance and thus successful IT project management plays a key role in the evaluation, integration and maintenance of an IT solution. Managing the complexity in IT projects plays a central role and we therefore distinguish two main types of challenge on IT projects: standard project management challenges and IT-specific project management challenges.

### *Standard project management challenges*

We aim to achieve specific goals (WHAT), in a specific budget, time and quality (HOW).

### *IT-specific project management challenges*

IT is not yet mature: The IT landscape consists of isolated islands of standardization surrounded by a huge number of new still-maturing technologies. It requires additional effort to pick up the correct pieces and put them together so that the final solution fulfills a company's requirements.

Over the next decade, new IT projects will be started, many will be successfully completed but some will fail. The reasons for failure depend on various internal and external factors. Organizational structure, size of the enterprise, available resources and the scope of requirements for the new IT solution belong to the internal factors. External factors such as the maturity of an IT technology, the number of productive installations and the financial stability of the integration partner also play a key role in successful project management.

New research from Computer Associates, conducted by the independent research company Loudhouse, reveals that poor visibility of an IT project's status and the lack of management control over them is costing over a quarter of a billion pounds sterling per year. A third of all projects implemented each year end up over budget with a typical over-spending of between 10% and 20% of the original budget. The survey also highlighted the increased complexity of IT projects, with a typical company running 29 projects at any one time and an average IT budget of between £1m and £5m.

The primary reasons for exceeding the budget are the result of poor forecasting (50%), increasing the project scope during implementation (39%) and issues of interdependencies and conflicts between multiple projects (36%). This isn't helped by the lack of visibility and control that CIOs have over their project portfolios - 40% of IT directors don't have complete visibility over the initiatives they are running, and thus cannot see when a project threatens to run over budget.

As we can see, the scope of the project is one of the most important parts of the project and should therefore be addressed from the very beginning.

## 2. Challenges

After analysis of eight different IT projects, which failed from the owner perspective, we have tried together with the project manager to find out the phase, where the failure of the project could be addressed properly in the future:

Project phase	Reason	Number of project failures, which could be addressed in this phase
Init Phase	Wrong contract Wrong technology Improper scope No management attention Wrong implementation partner	4 [50.0%]
Do it	Project out of control	2 [25.0%]
Test it	Wrong test setup	1 [12.5%]
Run it	Production environment underestimated	1 [12.5%]

Our thesis is that almost 50% of failures could be addressed in the init Phase of the project and therefore we have analyzed the init phase of every failed project and have tried to find some common points. All projects have almost the same order of first steps in the init phase:

	Customer Process	Documents exchanged	(Potential) Contractor Process
3.	Project selection		
5.	Request of proposal (RFP)	-> Statement of work	Analysis and calculation
6.		<- Proposal/Bid	Submission of proposal
8.	Selection of contractor		
9.	Contract negotiations		Contract negotiations
11.	Signature of the contract	<-> Project Contract	Signature of the contract
12.	Project initiation	<-> Project Scope Statement	Project initiation

After the project was selected a RFI was written and sent to maximal two potential contractors. The contractors sent the proposals, which reflected the customers' requirements. The customer selected one contractor and a contract has been negotiated. After the sign off of the contract the initial activities on the both side – on the client's and on the contractor's – have been started.

This process was too simple and additionally our analysis showed, that the RFI was a weak point of the init process as well. We have analyzed therefore all possible risk and came up with an advanced form of the init phase (additional needed steps marked in *italics*):

	Customer Process	Documents exchanged	(Potential) Contractor Process
1.	<i>Stakeholder analysis</i> <sup>1</sup>		
2.	<i>Statement of customer</i> <sup>1</sup>		
3.	Project selection <sup>2</sup>		
4.	<i>Contractors evaluation</i> <sup>1</sup>		
5.	Request of proposal (RFP) <sup>1</sup>	-> Statement of work	Analysis and calculation <sup>4,5</sup>
6.	<i>Contractor pre-selection</i> <sup>1</sup>	<- Proposal/Bid	Submission of proposal <sup>4</sup>
7.	<i>Short-list</i> <sup>1,2</sup>	-> Invitation to presentation	<i>Project team proposal</i> <sup>4,5</sup>
8.	Selection of contractor <sup>1,2</sup>		<i>Presentation</i> <sup>4,5</sup>
9.	Contract negotiations <sup>1,2,3</sup>		Contract negotiations <sup>4,5,6,7</sup>
10.	<i>Budget decision</i>		<i>Budget decision</i> <sup>6</sup>

11.	Signature of the contract(s)	<-> Project Contract	Signature of the contract
12.	Project initiation	<-> Project Scope Statement	Project initiation
	<sup>1</sup> technical unit <sup>2</sup> management level <sup>3</sup> legal & compliant department		<sup>4</sup> marketing unit <sup>5</sup> technical unit <sup>6</sup> management level <sup>7</sup> legal & compliant department

From the big perspective three major points came out:

1. the RFI is a key document and must have a very solid structure
2. without key phases as Stakeholder analysis and Statement of customer a complete RFI is not possible to write
3. every step is done by different groups of people. The transformation of information in general, the understanding of different point of views and management levels enormously increase understanding of the entire process and better results

### 3. RFI

The request for information (RFI) was as well defined as a weak point of the selection process. On one hand some financial information was missing on the other hand not all aspects of offered solution were clarified.

We propose to build up every RFI of two parts: the company's profile (analysis of a partner's strengths) and a product information document (analysis of the strength of a solution reflecting the project scope). The split makes sense for two reasons:

1. The groups which evaluate the documents have different positions within the company. Management and accounting departments analyze a company profile, whereas the product information document is a technical document analyzed by the technical IT department.
2. The Chinese wall allows a separate analysis of the company and its technical solution, without influencing one another. After both analyses have been completed, the reviews can be put together and the best partner selected.

After analyzing of missing information in the RFI we found out the main categories of the company profile, how they are linked and what purpose they should serve. This standardized approach allows the analysis of the financial strength of the integration company from a theoretical and practical point of view.

The company profile should have the following structure:

<b>Company's profile</b>
<b>Areas</b>
General company information
Information about subcontracting partners
Company's financial statement
Description of offered products and services
Description of implementation, consulting, training and support services
Type of contracts offered
Reference installations

and the product profile of RFI should have the following structure:

<b>Company's profile</b>
<b>Areas</b>
Architecture, Design, GUI, Workflows
Data interfaces in/out
Security, 7x24, Fallback scenarios
Multiple organization units, multi language
Auditing, data aging management
Performance, hardware/software platform
Usage of internal enterprise infrastructure (Backup, Monitoring, SAN)

The usage of such structured documents helps standardize the questionnaire, make them comparable and cover all critical points of the init process.

More detailed structure of the RFI with an example will be published in our following paper.

#### 4. Conclusion and comments

A properly structured init phase of an IT project with a properly written RFI - with a company and a product profile – helps gather information needed for a qualified decision of WHAT will be implemented, WHO will implement it and HOW it will be implemented. Comparison and a selection process based on this model reduce the project risk and contribute to a smooth transition from the project into the production phase, where the IT solution is fully operable. We believe that the failure of IT projects can be nowadays reduced to almost zero, if experienced project managers are in charge of a project initialization phase – which we believe is crucial for the project and during which a technology and an integration partner are selected. A global operating enterprise can apply standard project management tools and methodologies for all IT projects, but should be aware of some specific areas described in this paper, which if properly implemented clearly decrease potential project risks.

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## System Alignment in Companies

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**Abstract.** All activities of companies are based on their strategy. Business success is an effect of its good definition and implementation. Companies can be composed of many business units, shapes, departments, positions, etc. In each part some group of employees work. These people are responsible for all processes in the company. They must cooperate together. It is a good way to positive outcomes of each company. But many companies have got a problem to communicate their activities and strategy to all parts of the company. Therefore, this article is about alignment of employees, processes and systems at the company with its strategy.

**Keywords:** Alignment, Balanced Scorecard, Strategy maps.

### 1. Introduction

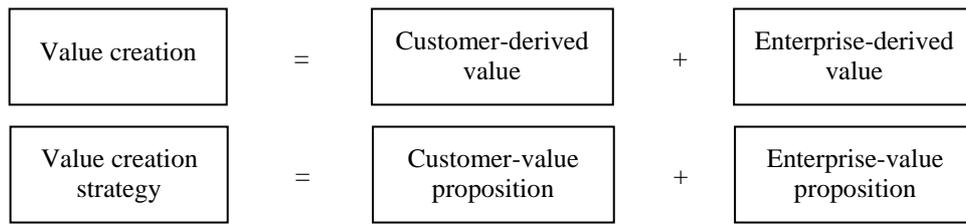
The problematic of alignment is based on using system Balanced Scorecard (BSC) and strategy maps. BSC is the approach, system and conception for measuring organizational performance. It translates the company's strategy to the objectives, measures, targets, initiatives and budgets in four BSC perspectives. [2] The strategy map is a framework that integrates all strategies in the company. It helps to describe the strategy and it describes how the companies create value. A creation of BSC and strategy maps is a part of strategy planning. [3]

Authors R. Kaplan and D. Norton classified the five key management processes which are very important for successful strategy implementation [1, p. 3]:

- Mobilization: implementation of changes through executive leadership.
- Strategy translation: creation strategy maps and system BSC.
- Organization alignment: aligning corporate, business units, support units, external partners and boards with the strategy.
- Employee motivation: education, communication, goal setting, incentive compensation and training.
- Governance: integrating strategy into planning, budgeting, reporting, and management reviews.

### 2. Steps of Organization Alignment

Business units communicate their strategy with all employees to understand it and they participate in strategy implementation. They create the customer value proposition and bring the customer derived-value their companies. Companies must align operating and service units and then they can achieve a synergy. When some company aligns the activities of its business units and support units, it will create the enterprise-derived value. The customer-derived value with the enterprise-derived value creates a value for the whole company. We can use for it a simple equation (Fig.1).



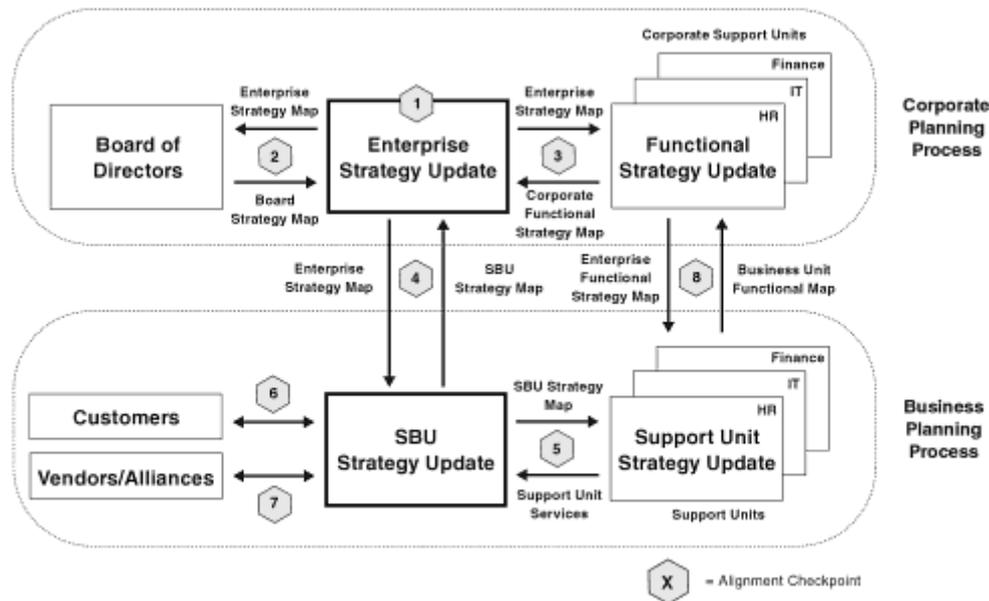
**Fig. 1.** The equation of the value creation in the company [1, p. 5]

The process of system alignment of company starts when the corporate headquarters creates its system BSC and the enterprise strategy map. BSC and strategy map are transmitted to other parts of the company. It is important that companies perceive their system of alignment as a cyclic process and it has a top-down bias. It should be a part of the annual governance cycle. When they are changes in the plans in some level of the company, the system should be realigned. Fig. 2 shows sequent steps of system alignment.

The aligning is divided into three parts, which are very closely related and they have a direct impact one to another. The process includes [1, p. 13-14]:

- Aligning enterprise headquarters with operating units.
- Aligning internal support and service units.
- Aligning external organizations.

Because the system BSC is used, it is necessary to align all processes through all BSC perspectives. Here it is a combination of alignment. For example, each unit should be aligning its system BSC and strategy map to next unit and specially aligning all processes in each perspective of BSC.



**Fig. 2.** The sequent steps of alignment

It is recommended to use eight alignment checkpoints for the annual planning process (Fig. 2). By using these control points, company can measure and manage the degree of alignment. The checkpoints of alignment are [1, p. 16]:

1. Enterprise value proposition: The corporate office creates the value proposition. It is important for other levels of company, which formulate their strategies.
2. Board and shareholder alignment: Shareholders monitor, review and approve the corporate strategy.
3. Corporate office to corporate support unit: The corporate strategy is changed to the practices for the support units.

4. Corporate office to business units: The corporate priorities are transmitted to the business unit strategies.
5. Business units to support units: The priorities of business units are transmitted to the support unit strategies.
6. Business units to customers: Company communicates the value proposition to its customers. Very important is their feedback. It can help to improve company's value proposition and to find some mistakes in the system.
7. Business support units to suppliers and external partners: The business unit strategies contain the priorities of suppliers and external partners. It is represented by the same sequence as by the step before.
8. Corporate support: Each business unit has got own support unit. To these units are transmitted the priorities of the corporate support units.

By managing strategy, by implementing of BSC system and by creating strategy maps is common that companies start-up new unit – office of strategy management (OSM). This unit has got its role by the work with the alignment in the company, too. It coordinates all activities within the alignment process and has got a responsibility for this process.

### **2.1. Cascade Transmission of the Alignment Process to Another Levels**

Methods of transmission can be different. Some companies start at the enterprise level and then progress to the lower level of company. Companies can start in the middle level, in all space of company or can start in one or two business units and then go with alignment up. There is no correct answer. Each company must have own method of transmission to next levels. In the following text it is described how companies can transmit their systems of BSC and strategy maps.

Homogeneous retail or geographic units as quick service restaurants, hotels and motels, bank branches and regional distribution centers are examples of the transmission alignment from up to down. The project team creates the system BSC in the enterprise level and then it is transmitted to the lower levels – to each unit. Information can be shared by the statements, newsletters, website and intranet. Each employee should get the same information as the other employees. Measures of BSC make easier a comparison of units.

Generally diversified companies start with the alignment at the level of business unit or they can start at the first level under the enterprise level. Couple of business units usually starts the process and they change information and experiences together. Then they transmit their materials and information to the other business units and to the enterprise level.

Some companies start with the alignment at the enterprise level and transmit the process up to down. Sometimes, their system of BSC of enterprise level is not complete. Business units must create their systems of BSC and then the enterprise can develop its complete system of BSC and its strategy map.

## **3. Conclusion**

The alignment is the important process for each company. When the enterprise does not cooperate with its business units and business units do not cooperate together, it can bring many problems. Each part of the company has little information and the different parts cannot change their experiences. It reduces a possibility to achieve the synergy effect and to increase the enterprise-derived value.

Companies must align their employees with the strategy. It is ineffective when all processes are aligned all processes but employees do not know the company's strategy and they are not motivated to cooperate on its implementation. Companies should communicate with their employees and should do continuing education, motivation and aligning programs.

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# Decisive Aspects of International Military Organizations Centres of Excellence Development in North Atlantic Treaty Organization

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**Abstract.** To promote transformation within the North Atlantic Treaty Organization (Alliance, NATO) nations have agreed to take advantage of national and multinational Centres of Excellence (COEs). The new NATO Command Arrangements are supported by a network of COEs which are nationally or multinationally managed and funded and open for participation by all member states. The paper describes the arrangements for NATO - accredited Centre of Excellence (COE). It covers the definition of a COE, principles, COE accreditation, and relationships between COEs and strategic commands (SCs), NATO agencies, schools, non-NATO nations, and external entities. The paper also provides suggestion of legal arrangements of COEs development.

**Keywords:** COE, NATO, participation, accreditation, principle.

## 1. Introduction

To promote transformation within the Alliance, Nations have agreed to take advantage of national and multinational Centres of Excellence (COEs) which could be offered to NATO. The new NATO Command Arrangements (NCA) are supported by a network of COEs which are nationally or multinationally managed and funded and open for participation by all member states.

The aim of this paper is to define a decisive aspects of COEs development, including guidelines on legal arrangements between the strategic commands of NATO and sponsoring Nations.

This paper describes the arrangements for NATO - accredited COE. It covers: the definition of a COE, principles, COE accreditation, and relationships between COEs and the two strategic commands, NATO Agencies, Schools, non - NATO Nations, and External Entities. The paper also provides guidance on legal arrangements.

## 2. Definition and decisive aspects of Centre of Excellence development

A COE [1] is a nationally or multinationally sponsored entity, which offers recognized expertise and experience to the benefit of the Alliance, especially in support of transformation. It provides opportunities to enhance education and training, to improve interoperability and capabilities, to assist in doctrine development and/or to test and validate concepts through experimentation. A COE is not part of the NATO Command Structure (NCS), but forms part of the wider framework supporting NATO Command Arrangements (NCA).

### 2.1. Principles of activities

The following principles apply to COE [1]:

- a. Participation.

1. Involvement in COE activities is open to all Allies. Access by Partners, other nations and international organisations to COE products and services is the responsibility of sponsoring Nations, taking into account security requirements.
  2. Manning of a COE is national and/or multinational as decided by the sponsoring Nations.
- b. Added Value and No Duplication. A COE should not duplicate assets and resources, or compete with capabilities that already exist within the NCA. One mandatory purpose of a COE is to provide tangible improvement to NATO capabilities, thereby adding value. The activities of COE shall be consistent with NATO efforts.
  - c. Resources. COE infrastructure, operating and maintenance costs are nationally or multinationally funded; COE can be manned on a national or multinational basis. Sponsoring nations are encouraged not to populate a COE at the expense of NATO billets in the NCS [2].
  - d. NATO Standards. A COE is to conform with appropriate NATO procedures, doctrines and standards. However, a COE is encouraged to suggest improvements and propose amendments to doctrines, procedures and standards as and when appropriate, for subsequent endorsement by SCs and/or NATO HQ.
  - e. Clear Relationships. Clear relationships are to be established between sponsoring Nations and the appropriate SCs through Memorandum of Understanding (MOUs) and Technical Arrangements (TAs).

## 2.2. Accreditation and further development

SACT is responsible for the accreditation process of COE and to prepare candidates for Military Council (MC) approval. Upon MC approval, an accredited COE receives final endorsement from the Council.

CENTRE OF EXCELLENCE	Accreditation
Center for Analysis & Simulation for the Preparation of Air Operations - CASPOA	YES
Civil - Military Cooperation - CIMIC COE	YES
Cold Weather Operations - CWO COE	YES
Combined Joint Operations from the Sea - CJOS COE	YES
Command & Control - C2 COE	YES
Confined and Shallow Waters - CSW COE	YES
Cooperative Cyber Defense - CCD COE	YES
Counter Improvised Explosive Devices - CIED COE	NO
Defense Against Terrorism - DAT COE	YES
Explosive Ordnance Disposal - EOD COE	NO
Human Intelligence - HUMINT COE	NO
Joint Air Power Competence Center - JAPCC COE	YES
Joint Force Training - JFT COE	YES
<b>Joint Chemical, Biological, Radiological &amp; Nuclear Defence - Joint CBRN Defence COE</b>	<b>YES</b>
Logistics Operatin Global - LOG COE	NO
Maritime Interdiction Operational Training - MIOP COE	YES
Military Engineering - MILENG COE	YES
Military Medical - MILMED COE	YES
Military Police - MP COE	NO
Modelling and Simulation - M&S COE	NO
Mountain Warfare - MW COE	NO
Naval Mine Warfare - EGUERMIN COE	YES

**Tab. 1.** Centres of Excellence with accreditation status

- a. Accreditation. To become a COE, a Centre, offered by sponsoring Nations, must be assessed against a set of MC approved criteria in order to achieve accreditation. Supreme Allied Command of Transformation for NATO (SACT) is responsible for developing these criteria, based on the principles outlined in 1.2. Upon accreditation status as a NATO organization under the Paris Protocol may be granted by the MC [2].
- b. Periodic Assessment. A COE will be screened periodically by SACT to ensure it still meets these criteria. If a COE fails to meet the appropriate criteria, SACT will recommend the necessary steps to be taken in order to regain the accreditation.
- c. Development. In his regular report, SACT identifies areas of military activity where there are gaps in expertise which existing COE should target or where a new COE might be appropriate. SACT also focuses attention on potential COE overlap and duplication so that this be avoided.

### **2.3. Relationship**

COEs are co-ordinated by SACT in a supporting network, thereby encouraging internal and external information exchange to the benefit of the Alliance. SACT's subordinate entities will participate in this network as appropriate. COEs relationship within the Alliance and beyond are as follows [3].

- a. Relationships with SCs. Clear relationships are established between the COE and the appropriate SC through agreed legal arrangements. The overall responsibility for COE co-ordination and employment within NATO lies with SACT.
- b. Relationships with NATO Agencies. Agencies already make an important contribution towards Alliance transformation. A close relationship between a COE and the appropriate Agencies is therefore desirable in order to avoid duplication of effort and to fully profit from the synergy that can be reached by working in close harmony. SACT will co-ordinate this effort.
- c. Relationships with NATO Schools. A close relationships between COE and NATO Schools (for example in the field of education, training, experimentation and concept development) is encouraged in order to ensure synergy between them to the greatest extent possible. HQ SACT plays a co-ordinating role in order to avoid the risk of duplication.
- d. Relationships with non-NATO Nations. Relationships between COE and Partnership for Peace (PfP) Nations (including Russia and Ukraine) and Mediterranean Dialogue countries are encouraged. In the context of the Enhanced and More Operational Partnership (EMOP), a COE should make use of ongoing developments, in particular in the Training Education Enhancement Programme (TEEP), which includes PfP Advanced Distributed Learning and Simulation and co-operation with PfP Training Centres. Relations with "Triple Non" Nations may be developed on a case by case basis in accordance with NATO policies.
- e. Relationships with External Entities. COEs are encouraged to establish and maintain relationships with other external entities (international organisations, industry, private companies, schools, universities, research institutes, etc.). These relationships are to be managed by (the) sponsoring Nation(s), keeping ACT informed and taking security aspects into account.

### **2.4. Legal Arrangements**

MOUs are to be established between the sponsoring Nations and the appropriate SC to ensure the activities of a COE are accredited, co-ordinated and mutually reinforcing. SACT will assume the lead on behalf of NATO for MOUs development. MOUs will define the service delivered by the COE, under what circumstances, the roles, responsibilities and lines of authority between the COE (structure) and NATO (i.e. clear relationships) [4]. The administrative arrangements regarding

manning, funding and support between the sponsor and participating nations need specification as well, but may be part of a separate MOU [5].

Technical Arrangements are to be established to amplify and provide additional details not covered in the more general MOU. Specific details on capabilities and resources offered shall be addressed in the TA, including the accreditation requirements, monitoring expectations and quality control assurance practices. Additionally, a TA shall cover specific administrative and logistic arrangements to be provided by the COE as agreed by the appropriate SC [6].

### **3. Conclusion**

Between the most important requests of NATO to action of creating and activity of COEs belong accreditation criteria approved by MC NATO, which are obligatory for all COEs without difference. The obligatory criteria for accreditation within the structure of COEs in NATO have to be continually properly observed and used in the whole supporting of individual COE. The article dealt with definition of priority criteria for accreditation within the structure of COEs, which should be claimed all the time and in the biggest of possible measure to all COEs. The periodic evaluation of all COEs within accreditation pursue SACT.

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## The Evolution of Risk Management

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**Abstract.** Every business and each person is confronting with risk every day. But what does it mean risk? People have different attitude to risk. For some it is natural self-preservation instinct, which cause that they are using all accessible resources to save them against injure or loss. If we push individual to organization, standards and rules are more complex and formalise. Because of activity complexity is risk increasing, instinctive and institutional examples of behaviour, which are base for personal risk management are not adequate and decisions are more complicated. There are many authors in our national literature dealing with risk management, but reader should have some problems with sources dealing with VAR methodology and their application in practice. This issue is widely worked up in foreign publications, concretely in publications from USA, which is birthplace of this methodology.

**Keywords:** quantification, risk management, VaR, comparison of risk methods.

### 1. Introduction

Risks are inevitable component of every business activity. In finance markets exists finance risks, which can we classify to general groups:

- **Market risk** – risk of portfolio value losses awaked with rapid changes of assets price in finance market is named market risk, whereas their existence is bound up with assets pricing in market. Sometimes is called systematic risk and is distinguished by not diversifying. Specific risk follows from concrete situation in concrete firm, market risk is influenced by macro-economic events. Market performance is influenced only by macro-economic condition, because specific (micro-economic) conditions are averaged by thousands of firms and bond paper – no influence to market performance. Specific risk is risk of firm solvency loss, market risk influence only price of bond paper ejected by firm in the market. Market risk has two forms: absolute – measured in money expression or relative – measured by relation to market average – some index. Factor which most influence to market risk value is assets volatility (the size of price movements in time about average price in portfolio assets).
- **Credit risk** – arise from the fact, that debtor is not willing or is not able to pay the liabilities. Amount of risk is exposition, which had debtor to pay (repayment of principal and loan interests, obligation outstanding payment) decreased in recovery rate. More general should be credit risk define as potential loss of market value, which will have the company providing financial sources to debtors from the credit event reason. Credit event is capability of debtor fulfil their liability which is present by market value of provide loans, changing of debtor rating, or changing of clients default possibility. There is also necessary to say that exist covering of market and credit risk.
- **Liquidity risk** – there is number of risk liquidity sorts in financial institution. To well-known grout belong:
  - Product/market liquidity risk: originate with reason that bank is not able to sell their

assets because of huge size, which are in the portfolio, it means liquidity risk is caused non-liquid market with this products.

- Cash – flow risk: originate with the reason of incapability synchronize incoming and outgoing payment, which bank has to perform. If we see the problem in portfolio optic, we are solving synchronizing of payments, which bank as order is paying in sort position case, against payments which bank get as an owner of assets – long position.
- **Operational risk** – risk of direct (indirect) losses, which were originated because of inadequate or incorrect internal process, system, human resources behaviour or because of external occasion. In the past were operate risks calculated in the base of expert speculation and there were not integrated quantitative instruments to measuring this risks. Nowadays we can use sophisticated quantitative instruments for measuring of these types of risks.
- **Legislative risk** – is very nearly bound up with credit and operational risk. This type of risk rise, if the debtor, which loss money from transactions, which interpose the bank, want to avoid to payment of transaction in the base of searching mistakes in agreement through law base. Legislative risk rise also in that case, if exists indication, that debtor do not have competency to enter to the arranged business. This instruction file can be used as a template for participants who use MS Word for manuscript preparation. All the authors are asked to prepare their papers in compliance with the following guidelines.

## 1.1. The Evolution of Analytical Risk Management Tools

Risk management takes important place from the long history to today. It was developing from basic theories to modern sophisticated models. Development steps are:

- 1938: Bond duration
- 1952: Markowitz mean-variance framework
- 1963: Sharpe' s single-factor beta model
- 1966: Multiple factor models
- 1973: Black-Scholes option-pricing model, “Greeks”
- 1983: RAROC – risk adjusted return
- 1986: Limits on exposure by duration bucket
- 1988: Limits on “Greeks”
- 1992: Stress testing
- 1993: Value at Risk
- 1994: RiskMetrics
- 1997: CreditRisk
- 1998: Integration of credit and market risk
- 2000: Enterprisewide risk management.

## 2. The Risk Management Revolution – Value at Risk (VAR)

Risk management made very important revolution meanwhile last few years. This revolution was started with VALUE at RISK method, new method for finance market risk measuring, which was develop as answer to finance disasters from the beginning of nineties. During this time the VAR methodology was broaden to derivatives and totally changed movement and approach of institutions to financial risk. In the beginning was method used only for measuring market risk, but nowadays is using for active control and managing of risk. VAR methodology helps us in credit and operational risk measuring.

VAR method has origin in non-famous financial disaster in the early nineties. The basic lesson is that billions of dollars should be lost because of low control and managing of risk. VAR is method for valuating of risk, which is using standard statistics process. These can be used often in other brands. Simplified told VAR summarize the worst possible loss, which do not overcome assigned probability level. For instance bank should say that daily VAR of their portfolio is 50 million dollars with the 99 per cent probability. In the other hand said there is only one chance from one hundred that loss will be higher than 50 million dollars. This one number substantiates exposure of bank to market risk, as well as the possibility of adverse movement. Shareholders and managers should than make decision if they have save felling with this level of risk. If the answer is no, than is possible to use VAR methodology to decision, where should be the risk decreased.

In comparison to traditional methods to risk measuring, VAR provides overall view to portfolio risk. VAR is not applicable only for derivatives, but also to financial tools and there is possibility to use this methodology also in other types of financial risk (not only in market risk).

### **3. VAR methodology in Practice**

VAR methodology should use practically every institution, which is exposure to financial risk. We could divide application of VAR methodology to following approaches:

- Passive – information messages: first application of VAR is to measuring total risk. VAR should be used to inform management about risks of commercial and investments operations, also tells to shareholders about financial risk of corporation in non-technique, basic terms.
- Offensive – control of risk: next step for using VAR is specifying of limits for business and entrepreneurial subjects. The advance of VAR is that creates simply denominator with which is possible to compare risk activities in diversify markets.
- Active – risk managing: VAR is by increasing volume use in allocation of capital through business and enterprise units, products and actually whole institution. This process begins in risk adjusted earnings. Risk-adjusted performance measures – RAPMs automatically correct stimulus for merchants to risk based on obtaining of future higher profits. VAR methodology should also help to portfolio managers make better decisions by supply of comprehensive view of business influence to portfolio risk. In the end helps to make better value added for shareholders.

VAR became important part in decision making process for institutions in worldwide view for example:

- Financial institutions: banks with huge amount of portfolios became avant-garde in risk management implementation. Institutions, which are working with many sources of financial risk and difficult tools, are implementing centralized system of risk management. Those which do not implement systems of centralized risk management are exposure to expensive fails.
- Regulators: the regulation of financial institutions requires the maintenance of minimum levels of capital as reserves against financial risks. The Basel Committee on Banking Supervision, the U.S. Federal Reserve, the U.S. Securities and Exchange Commission and regulators in the European Union have converged on VAR as a benchmark risk measure. Because VAR provides a risk-sensitive measure of risk, it helps to deal with moral-hazard problems that are so prevalent in financial markets.
- Nonfinancial corporations: centralized risk management is useful to any corporation that has exposure to financial risks. Multinationals, for instance, have cash inflows and outflows

denominated in many currencies and suffer from adverse currency swings. Cash flow at risk analysis can be used to tell how likely it is that a firm will face a critical shortfall of funds.

- Asset managers: individual investors are now turning to VAR to manage their financial risk.

VAR has also impact to Asia crisis. Interpretation tells about it that a crisis was exacerbating by blind and low practice risk management of financial institutions. If theory is accurate, VAR systems should help.

## 4. Conclusion

VAR has also many critics. In second half of nineties assumed that if the VAR systems would be implemented in banks and others institutions, they should prevent to big losses and tension in financial markets. Critics of VAR dispute that in institution fail risk managing and critical situation would uncover also others instruments for risk measuring. VAR has also disadvantage that in using same methods is possible to calculate different results – if the difference is in implementation of VAR method calculating, are using different risk factors, in different time period, etc. VAR opponents argue especially not realized assumptions, which are necessary in calculating.

## Acknowledgement

Príspevok je výstupom vedeckého projektu VEGA 1/0357/11 KLIEŠTIK, T. a kol: Výskum možnosti aplikácie fuzzy-stochastického prístupu a CorporateMatrics ako nástrojov kvantifikácie a diverzifikácie podnikových rizík

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## Definition and History of Social Network Sites

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**Abstract.** Social network sites are attracted increasing attention not only of current users, but also of academics and industrial research. In the last 5 years dozens of new and interesting concepts of social network sites appeared. At present there more than 175 of social network sites. In this article I would like to describe the features of social network sites, define clear definition of social network sites and present one side of the history of the social network sites.

**Keywords:** Social network sites, social networking, internet, features of the social network sites, history of social network sites.

### 1. Introduction to social network

While social networking has gone on almost as long as societies themselves have existed, the unparalleled potential of the Internet to promote such connections is only now being fully recognized and exploited, through Web-based groups established for that purpose.

Social networking is all about communication. Social network sites have attracted millions of users. During of writing of this paper, there are more than 175 of social network sites. People with varies interests are able to share information with each other via a huge variety of social networking sites, sites created specifically to make sharing, communicating, and creating information in real time.

Social network sites are used not only by current users, but also by academics and researchers. Specific social network site could be used by academics and researchers to solve their research activities. The senior researchers, young researchers, PhD students can create their own online "profile" with biographical data, research activities, pictures and any other information they choose to post. They communicate with each other by making their latest thoughts public in a blog-like format or via e-mail, instant messaging, voice or videoconferencing to selected members.

Social network sites are also used by teachers and students as a communication tool. Many students are already using a wide-range of social networking sites. Teachers have begun to familiarize themselves with this trend and are now using it to their advantage. Social network sites are also being used to foster teacher-parent communication. These sites make it possible and more convenient for parents to ask questions and voice concerns without having to meet face-to-face.

### 2. Definition of social network sites

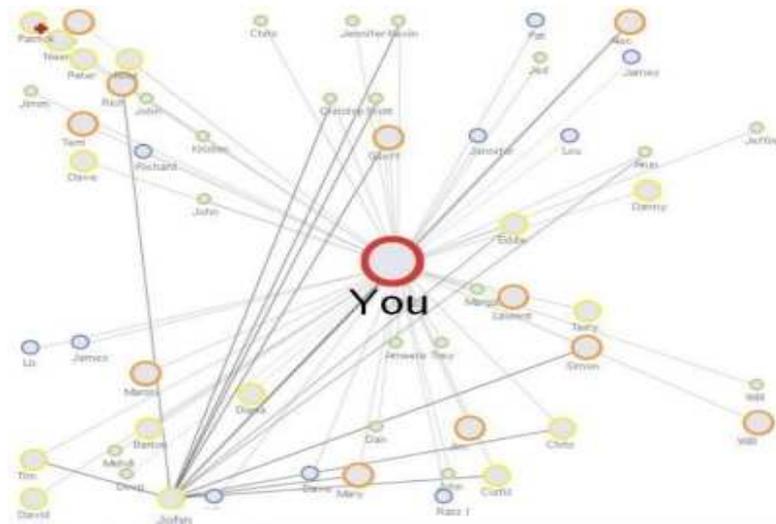
The term "Social network sites" was first coined by Professor J. A. Barnes in the 1954, who defined the size of a social network as a group of about 100 to 150 people [1].

Dr. Craig Calhoun, president of the Social Science Research Council and University Professor of the Social Sciences at New Your University defined social network sites in 2003 like:

*"Looking at informal, transient forms of association, such as the flow of gossip, the mobilization of social movements and political campaigns, and the maintenance of patron-client relations. Such networks are groups of persons who do not necessarily know each other or share anything outside the organizing criteria of the network" [2].*

I define the social network sites as a social structure consisting of nodes and ties. Nodes in the social network are the people, organizations, groups and the ties are the relationships between them. Simply said, a social network is a map of specified ties, such as friendship, between the nodes being studied.

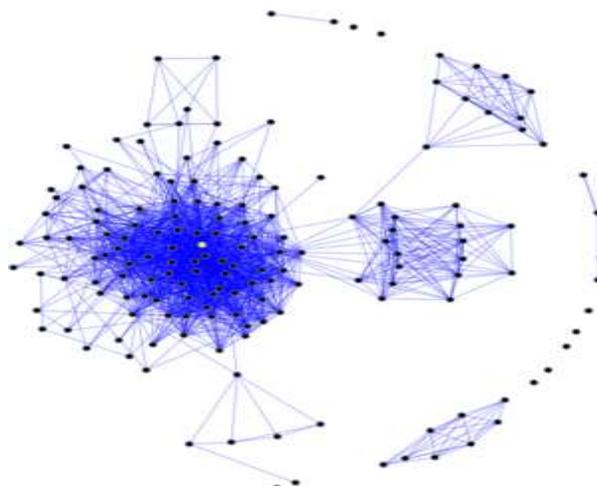
As you can see at the figure 1, the graph of the social network is often very complex. There can be many kinds of ties between the nodes. Research in a number of academic fields has shown that social networks operate on many levels, from families up to the level of nations, and play a critical role in determining the way problems are solved, organizations are run, and the degree to which individuals succeed in achieving their goals.



**Fig. 1.** Example of individual - person al social network

Facebook offers a tool for visually mapping your social connections, and low and behold, it is called the social graph (Fig.2). This app was created to provide users with a clear illustration of their relationships and the interconnections of their wider social graphs. The Social Graph tool was developed at MIH Swat Labs, a research and development branch of Naspers, a leading multi-national media group in South Africa.

The program began as an experiment which developers liked so much they made it available on Facebook. Swat's chief technical officer Jacques Van Niekerk said that one day they had been surprised to find the social graph application's usage had increased tenfold- as Facebook founder and CEO Mark Zuckerberg was using the program and prompting many others to do the same [3].



**Fig. 2.** Example of using the facebook tool for visually mapping of the social connection

### 3. Typical structure of social network sites

#### 3.1. Conventional features

Social networking sites tend to share some conventional features. Most of the social network sites usually offer following features:

- Individual users are encouraged to create profiles containing various information about themselves.
- Users can often upload pictures of themselves to their profiles.
- Users can post blog entries for others to read.
- Users can search for other users with similar interests.
- Users can compile and share lists of contacts.
- User profiles often have a section dedicated to comments from friends and other users.
- To protect user privacy, social networks usually have controls that allow users to choose who can view their profile, contact them, add them to their list of contacts, and so on.
- In recent years, it has also become common for a wide variety of organizations to create profiles to advertise products and services. [4]

#### 3.2. Additional features

Some social network sites have additional features. For example:

- Ability to create groups that share common interests or affiliations.
- Upload or stream live videos.
- Hold discussions in forums.
- Geosocial networking co-opts internet mapping services to organize user participation around geographic features and their attributes.
- There is also a trend for more interoperability between social networks led by technologies such as OpenID and OpenSocial.
- Mobile social networking has become popular. In most mobile communities, mobile phone users can now create their own profiles, make friends, participate in chat rooms, create chat rooms, hold private conversations, share photos and videos, and share blogs by using their mobile phone. Some companies provide wireless services which allow their customers to build their own mobile community and brand it, but one of the most popular wireless services for social networking in North America is Facebook Mobile [5].

### 4. History of social network sites

The first recognizable social network site was SixDegrees.com. SixDegrees launched in 1997. Of course some of the similar dating sites and community sites existed before SixDegrees.

For example on most dating sites and community sites the users were able to create the profiles. AIM and ICQ buddy lists supported lists of friends, although those friends were not visible to others. On another way, Classmates.com the users could affiliate with the colleagues from their high school or college and surf the network for others who were also affiliated, but they could not create profiles or list friends.

Only SixDegrees allowed users to create profiles, list their friends and surf the friend's lists. This social network site was first able to combine all these features.

The SixDegrees failed to become a sustainable business although attracted millions of users. In 2000 closed the service.

From 1997 to 2001 began number of social network sites. AsianAvenue, BlackPlanet, and MiGente allowed users to create personal, professional and dating profiles.

The Korean virtual worlds site Cyworld was started in 1999 and added social network sites features in 2001, independent of these other sites.

In 2001 launched the social network site Ryze.com to help people leverage their business networks and the new wave of social network sites began. Behind Ryze, Friendster, Tribe.net and LinkedIn were tightly entwined personally and professionally. LinkedIn became a powerful business service.

The most popular social network sites like MySpace, YouTube, Facebook, Twitter and many others launched from 2003 to 2006.

The most popular and oldest Slovak social network site is Pokec.sk. The Pokec.sk launched in 1999. In 2007 were registered around 10 million users [6]. It's very interesting when you considered that Slovak Republic has got about 5.5 million inhabitants.

Like any brief history of a major phenomenon, is necessarily incomplete.

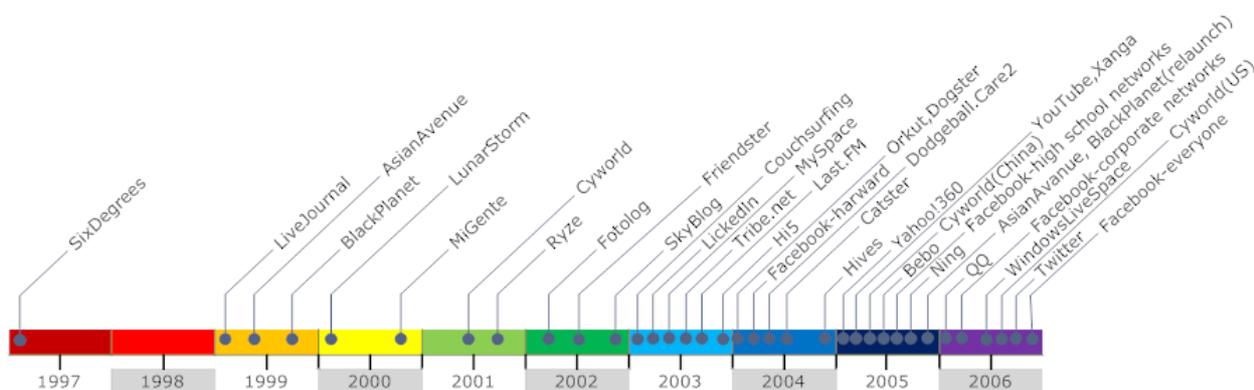


Fig. 3. Timeline – launch dates of major social network sites

## 5. Conclusion

The paper points to the significance of social network sites for the users and as a topic of research. Academic researchers have started studying the use of social networks sites. The paper deals with the short introduction to social network, defines definition of social network sites and focuses on the conventional and additional features of social network sites. The paper also presents a brief history of social network sites.

In my future research I would like to focus on, how could be social network sites effectively used by researchers to help them solve their research activities.

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## Robotic Workplace Design for Assembly

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**Abstract.** Industrial robots are currently used primarily by handling operations, by operations of coupling between which we classified welding, soldering, bonding and for application of protective coatings on parts, as well as in assembly. Automation of assembly operations, priority depends on the individual components making up the assembly of the product, because of their quantity, quality, design, technology and other features affect the implementation of the assembly. Even before the design of the workplace must we subordinate to analysis the assembled component, which define the possibility to implement the industrial robot in to the assembly process. To speed up the standardization process and design of assembly workstations could keep use of intelligent system.

**Keywords:** Robot assembly, Industrial robots, workplace design, intelligent systems, process simulate

### 1. Introduction

The current development of automation in manufacturing and non-production processes shows that robotic devices still remain a fundamental part of the development of automation of these processes. The main causes that affect the development of robotics are especially productivity growth and the associated competitive, of work humanization and creating conditions for rapid change of production. Currently represents robotic devices fully developed technical systems that are normally deployed for production systems in industry and extending their application to non-productive and non-industrial sectors and begin their dynamic penetration into service activities. Current production of robotic devices has achieved a high technical level, further increases in the range of the impact of continued development of their subsystems, but also the extent of functional innovation mechanism principles and elements involved in the architecture and morphology of these devices. [1]

Industrial robots are currently used primarily by handling operations, by operations of coupling between which we classified welding, soldering and bonding, as well as for application of protective coatings on parts. Very important and at the same time one of the most difficult areas of use of industrial robots are for assembly operations. For these activities are placed on industrial robots very specific requirements, and therefore in the wider industrial scale are beginning to promote in recent years.

#### 1.1. Assembly

Assembly can be defined as a set of different activities, through which is from individual components created a functional unit. With a decisive manner influence not only the quality and reliability of products, but also for continuous production, productivity and efficiency of the system. Assembled product is analyzed in terms of its division into assemblies, and sub-components. Machines and equipment represent the system of components, whose relative position is defined by ties (connections). In terms of assembly is advantageous to consider the product as a system with the following structure: [2]

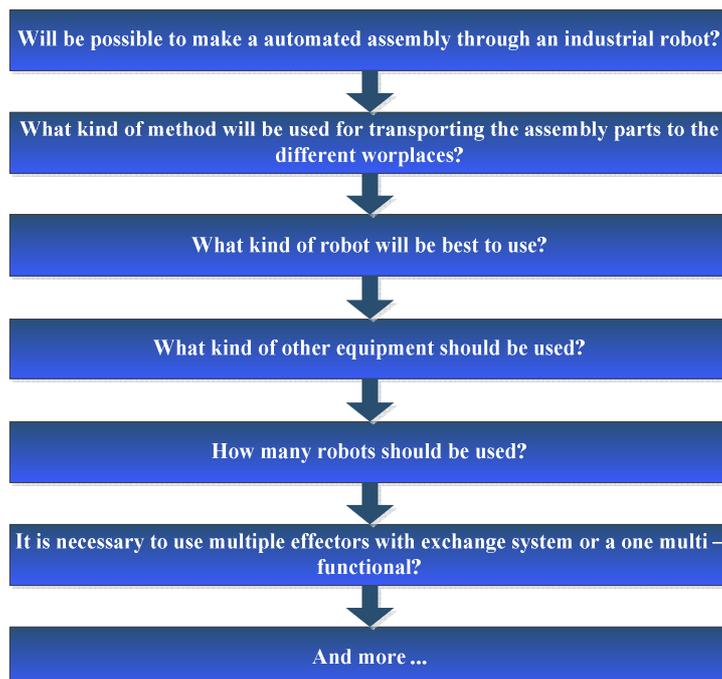
- **Component** is the initial article of assembly, it is an element constituting the non-releasing whole, for example shaft, gear, engine block and below.

- **Subassembly** is a unit formed by combining two or more parts, no matter what kind of connections it contains.
- **Mounting** is a separate assembly entity, which in conjunction with other assembly's components creates a product (machine, equipment, etc.). Mounting is set of components or subassemblies. Assembly independence resulted from the technological excellence of assembly and allows the assembly of other parts of the machine (engine, gearbox).

Automation of assembly operations, priority depends on the individual components making up the assembly of the product, because of their quantity, quality, design, technology and other features affect the implementation assembly. But not all Assembly applications can be used as a robot performing member of assembly operations. They are activities where a greater number of asymmetrical components with complicated shape can be found, where it is necessary to define the exact location of individual components in the assembly itself. All applications, in which are used industrial robots, are very limited carrying capacity, and also the manipulative skills of the robots. For robot interaction with the manipulation subject, respectively. to realization a technology in terms of robot applications are used so. effectors, which represent functional ending of the robot. Effector is a functional robot subsystem that according the character and requirements of the application specifies the uses of robot action mechanism. [1]

## 2. Workplaces design

Design of robotized workplaces for assembly operations is very difficult for various respects. In consideration of the wide range of components entering the assembly process and the large number of assembled products can be assumed that each robotized workplace will be a unique to a particular type of assembly operation. However, a certain similarity between workplaces could we recorded, particularly in the assembly solution of components with same shape, or similar assembly operations. For this reason, we can use by design elements of group technology. The basic principle of group technology is relatively simple and based on the classification and linking similar components or processes so that they can be more efficient to work during all phases from design through evaluation and planning to actual production. Before the design it is necessary to answer several questions. (Fig. 1.)



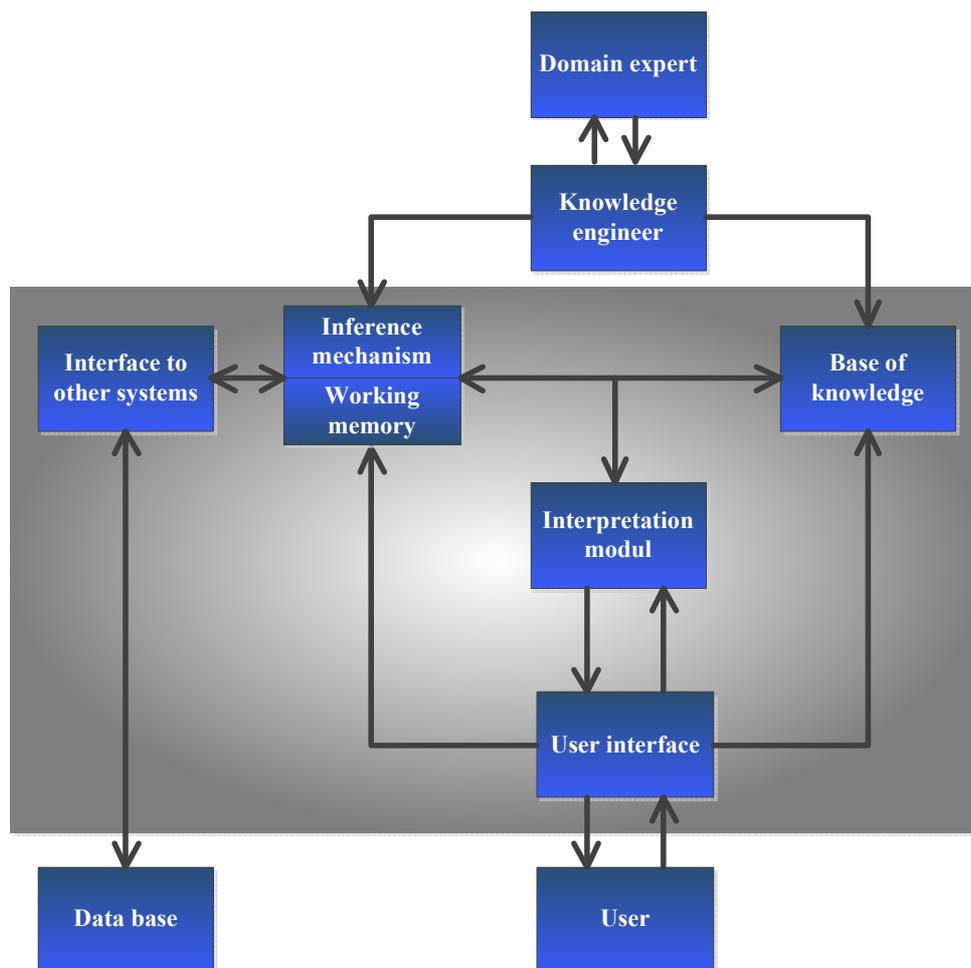
**Fig. 1.** Necessary question before design a robot workplace.

Even before the design of the workplace must we subordinate to analysis the assembled component, which define the possibility to implement the industrial robot in to the assembly process. In addition to the robot as a majority execute key member its necessary by the automatic assembly to use other peripherals devices, which use will be depend on the particular application. This includes devices such as effectors, conveyors, sensors, industrial cameras, and many others. Especially these devices have experienced high recent of development, consequently it is possible to automate more complex operations.

## 2.1. Intelligent systems

To speed up the standardization process and design of assembly workstations could keep use of intelligent system. Artificial intelligence tries to model cognitive processes. The aim of AI is to imitate various human abilities such as problem-solving. Today we know several intelligent systems for solving various complex problems. However, by the decision which specific devices to use such as best phenomena is the use of expert system.

Expert system is an application program or system of cooperating programs that decides or resolves problems in some specialized field of using knowledge and rules defined by experts from the field. Expert systems are created for solving cognitive problems at the expert level. These are also issues for which there are no known solving algorithms. Algorithms embodied in expert systems complying with the general methods suitable for search solving procedures. [3] Figure 2 shows the architecture of extended expert system.



**Fig. 2.** Extended expert system architecture [4]

After the expert system through basic question set by knowledge base defined devices necessary for realization of assembly operations it is possible to design the spatial solutions.

## 2.2. Modeling and simulation

In designing of spatial solution is appropriate to use the 3D modeling environment, which can thereafter create also simulation. The advantage of such a process design is to eliminate the risks arising from the introduction and implementation of such a system into an enterprise in which the devices work. Most simulation programs for industrial robots includes its own 3D modeling environment, which can be modeled their own objects, or use the libraries included in the simulation program. [5]

In the modeling environment is thereafter possible to edit individual deployment of components so that thereafter the whole installation process as efficient as possible. Individual objects can then be used in the simulation itself.

Upward trend in the use of industrial robots also caused the development of systems providing access to the simulation in this environment. This situation was caused by the increase in applications of industrial robots in industry, which estimated the number could be achieved in 2011 by IFR (International Federation of Robotics) value 1,136,000<sup>th</sup>. [6] Systems allowing design in the virtual reality environment can be divided into several groups. Most of assembly operations can be classified among the most difficult and complex manufacturing operations, it is therefore necessary to take it if we decide to create simulations that allow these assembly operations, as also the activities of other peripheral devices to simulate. For the proposal itself of spatial solution are not so demanding these rights.

## 3. Conclusion

The field of automation of assembly operations is complicated for several reasons. Between the major we could include a high diversity of individual components entering the assembly, the complexity of some of assembly operations etc. The advent of new technology such as industrial cameras, sensor systems and powerful control of robots, can be implemented into ever more complex assembly operations. Using intelligent systems for the selection of equipment could be simplify and accelerate the own process. In this respect, it appears the most appropriate use of intelligent expert system which could define various equipment needed, for a particular assembly operation. Spatial resolution of the workplace is appropriate to create in the modeling environment allowing rapid change and modifications layout design, including the possibility of creating a simulation that can be used to verify all the activities in the phase of solution.

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## Nature and Presentation of Bankruptcy Costs in Accountancy

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**Abstract.** Developing accountancy ideas should include records of total bankruptcy cost in financial statements. The goal of such presentation is to avoid false expectations and unexpected market response due to lack of provided information. Financial statement of bankruptcy cost should identify and classify such costs. User of such information will be able to evaluate the influence of bankruptcy cost on total cost and income presented in financial statement.

**Keywords:** cost of bankruptcy, bankruptcy, profit and loss statement.

### 1. Introduction

Modern rules of market economy and necessity of making difficult economical decisions result in constant rise in the demands on the content and quality of financial statements. The demand aiming at improving the quality of statements also requires information on unusual stream flow in economic activity to be provided in a faster manner. It would be appropriate to include the problems of risk, financial difficulties and even bankruptcy itself in a numerical image of history and result of economical activity drawn up by accountancy.

Developing accountancy ideas should include records of total bankruptcy cost in financial statements. The goal of such presentation is to avoid false expectations and unexpected market response due to lack of provided information.

Financial statement of bankruptcy cost should identify and classify such costs. User of such information will be able to evaluate the influence of bankruptcy cost on total cost and income presented in financial statement.

### 2. Bankruptcy cost in regard to current law

The bankruptcy and reorganization law act incorporates court fees and other expenses necessary to reach the proceeding goal into bankruptcy proceeding cost ( art. 230, par. 1 of the bankruptcy and reorganization law). Expense stands for expenditure of cash. Not all expenses can be qualified as costs, but every cost means expenditure. All expenses which have not turned into tax deductibles undergo capitalization, meaning they are shown in balance. Capitalized costs become tax deductible with their sale and clearance. Art. 230, par. 1 of the bankruptcy and reorganization law does not make it clear, since it is written in such a way that is possible to make an assumption that expense entails cost clearance, but bankruptcy cost can be cleared out sooner and it entails expense as stated in par. 2 and 3 of the bankruptcy and reorganization law. Law imposes separation of notions into expenses and bankruptcy proceeding costs. It means that occurring bankruptcy costs should be treated as expense, but there is a possibility of time span between cost and expense. Subsequently, art. 230 of the bankruptcy and reorganization law became imprecise because of incorporation of the word 'expense' in paragraph 1 of the aforementioned article.

Accountancy in bankruptcy proceedings is conducted upon Accountancy Act and art. 6 of this Act is superior in regard to cost clearance. As a result, art. 230, par. 1 of the bankruptcy and

reorganization law should state: 'bankruptcy proceedings costs include court fees and costs necessary to reach the goal of these proceedings'.

Bankruptcy costs appear before bankruptcy process. They can incorporate costs that are directly connected to appearance of difficult financial situation. These may be:

- costs of interest on past due payments
- costs of agreement renegotiation
- costs of law counseling
- costs of pledge assets evaluation
- costs of active assets loss due to their sale
- other costs, for example court and bailiff
- costs of changes in agreements

Apart from that, costs prior to bankruptcy process can also include so-called indirect costs, also known as bankruptcy costs which consist of :

- contract costs resulting from investment changes
- loss of sale and profit
- costs of financial restrictions imposed on enterprises which have difficult financial situation
- loss resulting from other companies lack of willingness to cooperate with such an enterprise
- reduction in standards of work
- costs resulting in depreciation of management professional prestige- managers are said to run the company in a wrong way.

Most important bankruptcy costs appear when a continuity of actions rule is disrupted- that is in bankruptcy process itself. Then, bankruptcy costs can be divided into:

- costs prior to bankruptcy, so-called symptomatic costs that incorporate aforesaid direct and indirect costs of bankruptcy
- costs of bankruptcy proceedings which incorporate:
  1. preparation costs
  2. court proceedings costs
  3. bankruptcy proceedings costs

a) Receiver office administrative costs

- fees and overhead
  - o receiver and overhead
  - o board of creditors
  - o receiver's employees
- costs of announcements

b) Liquidation costs

- employee fees (including reimbursement and severance pay)
- property evaluation costs
- bidding costs
- law and civil costs
- interest costs
- Bailiff's costs
- other bankruptcy costs

Bankruptcy costs can be perceived through various profiles. Apart from their profile, rules of costs classification should remain the same. To divide these costs, a system of connections between costs and bankruptcy process area can be used. Thus, the following can be distinguished:

- bidding costs
- employee fees (including overhead, reimbursement and severance pay in regard to termination of work agreements)
- costs of penalties, reimbursements and fines
- taxes
- bailiff fees

- permanent value loss deductions due to sale of assets
- permanent value loss of resources deductions due to sale of resources
- employee fees paid by Employment Fund , not included in running costs before announcement of bankruptcy
- Bankruptcy administrative costs
  - Receiver’s salary, board of creditors salary , employees hired by the receiver to conduct bankruptcy salary, announcements costs, court fees
  - other Receiver’s Office costs
- costs of bankruptcy activity including debt interest
  - court interest , administrative costs, investment value loss due to sale of investment
  - other financial costs

Judging from the aforementioned, bankruptcy costs can be defined as probable economic gain reduction of credible value, resulting in weakening of company's financial status and connected with appearance of additional charges which determine the following bankruptcy process as reduction of assets value or increase of obligations or reserves.

### 3. Analysis and presentation of bankruptcy costs

Tool that best describes and classifies bankruptcy costs is called the profit and loss statement.

Incorporation of bankruptcy costs statement in an enterprise enables to make financial statements more accurate through means of reflecting bankruptcy costs which take part in: running costs, other operational costs and financial costs.

Table 1 presents financial statement incorporating costs of bankruptcy in an enterprise.

<b>Specification</b>
A. Net income from sale and joint enterprises
I. Net income from product sale
II. Change of product status
III. Cost of product manufacturing for enterprise needs
III. Net income from sale of goods and materials
B. Running costs
I. Depreciation
II. Material and energy consumption
III. Outsourcing
IV. Taxes and deductables
- excise tax
V. Salaries
VI. Social security and other expenses
VII. Other expenses
VIII. Value of products and materials sold
<b>B.I. Basic activity bankruptcy costs</b>
<b>1. Receiver’s salary, salaries of receiver’s employees and employees hired prior to bankruptcy announcement</b>
<b>2. Receiver’s office costs</b>
<b>3. Data archive</b>
<b>4. Cost of press announcements</b>
<b>5. Taxes and notary fees</b>
<b>6. Social security and other expenses</b>
<b>7. Evaluation and security of property</b>

<b>8. Other basic activity bankruptcy costs</b>
C. Profit (loss) from sales (A-B)
D. Other activity income
I. Profit from sale of non- cash assets
II. Grants
III. Other financial income
E. Other activity costs
I. Loss from sale of non- cash assets
II. Update of non-cash assets value
III. Other matters
<b>E.I. Remaining activity bankruptcy costs</b>
<b>1. Court proceedings costs</b>
<b>2. Dismissal reimbursements</b>
<b>3. Property liquidation costs</b>
<b>4. Assets value loss</b>
<b>5. Other activity bankruptcy costs</b>
F. Profit (loss) from running activity
G. Financial income
I. Dividends and income share including income from:
- joint enterprises
II. Interest, including interest from:
- joint enterprises
III. Profit from investment sale
IV. Investment value update
V. Other matters
H. Financial costs
I. Interest, including interest from:
- joint enterprises
II. Loss from investment sale
III. Investment value update
IV. Other matters
H.I. Bankruptcy financial costs
I . Past- due interest
I. Profit (loss) from running business activity (F+G-H)
J. Result of an exceptional occurrence (J.I.-J.II.)
I. Exceptional profit
II. Exceptional loss
K. Gross profit or loss (I+/-J)
L. Income tax
M. Other mandatory decrease in profit ( increase in loss)
N. Net profit and loss (K-L-M)

**Table 1.** Profit and loss statement including bankruptcy costs of an enterprise

Source: S. Sojak, M. Trojanek, *Rachunek kosztów upadłości*, [in:] S. Sojak, *Założyć firmę i nie zbankrutować- studia przypadków*, Difin, Warszawa 2010, p. 101-103.

Incorporating bankruptcy costs in profit and loss statement would not interfere with the rules of creating such statement, on the other hand it could be of crucial value in presenting information to users.

Implementing a bankruptcy costs statement in an enterprise enables to create an accurate specification of incurred costs, including bankruptcy costs.

Moreover, implementation of bankruptcy costs statement when suitable conditions occur enables to undertake certain countermeasures to prevent bankruptcy, and when such a thing happens, it would also ensure the incurred cost be at lowest level possible and liabilities be satisfied at highest level possible.

Knowledge of economical content of each portion of enterprise costs statement enables to analyze information it provides. Analysis of costs statement means interpreting each of its elements, thorough evaluation of changes and proportions of these elements and exact establishment of what these changes may mean and how they affect the enterprise financial economy. This analysis should include comparative evaluation and costs structure analysis. Comparative evaluation consists of establishing and overall evaluation of growth or decline in costs of each element. On the other hand, structural analysis leads to establishment and evaluation of how each of the elements affects the whole structure.

Financial analysts are seeking right and credible ways of evaluating and measuring bankruptcy costs which could sooner indicate the right moment to undertake corrective actions in order to avoid all of the costs mentioned above, let alone bankruptcy itself.

Development and implementation of financial indexes which could reflect the build-up of bankruptcy costs and actual financial status is a very serious problem in enterprise management.

Having made the right decision in choosing the types and construction of indexes, an enterprise is able to receive proper image of its financial status. These indexes may be:

1. bankruptcy costs/assets
2. liabilities / total assets
3. bankruptcy costs / fixed assets
4. bankruptcy costs / total costs
5. bankruptcy costs / current assets
6. costs of bankruptcy / liquid assets
7. bankruptcy costs / total revenues
8. costs of bankruptcy / financial result (profit, loss)

Growing bankruptcy costs are inexpedient for an enterprises. This is why their amount should be monitored to ensure the enterprise is able to undertake corrective action preventing these costs from growing.

Apart from that, financial statements are the basic source of information and evaluation of an enterprise. Financial statements include only selected indexes in a short form, in contrary to detailed data.

Enterprise analysis including bankruptcy costs in selected indexes enables to reflect their influence on an economic entity and make bankruptcy process visible.

#### **4. Conclusion**

Risk and lack of certainty have become everyday features of modern competition. It is thus necessary to foresee future, own potential and possibilities. It requires an enterprise to create a suitable information system which is necessary for proper management. Accountancy being one of the information sources is an important element of such a system. It is information that decides about success of an enterprise in market economy. Information is the key in making decisions. It is information that can lead an enterprise to success, and, on the other hand, it also is information that can ruin an enterprise.

Integrating bankruptcy costs into the profit and loss statement does not affect the principles of creating this report. What is more, it may be of significant value to the users. Information concerning bankruptcy costs should also appear in an additional information and explanations report.

Implementation of bankruptcy costs account into the profit and loss statement would require right economical knowlegde and precise interpretation of enterprise costs.

A significant aspect of creating and running a profit and loss account including bankruptcy costs would be to point out costs directly and indirectly connected with bankruptcy out of basic selection of costs.

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# **Benefits and Barriers of Financing Projects with European Funds Exemplified by Experiences of Polish Entrepreneurs of Kujawsko-Pomorski Region**

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**Abstract.** Poland has been granted over 85.6 billion of Euros as European aid for the years 2007–2013. Poland has been a major beneficiary of the European funds among the “new” member states of the European Union, and the entrepreneurs are supported within the Operational Programmes framework. The main aim of the article is to present views and opinions of Polish entrepreneurs of the Kujawsko-Pomorski region regarding both viable benefits and occurring barriers of projects financed with the European funds.

**Keywords:** European funds, European funds for entrepreneurs, operational programmes EU for entrepreneurs, benefits and occurring barriers of projects financed with the European funds.

## **1. Introduction**

Poland has been granted over 85.6 billion of Euros as European aid for the years 2007 – 2013. It comprises almost 1/5 of the total amount earmarked for the Cohesion Policy of the European Union for the years 2007–2013. The funds shall be utilized by Polish enterprises, local governments, non-governmental institutions and other entities. Subsidies received from the European Union constitute non-returnable financial aid granted from the public funds to various organisational and legal entities, which may support financing a particular activity as well as their day-to-day operation. Thus, the funds may be earmarked for the purchase of some tangible assets, application of novel technologies, planning and implementation of quality management systems, improvement of staff’s professional skills as well as for other ventures.

The main aim of the article is to present views and opinions of Polish entrepreneurs of the Kujawsko-Pomorski region regarding both viable benefits and occurring barriers of projects financed with the European funds.

## **2. European Funds for enterprises in the financial framework for the years 2007 – 2013**

For the years 2007–2013 Poland has been granted of more than 85.6 billion of Euros as European aid and that includes:

- €67.3 billion allocated from EU budget,
- €11.9 billion allocated from domestic public funds (including circa €5.93 billion from the state budget),
- about €6.4 billion to be allocated from private business entities.

Poland has been a major beneficiary of the European funds among the „new” member states of the European Union and the aid for entrepreneurs has been granted within Operational Programmes. The detailed division of the structural funds and Cohesion Funds in Poland in reference to particular operational programmes is as follows:

Programme	Financial resources (€)	Financial resources (% of the total amount)	Source of financing
Operational Programme Infrastructure and Environment (OPI&E)	27.9 billion	41.9%	European Regional Development Fund (ERDF), Cohesion Fund
16 Regional Programmes (ROP)	16.6 billion	24.9%	ERDF
Human Capital Operational Programme (HCOP)	9.7 billion	14.6%	ESF
Innovative Economy Programme	8.3 billion	12.4%	ERDF
Operational Programme Development of Eastern Poland (OP DEP)	2.3 billion	3.4%	ERDF (including €992 million granted by the European Commission)
Technical Assistance Operational Programme (TAOP)	0.5 billion	0.8%	ERDF
European Territorial Cooperation Operational Programme	0.7 billion	1.12%	ERDF

**Table 1.** Division of Structural Funds and Cohesion Fund according to operational programmes.

**Source:** own work based on *National Strategic Reference Framework 2007 – 2013* supporting economic growth and employment, Ministry of Regional Development, Warsaw 2007, p.115

The remaining financial resources within both structural funds and Cohesion Fund are earmarked for the creation of national performance reserve (2% of the total value of the allocation, i.e. €1.3 billion).

Each particular name of the programme immediately suggest their purpose. The general assumption has been that each programme defines specific goals, means of their achievement, viable to finance costs and the scope of operation, beneficiaries (recipients of the operations) and the implementing entities (institutions and organizations which are eligible to apply for financing) [1]. Moreover, the inclusion of the European funds into the state budget as budget revenues constitutes a principle amendment in the financial framework for the years 2007 – 2013 [2].

All projects financed with the means of the European funds must bear an added value, i.e. produce additional results, such as changes in the technological process, innovative operation, rendering novel services or offering uncommon range of products or creation of new workplace. Additionally, the enterprises may be granted subsidies to co-finance the ongoing projects in the form of reimbursements or advance payments.

National Cohesion Strategy (NCS) for the years 2007 – 2013 (National Strategic Reference Framework) sets forth the directions and the amount of the financial support earmarked for the implementation of development processes on the part of the European Funds. It is a strategic document stipulating the priorities and areas of utilisation as well as the methods of implementation of the European Regional Development Fund, European Social Fund and Cohesion Fund in Poland within the European Community budget for the years 2007 – 2013. According to NCS, creation of favourable conditions for the Polish economy competitiveness increase based on know-how and entrepreneurship, providing employment growth and increase of the level of social, economic and special development cohesion, constitute strategic objectives.

### **3. Benefits and barriers of financing projects with the European Funds in the opinion of entrepreneurs of Kujawsko-Pomorski region**

Co-financing of the project implementation with the means of European funds involves numerous benefits. The primary benefit is the fact that subsidies constitute additional lucrative source of financing for enterprises, which enables them to accomplish an investment at a significantly lower cost than if they utilised other sources such as a credit or a lease. Such financial means which need not to be returned certainly constitute an alleviating factor for one of the most serious side effects of the economic downturn such as restricted access to financial means in the economy. Entrepreneurs are well aware of the fact and readily reach for the European funds support. Apparently, even the restrictions in banks lending do not hamper the process. The opportunity to use advance payments not only increases access to cash but also lowers the costs of its gaining. The entrepreneurs learnt that European funds are a splendid way to develop their businesses. Subsidies allow to implement the investment faster and purchase and utilize state-of-the-art technologies, which otherwise an enterprise financing the purchase only with its own contribution could not afford. They also allow to create new jobs. Moreover, European funds favourably influence companies' development and improve their competitiveness in the international markets. The funds enable enterprises to become more innovative and gain competitive edge. The wide range of aid provided by the EU funds is a crucial factor here as well. An enterprise may apply for co-financing of projects relating to various fields. Beginning with the purchase of tangible assets, through land purchase or immaterial and legal assets purchase up to consulting and training activities (via subsidizing personal development and improvement of vocational trainings of staff).

It shall be noted that financial means EU funds are earmarked not only for existing enterprises but also for start-up companies entering the market. Thus, subsidies may significantly contribute to jobs creation and as a result to unemployment reduction. That is why, it is essential to utilize EU financial means granted Poland for the years 2007 – 2013 in an effective and efficient manner.

Nonetheless, apart from benefits related to the subsidies' utilization, some drawbacks may be pointed out. That includes:

- Formalism and complexity of the application procedures. In the first place, one should emphasise too tight deadlines for application submissions as well as difficulties in both completing application forms and submitting the required documents. Enterprises have considerable difficulty to submit application forms properly. The application forms are too complex and additionally they require numerous appendices, which may be obtained no sooner than after several months. Appropriate documentation submission entails dozen or so of weeks of concerted effort of a team of people. In addition, frequent changes in the competition documentation; including changes of opening dates, changes in guidelines for applicants or alterations of instructions for applications' completion, incomprehensible and unintelligible language of the applications, all that makes the interpretation of regulations even more difficult. All the above generates the need to resort to help of consultancy firms, whose services are expensive and do not guarantee granting the subsidy. Many enterprises cannot afford their services anyway. It must be also emphasized that when it comes to the initial assessment of the application, especially its formal stage, it is marked by significant formalism and bureaucracy, which causes that any amendments to the applications frequently concern irrelevant matters. That results in prolonging of the assessment procedure itself and generates additional costs or, in some cases, it results in a complete application rejection. The formal criteria at the regional level are too complex and focused upon requirements of bureaucratic nature. Additionally, they are subject to specialization within check lists, which in return causes the formal assessment scheme to be unclear and complicated. For example, in Kujawsko-Pomorski region a 31-pages long table sets forth the formal criteria. It is also worth mentioning that the time between the documentation submission and receiving the information

on positive application assessment is relatively long and varies from several months to even a year.

- Lack of clear information concerning deadlines and institutions servicing specific EU programme as well as complicated guidelines concerning a given programme. Each programme usually has separate guidelines and as a result an entrepreneur has to familiarise themselves with a number of requirements referring to a specific project completion.
- More than 170 institutions are involved in the EU funds utilisation. In most cases, the potential barriers relate to human factors and administrative work. The people servicing the EU funds pile up the procedures.
- Insufficient financial means allocated from the European Union to the entrepreneurs and fears that the resources may deplete much sooner than it has been stipulated in the operational programme timeframe. For instance, government experts predict that the financial resources within HCOP will suffice until the end of the year 2011 if the number of applications keeps increasing at such a rate as we have seen recently. In reality, it means a significant dominance of EU funds demand over their supply. The intensity of financial means allocation for the projects' completion within programmes devised for enterprises is far too small in relation to the needs, which is reflected in the number of applications submitted. Frequently, allocation of financial means within a specific programme is exceeded several or even more times. That causes disgruntlement among entrepreneurs who, encouraged to utilize the EU support programmes, decided to submit the application. It often turns out that once the competition is closed the budgets of the programmes have been used up due to a large number of applications submitted by the entrepreneurs.
- Difficulties in classifying costs as those eligible for reimbursements from the EU funds.
- Many programmes require own contribution and as a result, due to lack of some of financial means, some entrepreneurs are unable to apply for support and resign at a very initial stage of applications. Most projects are subsidized on the principle of a refund, i.e. an enterprise receives a subsidy in tranches, providing that the sustained expenditures have already been settled. That requires additional means during project completion in the form of pre-financing. As we frequently learn from experience, a tranche is transferred after a few months after the costs were sustained. Moreover, it is impossible to foresee even a rough date of the tranche transfer, which hinders proper financial planning and may influence the higher risk of financial liquidity loss.
- Formal requirements concerning business plan and application for the EU subsidy frequently constitute a considerable barrier, especially in the case of micro businesses or individuals commencing their economic performance for the first time.
- Obstacles related to the so called "human factor" and particularly:
  - carelessness while preparing the application documents and disregard for the guidelines for compiling of particular documents;
  - difficulties in supervising timelines of the support contract fulfilment;
  - lack of habit of becoming acquainted with the signed contracts and difficulties in the contracts comprehension;
  - inability to plan crucial stages of the project implementation and ineptitude to foresee possible ways of the enterprise development resulting from the venture;
  - lack of sufficient knowledge in the field of financial planning. That particularly concerns micro enterprises which are unable to assess the project within its financial perspective and its possible outcome. Entrepreneurs merely have a business idea and the required resources. However, when one takes the advantage of European funds, they have to plan everything precisely. Failure to attain the objectives or inability to sustain them, results in the necessity to return the funds;
  - lack of sufficient synergy effect between projects' evaluation conducted by the institution managing the operational programme and the projects' attainability

- verification conducted by the bank granting the loan. As we learn from experience, numerous ventures, which have been granted a project financing commitment from the bank, are not approved by the experts as projects of economic viability;
- insufficient “business culture” such as not keeping deadlines or lack of supervision over documentation and correspondence;
  - Extended waiting period for the financial means, which results in subsidy final settlement difficulties. Obtaining the decision on the subsidy approval and signing the project financing commitment agreement does not end the application process. Lack of clearly stated regulations concerning the subsidy settlement and the amount and complexity of documentation which must be collected and submitted by the entrepreneurs to the institutions managing a specific project, constitutes a significant obstacle which hampers access the funds at the stage of their settlement;
  - European funds are subject to taxation, hence the amount of the received EU subsidy constitutes a tax base for the income tax;
  - If an entrepreneur takes the opportunity to utilise European funds, they are obliged to perform economic activity for at least 5 years, which may be difficult to fulfil in the case of small scale ventures. If a project has been devised to sustain an investment or jobs, the period amounts to 3 years counting from the date of the project’s completion.

Summing up, it may be stated that despite all the difficulties in applying for the European funds Polish entrepreneurs display a growing interest in absorbing the financial means year by year. That comes as a great merit and EU subsidies are concerned to be exceptionally attractive among other sources of financing of economic activity. The funds are nonreturnable and constitute a crucial factor in alleviating one of the most severe drawbacks of the economic downturn, namely the restricted access to financial means in the economy.

#### **4. Conclusion**

So far, Poland has been granted €85.6 billion of European aid within European Social Fund, European Regional Development Fund and European Agricultural Fund for Rural Development to implement a variety of projects. The money has been utilized by Polish enterprises, local governments, non-governmental organizations and other institutions.

The current experiences of acquiring financial means from EU funds by Polish entrepreneurs indicate their substantial impact on the increase of competitiveness in the European markets. Considering the economic downturn, EU subsidies are worth their weight in gold as subsidies may support enterprises in hard times. They are nonreturnable and constitute a crucial factor in alleviating one of the most severe drawbacks of the economic downturn, namely the restricted access to financial means in the economy. Unfortunately, the satisfaction is blurred by numerous barriers mentioned above in the article. However, each announced competition held within specific programmes and operations not only raises awareness among entrepreneurs regarding requirements set by the implementation entities, but also improves attitudes of these entities towards their beneficiaries.

According to the data generated from the KSI SIMKI 07-13 National Information System, since the start of programmes until 27th February 2011, 162.9 thousand applications (correct from the formal point of view) were submitted for the global amount of co-financing (both Community and national funds) of PLN 374.2 billion.

During the same period, 52 167 contracts for co-financing were signed with beneficiaries for the amount of PLN 232 billion of expenditures, including EU funds in the amount of PLN 160.3 billion, which accounts for 62% of the total allocation for the 2007 – 2013 period.

The value of beneficiaries’ expenditures recognised as eligible, resulting from the submitted payment claims amounted to PLN 68.7 billion, and in the part of EU co-financing – PLN 49.6 billion. At this point it is difficult to draw any unequivocal conclusions regarding the

accomplishments of the projects' objectives and the efficiency of utilizing of the granted subsidies within particular programmes. Such analysis will have been feasible once the programmes' period is completed. Then, we will be able to clearly point out the arisen obstacles and formulate recommendations concerning ways of their possible elimination in future. Nonetheless, Polish entrepreneurs display a growing interest in absorbing the EU financial means year by year, which is noticeably confirmed by the possibility of the funds' depletion much sooner than it was stipulated in the current programmes' duration period.

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# The Importance of Motivation in Staff Management on The Example of Radisson Blu Hotel in Szczecin

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**Abstract.** It is essential in every hotel to have a motivation system that is efficient and accepted by the employees. Such a system should, most of all, produce high commitment to realize objectives in the employees. The motivation system should not only make it possible to improve the financial situation of the employees but should also offer them the potential for individual development, thus inducing the employees to bind their future careers to the given company.

The efficiency of motivation programs for hotel employees depends most of all on a thorough evaluation of their individual needs. Such evaluation will make it possible to use a proper mix of financial and non-financial incentives.

**Keywords:** management, human capital, hotel

## 1. Introduction

Human capital is not only the source of costs but also an element of resources that has a specific, yet very difficult to measure, strategic value for the company. These resources are unique due to the knowledge and practical experience gained throughout the years. It is the hotel staff who determines the level and manner of service as well as the atmosphere and the impression guests have. If employees are unreliable and do not identify themselves with their company, all the organizational and financial effort together with public relations campaigns may prove ineffective.

People are at the core of the hotel business and they must be properly shaped by means of appropriate motivation to be able to accomplish the company's economic goals.

Motivating is a process aimed at evoking and sustaining specific attitudes (patterns of behavior) of the employees as a response to certain needs (e.g. self-accomplishment, recognition) [1]. Motivation effects are obtained through various means of financial and non-financial incentives [2].

## 2. Motivation factors

Financial motivation factors are most of all wages[3]. This means a basic salary adequate to the position held, irrespective of the season or the number of guests at the hotel. The basic salary must be neither too high nor too low. If too low, it will discourage the employee from work but too high a salary loses its motivational function. An employee who always enjoys high basic remuneration will not pay attention to the satisfaction of guests, nor will try to win new customers because his/her salary remains the same at all times, regardless of his/her work quality, commitment and the number of guests at the hotel.

Other financial components of remuneration have a much stronger motivational function. These components are: commissions, bonuses, rewards. To make an employee more active in winning guests and increasing the number of reservations, the employer can introduce a commission system.

The commission should be paid to employees who directly influence reservations, i.e. receptionists and reservation department workers and personnel of the food department: waiters, bartenders, banquet managers etc.

Bonuses are motivation factors for employees who do not have direct contact with guests, e.g. of the marketing, administration or accounting departments. Bonuses depend on the financial result and on the quality of work of those employees. A recognition bonus, awarded to an individual and fully justified as to what he/she receives it for, has the highest motivating function.

The next motivation factor is a reward, awarded in special cases, e.g. when the employee behaved exemplarily during a so called extraordinary event – a guest’s sudden disease, theft, fire.

Other material, but not financial motivation factors are working conditions (e.g. proper lighting of the workstation, modern equipment in good working order), healthcare (e.g. a contract with a private clinic, the services of which may be used by the employees and their families), insurance, and the possibility to work abroad within the same hotel group.

An effective motivation system cannot be based solely on financial and material incentives. Other features of the job, e.g. the atmosphere at the workplace, bear the same or even a higher value for many people. This can be observed in the results of a research conducted in the hotels in Gdansk, Gdynia i Sopot [4], which shows that 60% of the employees surveyed would be willing to work for their company despite low salary if the company satisfied at least three of their needs. Table 1 presents a list of the factors which can compensate for a low salary most often mentioned by the respondents.

Motivation factors	Percentage of responses*
Social aid (e.g. savings and loan association, holiday vouchers, co-financing children’s holidays)	100,00 %
Open-ended job contract	91,66 %
Good atmosphere	83,33 %
Stable employment	78,33 %
Recognition of the employee by employer	76,67 %
Recognition bonuses and medical services	75,00 %
Convenient working hours	73,33%
Real possibility of promotion	70,00%
Potential for development	65,00%
Language and training courses financed by the company	61,66%
Friendly attitude towards maternity	58,33%
Comfortable working conditions	51,67%

\*results do not sum up to 100%; respondents could choose more than one response

**Table 1.** Non-financial motivation factors in the hotel business

Source: own on the basis of: D. Szczepaniuk, *Utrzymać gościa, zatrzymując pracownika*. Hotelarz 2010, nr 3, s. 14.

employees, the employer can expect his staff to be loyal and committed to their job. As results from the survey conducted, non-financial factors, which do not demand high costs from the employer, have a great significance for the majority of employees.

Meetings with managers of tourist companies also play a great role in motivating employees. During such meetings the employees, especially those who have direct contact with guests, are told that they are responsible for making the first and last impression of the company, informed about the marketing activities and taught how to behave in difficult situations with guests which may sometimes happen. The opinions of guests are also analyzed (e.g. on the basis of questionnaires). The meetings influence not only the quality of work but also the level of staff satisfaction from their

job. The employees feel appreciated and respected because the managers discuss the problems of the job with them. The employees can express their opinions or suggestions, learn how to cope with difficult situations (e.g. theft, very upset guests). The staff members know that if there is a problem, they can always ask their supervisors for help. The meetings also integrate the employees because they provide opportunities to exchange experiences.

To sum up, we should say that by providing social aid, stable employment, creating a good atmosphere and appreciating

### **3. Motivation system in the Radisson BLU hotel in Szczecin**

Radisson BLU hotel has a thoroughly developed motivation system. Material remuneration in this hotel is a basic salary coupled by different kinds of rewards, special motivation programs and other benefits resulting from the job contracts that are awarded to the employees on the basis of the principles defined in the Remuneration Rules of Radisson BLU Hotel.

The basic salary is specified according to the category of the position held. Positions are categorized on the basis of the criteria concerning qualification requirements of the employees such as: education, experience and additional skills, depending on the type of job, such as: knowledge of foreign languages, handling office devices, required computer applications, technical qualifications, required courses, etc. The hotel has twenty two categories of remuneration and each of them has its own appropriate monthly gross rate of basic pay.

The basic salary can be raised or categorized otherwise on the basis of assessment of the performance of an employee. Remuneration raises take place annually following motions by department managers to the General Director.

The following allowances constitute additional remuneration of the employees of the Radisson BLU Hotel:

- Seniority allowance – awarded to every employee after 5 years of work (the employee can lose the entitlement to this allowance for a given month due to an unexcused absence at work, theft of property or drinking alcohol on the hotel premises);
- Rewards and distinctions: Employee of the Month/Year, Manager of a Quarter of the Year, “Key Program”;
- Rewards and distinctions within the special motivation programs developed for specific departments: “Best Maid” program, motivation program for the Sales and Marketing Department;
- Overtime remuneration;
- Allowance for night shifts;
- Retirement gratuity.

Radisson BLU Hotel also uses non-financial motivation instruments. First of all, the hotel provides stable employment – the majority of employees have open-ended contracts. The hotel has a company social fund to organize parties for the employees and their families (picnics, trips, Santa Claus parties for children, New Year’s Eve party).

Staff members can anonymously express their demands concerning changes of certain practices or events in their place of work which the employees find negative. Once a year, the employees of the whole chain of Radisson BLU Hotels participate in an anonymous questionnaire called Work Atmosphere Analysis, the results of which are analyzed and compared to those of the past years, and afterwards discussed jointly in each department.

Employees of the whole Radisson chain who study at hotel industry schools can take advantage of financial aid within the Per Axel Bromesson Scholarship Fund. Employees can attend free English language courses at different levels of advancement. The best employees can be employed (on exchange) abroad in one of the hotels of the chain.

Moreover, employees are entitled to different kinds of discounts, e.g. 50% on the dry cleaner’s, 10% on the Polonia Unity Line ferry tickets, discounts on rooms in all Radisson BLU hotels all

over the world. The staff can use the fitness club free of charge (at specified hours) and go to the nightclub once a week<sup>1</sup>.

As can be assumed, one of the main problems with the motivation system in the Radisson Hotel is that it is uniform with regard to all the employees. We must keep in mind that each individual is sensitive to a different range of incentives resulting from the extent to which their needs are satisfied at a given moment. Therefore, the most appropriate solution would be to personalize the ways of influencing employees as much as possible.

#### **4. Conclusion**

It is essential in every hotel to have a motivation system that is efficient and accepted by the employees. Such a system should, most of all, produce high commitment to realize objectives in the employees. Radisson BLU hotel has a thoroughly developed motivation system. This motivation system makes not only it possible to improve the financial situation of the employees but also offers them the potential for individual development, thus inducing the employees to bind their future careers to the hotel.

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<sup>1</sup> Information provided by Radisson BLU Hotel in Szczecin.



## Strategy - New Directions in Strategic Management

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**Abstract.** The article is dedicated to strategic management and discusses two strategic directions in the field of strategic management. One way is Dynamic strategic consideration which represents a new method of strategic thinking and next way is the theory of Strategic circle. At the end of the article we will look at the main components of Strategic round which we consider as the essential for effective strategic management.

**Keywords:** Strategic management, dynamic strategic consideration, strategic circle, SWOT analysis, competition.

### 1. Introduction

The warning of risks, uncertainties and turbulences in recent years create important components of the strategic management literature. Development of strategic management theory which would respond to the current situation today encourage top managers and academic staff. new situation arose today - a coup for the overall managerial theory and management practices.

An intellectual interest in strategic management took a new direction is focused more in depth, and offers better and more humane management. The two of more new lines are described in the article.

#### 1.1. Dynamic strategic consideration

The methodological construction of strategic thinking has been stagnated for a long period. PhDr. Ivan Fiser, the faculty member of the CMC Graduate School of Business, suggests a new method of strategic thinking which were successfully tested in practise. The internationally recognized publications and the practice are long-held view using SWOT analysis, combining strengths and weaknesses with the opportunities and threats. Its users are faced with doubts if the strategy designed on the basis of SWOT analysis corresponds with today's dynamic reality. This fact should reflect the new method of strategic thinking, ie. Dynamic strategic consideration (DSC), which was successfully validated in teaching and in applications to business situations. Experience shows that the method is accepted as a positive, logical and practical approach. After the initial training individuals and businesses are able to use the method, without continuous, and therefore expensive mentoring. They can independently arrive at a serious strategic recommendations and decisions. Dynamic nature of strategic balance (DSC) best describes the following fig.1.

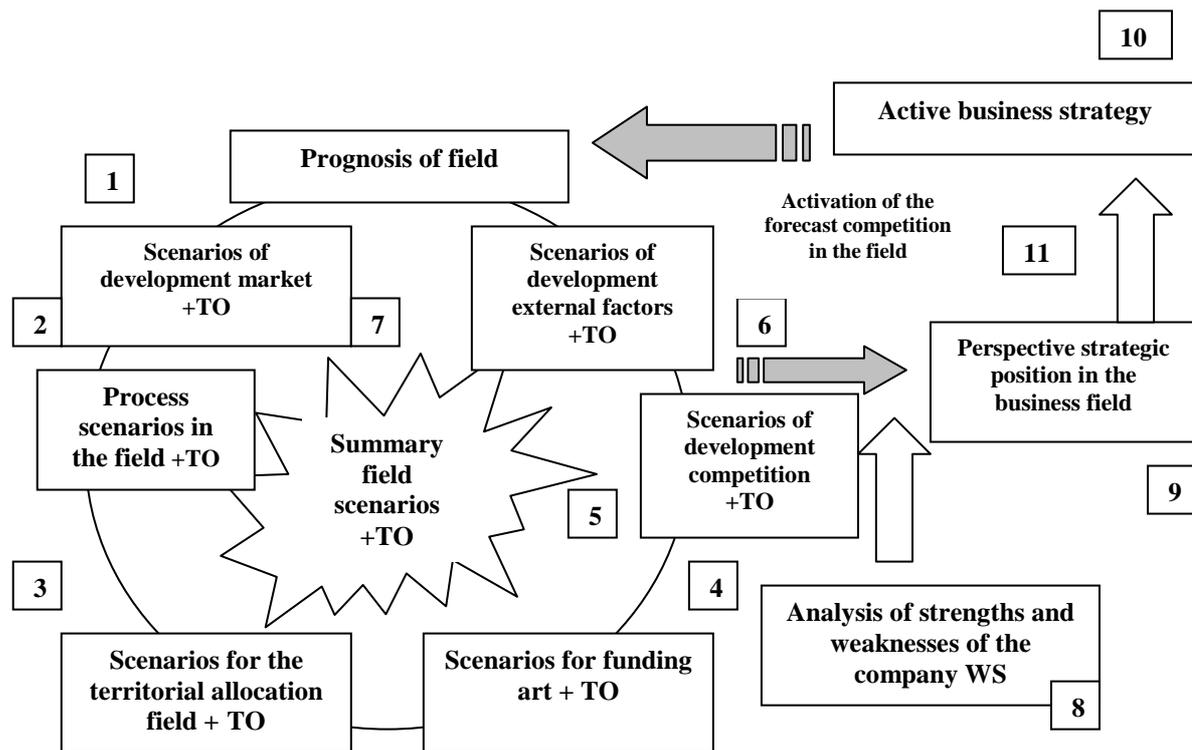


Fig. 1. Dynamic Strategic Consideration [1]

Fig. 1 is based on a simple and logical idea that the basis of strategic decision-making sub-scenarios are essential factors for future enterprise sector (action 1-6). They must be interconnected and within the field of business must be transferred to a comprehensive assessment of future development in competitive business field (step 7). After that it makes sense to use a SWOT analysis, however consistently in the context of the strengths and weaknesses of major competitors (step 8). The next step in the fore sheet outlines the progress which would occur if the company continues without changes in the implementation of its current strategy (step 9). If this development leads to the threats of the enterprise or inadequate use of his opportunities it is needed to create an innovative active strategy for the company (step 10). However it is necessary to confront the likelihood of counteraction competition (step 11). And it is a counteraction of competitors and other players in the field to the new company's own competitive strategy may lead to new hazards plan. Therefore, it is necessary either to enhance, accelerate and to become more protect active against premature disclosure or to choose any of the known retreating business tactics.

Advantage of DSC is the use of knowledge from the baseline analysis and forecasts of the field because they will significantly alleviate and improve the estimation of dangerous rival actions upgraded to business strategies. The basis of this new method is a **spiral process of creative thinking and combining** that use its practical imagination and gradual cultivation with the gradual addition of new knowledge and information. Therefore, in the name of the method used the phrase "dynamic balance consideration," which appropriately describes the procedure of our thinking. The future is not mechanically possible to calculate, but it is necessary to estimate the uncertainty in the complex. DSC does not lead to a dangerous situation but the decision maker reduces only those elements that can measure and calculate trends. By contrast, it is **encourages the full usage of all the strengths of our thinking, including intuition and imagination**. However leaves them at the mercy of uncontrollable spontaneous mental processes, but provides them with support system similar to the basic methods of decision-making process. DSC that interconnect the individual, often also common elements in a natural logical sequence, therefore allows even less experienced strategic decision-makers successfully cope with the gradual derivation and combination of strategic thinking. The advantage is the quick realization the first strategic balance sheet.

Subsequently, in the next steps in a real time and at reasonable cost to refine or fundamentally alter the basis of new information and new experiences with the application of DSC. Strategic thinking as quickly cultivates and becomes more flexible, dynamic and even freer. [1]

## 2. Theory of strategic circle

Businesses need be flexible to meet their customers / clients. This means that managers must be able to respond to the basic principles in mind as possible. Enterprises need to rethink their strategies and react to changes in global economic environment. The next image of "Strategic circle" illustrates the need of changes in major components of corporate strategy. [2]

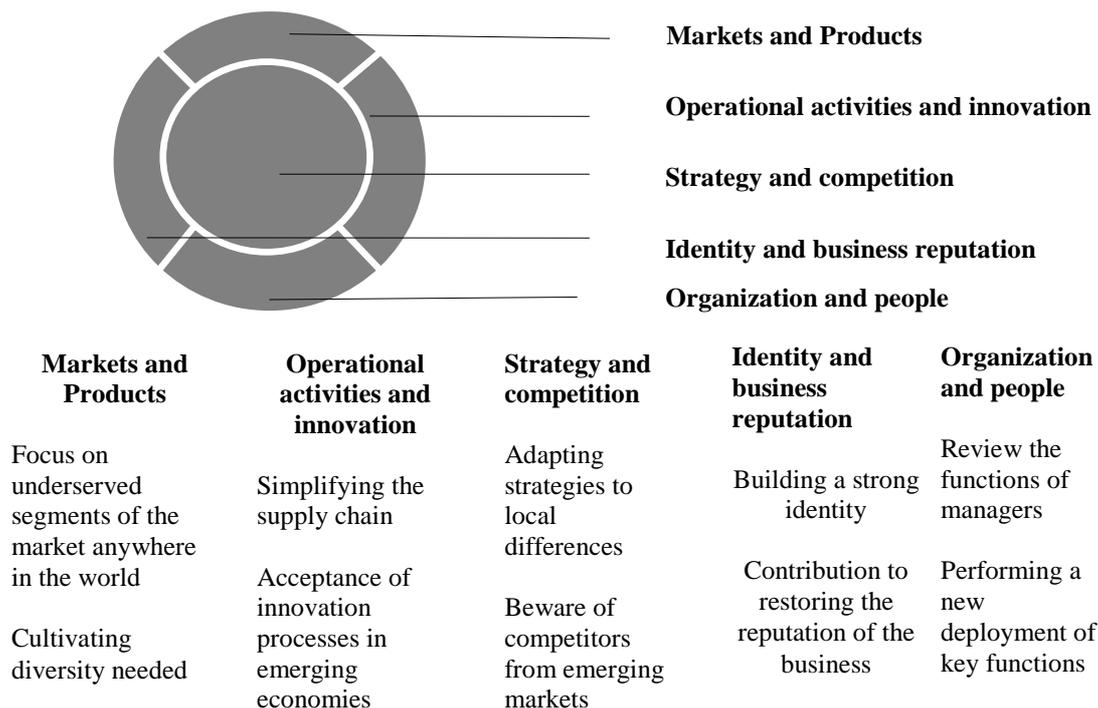


Fig. 2. Strategic round [2]

## 3. Conclusion

It is clear that a typical global enterprise in post-crisis world needs a **more liberal approach to strategic management**. Corporate strategy forms the basic framework for strategic management. The strategy defines business objectives and ways of achieving them. **Its main function is the synthesis of various business strategies to develop a joint strategy for the entire enterprise and to decide on joint actions aimed at business efficiency.**

DSC significantly helps cultivate participation teams on strategic business management and rational use of hitherto commonly used methods to support strategic thinking and decision making proces. The theory of Strategic wheel warns at important component in the strategic management and makes recommendations that companies should focus on specific components.

## Acknowledgement

This article was written as a part of research project VEGA 1/0757/09 - Methods and techniques of strategic management as a tool to increase business efficiency, project period 2009-2011.

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## Concept of Value in Postal Services

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**Abstract.** This paper employs S-D logic in postal service environment. It discusses quality of service and value gained by service as different approaches to service science. Survey in Slovak Post is used as a background for comparison.

**Keywords:** Service-dominant logic, postal service, service value.

### 1. Introduction

Since Vargo and Lusch (V&L) published their first article on service-dominant logic (S-D logic) in 2004 [1] a number of articles related to S-D logic emerged. Reason of such interest in a new way of thinking among scholars is domination of goods over services (especially till eighties). Contemporary goods-dominant logic, as Vargo stressed in his article [2] is a consequence of natural evolution of theory from far history, through days of Adam Smith till now. Goods – only tangible outputs were considered as valuable entity, which carry the value and therefore could be exported. In spite of Adam Smith's notion that whole process of exchange is powered by knowledge and skills, these operand resources [3] were considered as something unproductive, something which does not create anything tangible.

S-D logic is based on formerly eight foundations premises (FP's) published in [1] which were later modified and supplemented by V&L [4], [5] with two others FP's. Basic ten FP's are in brief as follows: fundamental basis of exchange is service, indirect exchange masks that basis, goods are distribution mechanism for service provision, operand resources (knowledge) are source of competitive advantage, all economies are service economies, the customer is always a co-creator of value, enterprise can only offer value proposition (not deliver value), a service-centered view is inherently customer oriented and relational, all social and economic actors are resource integrators, value is determined by the beneficiary. Comprehensive explanation of FP's could be found in [5].

This new concept could be a basis for marketing and management science. As V&L noted: "we believe that the ten FPs can be used to derive testable propositions and hypotheses" [6]. However there is still an infinitesimal amount of empirical studies. Thus, the evidence of appropriateness of theory is missing.

Basically S-D logic offers a shift in a way what is the main issue. Most frequent term in last decades is a quality. Quality is considered as competitive advantage, as something what can reduce the costs and make the firm succeed. There are a great number of empirical researches on quality of goods and services or effects of improved quality. But in case of value centered logic empirical papers are missing. Knowledge about competitive advantage acquired by increased customer's value is not yet sufficiently explored.

### 2. Value thinking

Prior to papers and empirical studies focused on value proposition and value gained by goods or service it is wrathful to analyze former studies from value point of view. There was a study conducted by Project Center of Faculty of Management Science and Informatics in 2010 [7]. The

goal of the study was to evaluate customer's satisfaction with Slovak Post services. Results were analyzed by neural network and the analysis is reported in [8]. According to study findings there are two main parts of service which the most affect overall quality of the service. They are: behavior of personnel (clerk or postman) and waiting time to give/get a post.

## 2.1. Waiting time

Uniqueness of service is that a customer has to pay for service in advance, prior to service provision. In fact, it means that a customer waiting in a waiting line need to spend his/her time to be able spends his/her money for guarantee that he probably will get a service in certain way and quality. A customer is willing to pay for a value that a post office can give him, however except of money he has to spend his/her time too. The customer wants to buy a value, however in case of peak hours and waiting lines, the price of value (service) is higher. Saying "time is money" is in this case valuable. The FP6 says, the customer is always a co-creator of value. But waiting lines issue is not in accordance with FP6. In case of postal service the customer waiting to get a post is probably also willing to co-produce a part of service. V&L argue "*co-production as a component of co-creation*" [5]. It seems that better idea than just let customers wait in a passive manner is to integrate customers into processes. It strongly depends on what customers really want. Further investigation about customer interest in participation is needed. Postal service is a type of service where customers are not affecting overall value and the presence of customer during service provision is not required. Sometimes the customer at beginning and at the end of service is needed but usually not. In case of personal visit of post office is thereby customer's involvement optional. Provider often does try to enter customer's processes and provide for customer higher value. However involvement of waiting customer in coproduction of service and co-creation of value leads to much higher value both for customer and provider.

## 2.2. Behavior of personnel

Second, the most affecting overall quality (satisfaction) of service is behavior of personnel. Customer's satisfaction with postman and clerk were questioned separately in the survey. Customers were basically more satisfied with postman than clerk at post offices. This finding is probably linked with time consumption needed to get the same value. If the customer wants to get the post and postman deliver it personally, the customer is saving own time so he/she gets the value. This value is decreases if the customer has to visit post office personally. Moreover the recipient is seldom a customer. He does not pay for service so time-lost sensitivity is much higher than in case of sender. This notion is supported also by the other finding of survey. One of the most frequent complaints of recipients related with postal service is that they receive the notice of getting a registered post even if at that time the recipient is personally at the place of deliver. Therefore customers are more satisfied if they meet postman than clerk but it probably has nothing to do with actual behavior of postman. Customers are just angered because they have to visit post office so they are strict when they judge behavior of clerk and consequently they are less satisfied with them in general.

FP9 says that organization integrate micro specialized competences into complex services. Clerk and postman offer to organization (post office) his/her specialized competences. Organization integrates it together with other employee's competences so more sophisticated service can be delivered to customer. Usually the more complex the service is the less involvement (interest) of the employee in the final value is present. Complex service is more similar to assembly line production so employees lose touch with real value. They just provide their partial competence to organization. They consider organization be responsible for final value so they feel less responsibility for success of whole organization and high satisfaction of customer with value created by provider. Finally behavior of personnel is not consistent with goal of provider which is to co-create value with the customer. Employee does not feel that he/she is changing service for service, because organization

(post office as a company) acts like agent (integrator). So clerk or postman feels committed to company not to customer. Indirect exchange masks the fundamental basis of exchange because service is provided through complex combinations of goods, money and institutions [5].

### **3. Co-creation of value**

Co-creation of value suggests that enterprise can only make value propositions (FP7). Goods dominant logic (G-D logic), basic contemporary logic is based on notion that value is accompanied in goods which is consequently transferred to customer. Product is delivered to customer so the value is delivered to customer. However value is not created just by exchange itself, which is responding to value-exchange tenet (G-D logic). Value is created after product is used which is formulated as value-in-use, the main concept of S-D logic. Goods can just render the service which can create value to the customer (FP3).

So the question is: What in fact a customer wants from the provider of postal service? The customer wants to buy (get) value which can be gained by service. Imagine the situation that the man (sender - customer) wants send a spray of roses as a valentine to his girlfriend (recipient). Company used to deliver consignment try to create as great value as is possible. For the company is essential to determine how to create the greatest value. It means understand authentic rational motive of customer's acting. Man wants to please the woman. He wants woman to know that he is thinking of her. It looks egoistic but the man often expects the response (external compliment). If response is positive then his ego and respect raise. Thus he is satisfied and assured that his activities made an impression. This assurance that customer was doing well can be delivered by provider. After delivery the provider can send a message via cell-phone to customer (sender) that the spray of roses impressed her (message would be like this: "She was pleased and looks so happy"). Value delivered by provider in this manner is probably much higher than just a sole delivery.

### **4. Conclusion**

G-D logic separates the provider and the customer into two single entities. However without a mutual conversation, cooperation and co-creation it is difficult to set up high value comprise of synergy effect for both parties. If the provider wants to know what the customer really need, how value can be created, he has to use knowledge, skills and competence of both subjects. The provider should know customer's intentions and motives. Quality of service can be delivered just by the provider. The provider first gets information from the customer, interpret his requirements and then he is trying to design and deliver the service at appropriate level of quality. G-D logic is based on such a scenario which is based on split of parties. One of major service features is simultaneity of production and consumption of service. This feature is interpreted as a complication during the providing of service. In factory is production process separated from the customer so to deliver quality is easier then to provide it through service. So it looks that if service provider wants to "produce" equal quality similar to factory production he should to separate the customer as far out of the provision process as is possible. Postal service is among other types of services providing rather without presence of customer. So in meaning of last sentences it is less demanding to deliver quality to customer. In spite of that customers perceive employees' behavior as crucial.

Technique how to measure level of value created is needed rather than to measure level of quality. Delivering quality is the way of separation, creating value is the way of cooperation.

### **Acknowledgement**

Applied knowledge about postal service would not be practicable without survey conducted annually by team of Project Center of Faculty of management science and informatics. Last but not least thanks to Slovak Post for cooperation in project of measuring satisfaction of customers.

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## Value Added Tax – One of the Main Tools How to Reduce Deficit of the Government Public Finances

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**Abstract.** The article deals with the review of progress of value added tax (VAT) from 1993 up to the present. Value added tax has been introduced as a part of the tax policy for one main reason – as an income of the state budget of that country, in which the economic activity is performed – that means also in Slovak Republic.

**Keywords:** value added tax, products, taxpayer, taxable person, payer, tax administrator, deficit

### 1. Introduction

Value added tax (short VAT) has been a part of the tax policy of Slovak Republic since 1.1.1993 and by its introduction was met also one of the essential requirements of joining the European Union. Revenue from the value added tax is an important financial resource for national budgets of all countries in the world. Value added tax is one of the indirect taxes which include the excise tax too.

### 2. Basic concepts

Value added tax is taxed on each sale of goods and services at each stage of production and distribution. It is collected gradually and partially only from that value, which was added to the price of the purchased goods or services in the corresponding stage of production or distribution.

While there is free movement of goods, services, capital and labour between companies in the European Union – there is an exemption, goods cross into the territory of another member state without any tax and the taxation of goods takes place in the country of its delivery. However, the facts stated above do not always apply under all circumstances. For proper application of value added tax it is important to distinguish taxation under the principle of country of origin and the principle of destination (3).

*Body of value added tax:*

- a) taxpayer – consumer,
- b) taxable person - any person who independently carries out economic activity, business; any person who occasionally delivers a new vehicle from domestic country to another member state,
- c) taxpayer – registered taxable person.

*Subject to tax:*

- provision of goods for consideration within the domestic country realised by a taxable person,
- provision of services for consideration within the domestic country realised by a taxable person,

- acquisition of goods for consideration in the domestic country from another EU member state,
- import of goods into the domestic country.

*Tax administrator:*

- competent Tax Office, exception is the determination of a tax administrator on import goods from third countries which are not EU members, in that case, the tax administrators are competent customs authorities.

*Tax documents:*

- current (invoice),
- simplified (sales receipt, travel ticket),
- special (lease, customs declaration),
- individual (corrective tax receipt).

*State Budget:*

The state budget is a balance of state incomes and expenses expressing the relations connected with the performance of state functions, the plan of its incomes and expenses. The state budget is the most important financial tool of the national economic policy. The types of state budget are deficit, surplus or balanced.

### **3. Progress of VAT in Slovak Republic**

VAT rates have changed in different directions since 1993. There were two types of VAT rates; reduced tax was applied to the socially sensitive goods and services, such as food, construction work, medical devices and more...

In 2004 – by joining the European Union VAT was unified and was 19%. In early 2007, there was again introduced the lower rate of value added tax of 10%, which was applied mainly to medical devices and equipments, such as (1):

- saccharin and its salts,
- antibiotics,
- pharmaceuticals,
- picture books, patterns for drawing and painting for children,
- music, printed or manuscript, either bound or illustrated,
- hosiery with graduated compression (such as stockings for varicose veins),
- walking sticks, sticks to the saddle, whips, riding corps and similar products – *only for blind and partially sighted persons.*

In May 2010 another VAT rate was introduced. 6% rate was added to the rates of 10% and 19%. Preferred rate of 6% was applied to goods “from the yard”. The government’s intention to establish this tax was to favour its own production of specific types of food products.

It was the following products (2):

- meat of bovine animals, fresh, chilled or frozen,
- meat of swine, fresh, chilled or frozen,
- meat from sheep and goats, fresh, chilled or frozen,
- meat and edible offal,
- other meat, fresh, chilled or frozen,
- meat from domestic rabbits,
- live fish, fresh or chilled fish,
- raw milk,
- bird eggs, in shell, fresh,
- natural honey.

Image nr.1

**Progress of VAT in Slovak Republic**

Year	Reduced VAT	Increased VAT
1.1.1993	5%	23%
1.8.1993	6%	25%
1.1.1996	6%	23%
1.7.1999	10%	23%
1.1.2003	14%	20%
1.1.2004	19%	19%
1.1.2007	10%	19%
1.5.2010	6% and 10%	19%
1.1.2011	10%	20%

Source: Own processing of more resources

Since January 2011 new changes in VAT have been introduced. Increase of the basic VAT rate is temporary – as long as the government deficit falls below 3% of GDP (Gross Domestic Product).

Image nr. 2

**VAT in the world**

Country	Increased tax	Reduced tax
Slovak Republic	20%	10%
Czech Republic	20%	10%
Hungary	25%	18% and 5%
Austria	20%	10%
Poland	23%	8% and 5%
Ukraine	20%	0%
Great Britain	20%	5%
Russia	18%	10% and 0%
France	19,60%	5,5% and 2,1%
Ireland	21%	13,50%
Iceland	24,50%	7%

Source: Own processing of more resources

Chart shown above clearly indicates different tax rates in various countries, where the lowest percentage of increased VAT is in Russia and the highest percentage is in Hungary.

The lowest percentage at reduced VAT rate is in Ukraine and the highest one is in Hungary. Our tax rates are comparable with Czech Republic and Austria.

#### 4. VAT and public finance deficit

Government expenses of Slovak republic grow in last years despite the passing of the global crisis. On the second hand incomes grow slower than expenses caused of balance with negative numbers – government deficit. The government deficit in the 2010 is 7,9% of GDP. The one of the important conditions for euro zone countries is the deficit, which represents 3% of GDP therefore the Slovak government seeks to reduce this deficit by various saving

measures as reducing public sector wages, grants (for housing, TARS, etc.) or saving in health care. The opposite situation is in incomes section and Slovak government seeks to improve them for example by VAT increase from 19% to 20%.

Planned return to the 19% tax is to be expected in stage when the government deficit of public finances falls below mentioned 3% of GDP – that is according to Ministry of Finance estimated in year 2013. Results of declining GDP must be confirmed by the European statistical office Eurostat which could evaluate them just in 2014. VAT could return to current level at the earliest on 1<sup>st</sup> January 2015.

At the same time the reduced tax rate of 6% for so called “sale from the yard” was cancelled from 1.1.2011. This tax rate was valid since May 2010. Tax rate of 10% for specific medical devices and books remains maintained also in 2011.

Image nr. 3

Development of the state budget deficit

Year		1996	1997	1998	1999	2000	2001	2002	2003
Deficit	% z HDP	9,9	6,3	5,3	7,4	12,3	6,5	8,2	2,7
Year		2004	2005	2006	2007	2008	2009	2010	
Deficit	% z HDP	2,3	2,8	3,5	1,9	2,2	6,8	7,9(odhad)	

Source: Eurostat

As we can see in the table, the lowest percentage of the deficit was in 2007 and the highest in 1996.

## 5. Conclusion

The aim of this contribution was to put into attention the short progress of VAT rates, which was for such a short time (18 years) quite diverse. Value added tax is one of the most important tax revenues of national budget. We all pay it when purchasing most of goods and services and therefore it is sometimes referred to as a universal tax.

In the present situation, when we still feel the effects of global financial crisis, the government of Slovak Republic has decided on the existing budget deficit to “mend” it with incomes accruing from VAT in the way of increasing the basic VAT rate from 19% to 20% and cancelling the reduced tax of 6%, which was applied to “sale from the yard”.

This has increased state budget revenues, and also the prices of goods, to which the increased tax is applied, and thus final consumers must be paying more and more money for the same purchase, which they could make last year cheaper. The good thing about the future is the fact that the increased VAT rate which is currently 20%, will return to the original rate of 19%. The question is whether the reduction of VAT will result also in reducing prices of goods and services.

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## Strategy of rescuing a company in crisis

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**Abstract.** This paper deals with corporate crisis. It draws attention to the failing firm strategy in times of crisis. The corporate crisis is an important part of business life cycle. Properly manage of crisis is necessary for the survival of a competitive fight and staying on the market.

**Keywords:** crisis, strategy, redevelopment, restructuring, competition, performance.

### 1. Introduction

The current period is characterized by many changes. Constantly creating new products, new markets bring new opportunities but also threats. Each company tries to cope with the competitive environment and deliver the best possible competitive position. For success in business areas is not enough to accurately know business' environment. Understanding of internal processes is crucial to maintain a successful operation on the market. Measurement of corporate performance can be seen as a key factor in achieving a stable position in the market and gaining competitive advantage. Analyses of selected indicators help managers make good decisions with full knowledge of each other.

Achieved business results are diversified in market environment. Business success is contingent upon the choice and implementation of strategies for maintaining and growth of competitiveness. An appropriately chosen strategy leads to the proper direction of the company, respectively at the time of corporate crisis to save the company itself.

Detailed analysis of corporate performance can determine the situation, the company is in.

According to Figure 1 three main states of the organization have been generated:

- a company with a favorable state of performance,
- a company with less favorable state of performance,
- a company with poor results in performance.

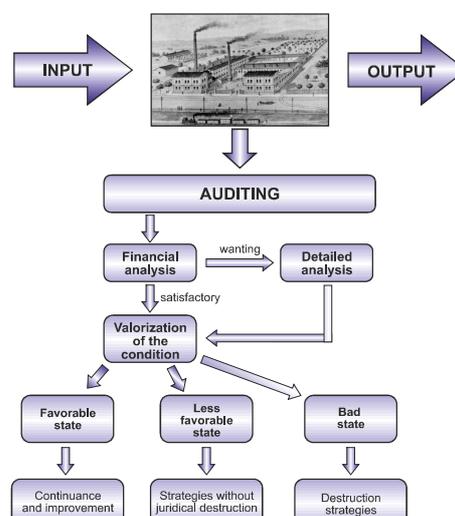


Fig. 1. Scheme of the decision (Blasko, 2009)

## 2. Company with a favorable state of performance

The business environment is constantly faced with competing and fighting with a commitment to stay on the market. Company performance based on in-depth analysis is finding favorable situation a positive sign of the strategic actions of the management. To maintain and to improve achieved state it is necessary to continue in process and strategic decisions improvement, which relates to enterprise focus, changes of range, markets, technologies, capacity and resources. As Blaško (2009) introduces, one of the possible ways how to ensure the effective course of the enterprise in a changing competitive environment, is the management based on an appropriate forecasting of future activities in the long time terms. He designed a supportive decision-making system that was developed for the managers and is one of the crucial systems supporting good decisions making. The structure of the system provides a good set of tools for creating and evaluating potential alternative solutions of real situations.

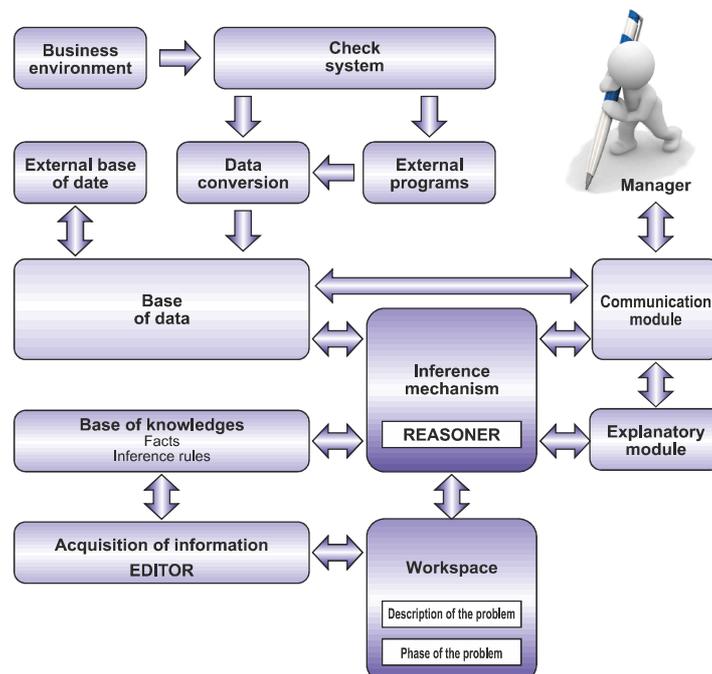


Fig. 2. Scheme of the decision (according to Blasko, 2009)

This model can be recommended for firms situated in the good values of corporate performance. The system allows a quick and effective monitoring of the production and economic activities and their multilateralism enables making of strategic decisions aimed at the maintaining and improving the current situation.

## 3. Enterprise with less favorable state of performance

Any company receives into bankruptcy from day to day, but it is a longer process, during which certain characteristics and phases can be monitored. As Synek (2001) introduces, for the first phase of business crisis is mainly typical decrease of performance. In the second phase decrease of profitability follows, the next phase is characterizes by increased need of working capital, and in the fourth phase the adjustment of capital structure is failing. In the last phase the company denotes insolvency hence lack of liquidity of the company. In order to do the various measures, it is necessary to determine the specific case-history of the company, hence identification of the causes, nature and development stage of the crisis.

Živčák (2009) characterized predicamental enterprise's development as a time series of predicamental conditions that obtain a continuous nature and to a large extent they represent predetermined orientation of their next movement at the time.

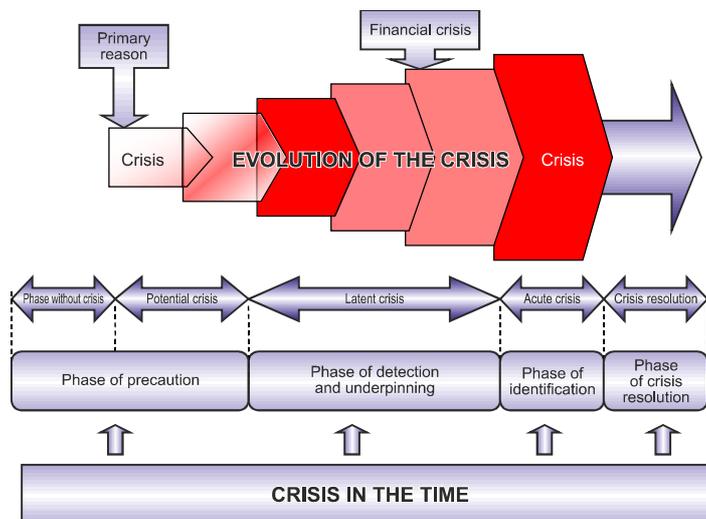


Fig. 3. Crisis at the time (Živčák, 2009)

The formation of the crisis is subject to causes which can be divided into internal and external. It is possible to affect on internal causes by permanent analyses and evaluations within a company. These causes are for example decreasing outputs, liquidity problems, reducing of profit margins etc.. More complicated situation is when crisis arises because of external factors. In such case obviously do exist factors that a company cannot affect, but their influence has a major impact on the overall economic situation. Such factors include economic factors (such as life-cycle phase), financial (development of financial market instruments), or monetary factors (changes in interest rates).

The second step is needed to define the nature of the crisis, whether it is a strategic crisis, crisis caused by economic results, or a liquidity crisis? Strategic crisis is a crisis caused by wrong strategic decisions, such as improper allocation of areas of business, improperly selected portfolio of products, or investment strategy which causes excessive production capacity. Causes of the crisis created by the action of profit are high prices with respect to the absorption ability of the market, high personnel costs, and errors in business financing, or inappropriate target of investment. The liquidity crisis is usually caused by prolonged violation of fundamental rules of financial balance, a low level of receivables and inventory management care, or large investments in excess of the company ability.

The most common symptoms that can be seen, when the company is in the state of treat, are the loss of liquidity, a temporary decrease in sales, or excessively high gearing ratio. If early detection of threats state is done, strong likelihood of right corrective arrangements respectively survival strategies exists. The task of the survival strategies is to ensure existence of a company and prevent the possible extinction.

Enterprise located in a state of emergency may be managed using the survival strategies without the legal and property extinction of enterprise.

Basic survival strategies without possibility of legal and property extinction of a company consider:

- consolidation,
- restructuring / judicial restructuring,
- re-engineering,
- rehabilitation,
- management based on control contract,

- management based on the method of tolling security.

#### **4. A company with poor results in performance**

Business solution of the crisis may be a strategy with the legal dissolution of the company. Such approaches is used in a situation when it is no longer possible to apply the above - mentioned reorganization strategies of a company. This group includes:

- transformation,
- fusion,
- acquisition.

#### **5. Conclusion**

Managerial decision making is complex issue whose consequences are wide and directly affect the entire enterprise. Only detailed knowledge of internal links within an organization helps managers to make good decisions. Currently, after the economic crisis, many companies found themselves in an unfavorable financial situation, respectively business on the brink of crisis. Crisis solution is possible make by various strategies, either with a change of property and legal form, or destructive policies. Properly chosen strategy helps the company to gain a market position and continue in struggling in a competitive environment.

#### **Acknowledgement**

This paper was made about research work support: VEGA no. 10417/09

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## Philosophical Background of Knowledge Management in comparison with Recent Understanding of Knowledge

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**Abstract.** This article presents theory of knowledge from the times of Greek philosophers to recent authors. It shows how the theory of knowledge changes during the years. Most of the recent authors still use the ideas of ancient philosophers, but they create also a new theory. The most important is taxonomy of knowledge which is made by Polanyi and concept of *phrónésis* made by Aristotle. Aristotle's *Nicomachean Ethics* is the key to understanding theory of knowledge creation.

**Keywords:** philosophy, *phrónésis*, *epistémé*, *téchné*, *noûs*, *sophía*, tacit knowledge, school of thought, knowledge.

### 1. Introduction

Every theory has its background in philosophy. If we want to understand knowledge and its creation and sharing, we have to understand its origin. We have to realize that knowledge is rooted in ancient philosophy. Ancient Greeks were the first who realized the power of knowledge. But first notions about knowledge were different as the recent understanding of knowledge but the differences are not so significant. It depends on authors how they see knowledge and what they think the knowledge is. Besides philosophers, the first who mentioned about knowledge was Peter Drucker. He considered knowledge as most important resource which supersedes the traditional management resources of land, capital and labor.

### 2. Philosophical Background of Knowledge Management

Ancient philosophers defined knowledge many years ago. Their definitions are basis for recent authors. For example Polanyi's taxonomy of knowledge is fundament for Nonaka's theory and we can say that not only his. For ancient Greek philosophers (Socrates, Plato and Aristotle), knowledge was a homogenous construct that ultimately was representative of the truth. Thus knowledge was truth. [2]

Plato was one of the first philosophers who emphasize the importance of knowledge. He stressed the importance of dialogue as a process of clarifying the essence of things in the search for new knowledge. Dialogue is an effective method to articulate one's tacit knowledge and share the articulated knowledge with others. [1]

The Aristotelian perspective on knowledge is very important for today's authors. They use his concept to explain knowledge. We can find his perspectives in book of *Nicomachean Ethics*. The most important is *phrónésis* or practical wisdom. Nonaka use this practical wisdom to explain his theory of knowledge.

At the beginning there is *epistémé* or scientific knowledge or factual knowledge. *Téchné* is action oriented knowledge which is based on skills.

*Phrónésis* is practical wisdom based on experience or the ability to understand and bring to fruition that which is considered good by individual customers in specific times and situations [1].

It is not a utilitarian concept, as practical wisdom also involves value judgments about what customers and society really want. It is a skill which needs to be distributed throughout the organization. [1]

*Phronésis* is the ability to grasp the essence of a situation in process and take the action necessary to create change. The concept of *phronésis* is generally understood as the ability to determine and undertake the best action in a specific situation to serve the common good. *Phronésis* is concerned with values. It goes beyond analytical, scientific knowledge (*epistémé*) and technical knowledge or know-how (*téchné*). It is the high-quality tacit knowledge acquired from practical experience that enables one to make prudent decisions and take timely action appropriate to each situation, guided by values and ethics. [1]

*Noûs* is intuition and *sophía* is theoretical knowledge about universal truth. People often change this term with *phronésis*.

Other schools of thoughts look at the knowledge from different point of view. The most significant perspectives summarizes following table. [2]

School of Thought	Basic Ideas on Knowledge	Some proponents
Positivism	Knowledge is gained from the observation of objective reality.	Comte
Constructivism	Knowledge is constructed in our minds, thus is not objective.	Erlangen school
Critical Theory	Uses knowledge to integrate the tension between reality and society and the real societal function of science.	Habermas, Horkheimer
Critical Rationalism	All knowledge must be open to empirical falsification before it can be accepted.	Popper
Empiricism	Knowledge can be created from experiments, and thus only mathematics and natural science can provide secure knowledge.	Locke, Russel
Sociology of knowledge	Knowledge is a socially constructed reality.	Mannheim, Scheler
Pragmatism	Knowledge represents a local reality based on our experiences.	Dewey

**Tab. 1.** Different perspectives on knowledge.

Source: Schwartz

Other philosophers, who mentioned about knowledge, were Rousseau and Kant. They confirm the importance of knowledge of individuals. [2]

I know is what I have words for. If we cannot put things into words, we cannot know them. We can know more that we can tell. Knowledge decreases when wisdom increases. [2]

Descartes, Leibnitz and Locke challenged the ideas of knowledge as faith and developed ideas of knowledge as accurate, provable facts. Hegel and Kant defined knowledge as divergent meaning or justified true beliefs. [2] This definition also uses Nonaka.

Michael Polanyi stands in opposition to the objective, analytical view that sees knowledge as something human beings obtain by analyzing the object as a thing that exists separately and beyond the self. He argues that human beings obtain new knowledge through their individual, active, and subjective shaping and integration of experience, which he calls “tacit knowing”. For Polanyi, objective, analytical and explicit knowledge is a logic void of meaning that is no more than “knowledge without a knowing subject”, although he does not deny the significance of objective, explicit knowledge. Knowledge is first and foremost an issue of how we position that reality within ourselves. It is the issue of how we exist as individuals. [1]

Polanyi asserts that all knowledge is tacit or is rooted in tacit knowledge and no knowledge is fully explicit. The source of knowledge creation is the process of interaction

between tacit and explicit knowledge. Tacit and explicit knowledge do not exist separately. Because they are opposite in character, they interact in a creative process that is dynamic. It is within this dynamic that new knowledge is born. [1]

### **3. Recent Understanding of Knowledge Management**

The current state of knowledge differs from authors who define it. As it is mentioned above, the first notion about knowledge comes from Peter Drucker. He had been dealing with knowledge workers not knowledge itself. The main and fundamental ideas about knowledge have Nonaka, Schwartz and Zeleny. Their view on knowledge is very progressive.

The recent perception of knowledge is influenced by philosophy. All authors try to integrate philosophical thoughts and concepts to help develop process theory of knowledge-based firm. Existing theories do not explain adequately the process of knowledge creation.

While physical resources such as capital, raw materials, and manufacturing equipment can only be used by their owner and depreciate with use, knowledge does not decline in value, can be reproduced and shared by multiple users, and is broadly available. Moreover, the value of physical resources can increase when combined with knowledge. [1]

“Knowledge assets” has affinities with the term “intellectual capital”. Knowledge assets include patents, licenses, databases, documents, and other so-called knowledge capital, as well as skills, social capital, brand equity, design capability, organizational structures, systems, routines and cultures. [1]

The theory of knowledge creation is based on viewing the world and all things in it as a continuous flow. Knowledge is more than a simple collection of information. The most prominent feature of knowledge is that it is born of human interaction. It is not a self-contained substance waiting to be discovered and collected. Knowledge is created by people in their interactions with each other and the environment. [1]

Davenport and Prusak posit that knowledge is a fluid mix of framed experience, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it often becomes embedded not only in documents and repositories but also in organizational routines, processes, practices, and norms. [2]

Heidegger and Gadamer sketch out the ontological basis of knowledge. They describe knowledge management as an integrated, systematic approach to identifying, managing, and sharing all of an enterprise’s information assets, including databases, documents, policies, and procedures, as well as previously unarticulated expertise and experience held by individual workers. (Schwartz)

Information is not knowledge. Although information is an enhanced form of data, knowledge is not an enhanced form of information. Knowledge is not and cannot be the same as information, not even a special form of information. It cannot be handled as information, does not have the same uses. Having information is not the same as knowing. Not everybody, who read cookbooks, is necessarily a great chef. [3]

Knowledge can be demonstrated through action, only through doing. Knowledge is action, not description of action. [3]

Knowledge is purposeful coordination of action. Achieving an intended purpose is the sole proof or demonstration of knowledge. Its quality can be judged from the quality of the outcome (product) or even from the quality of the coordination (process). [3]

Knowledge is an embodied complex of action enabling structures, externalized through a purposeful coordination of requisite activities. [3]

## 4. Conclusion

Importance of philosophical roots is undeniable in explaining knowledge. Many authors draw on Aristotle’s concept of *phrónésis*. All of them use Polanyi’s taxonomy of tacit knowledge. Some of them deny existence of explicit knowledge, because they think that this kind of knowledge is not knowledge, it is just information. One uses tacit knowledge to explain SECI process of knowledge creation, another to explain importance of individual knowledge which is in head of individuals. Every theory has its background in philosophy. If we want to understand knowledge deeper, we need to study concepts of philosophers.

The differences between views on knowledge are not that significant. It depends on how we perceive various interpretations. But the fundament is still the same. It is because knowledge was and still is something what is primary in our heads and it is difficult to describe it. This article provides various definitions of recent authors and philosophers. As we could see, most of the definition did not change during the years.

The main comparison between ideas of proponents of school of thought and recent authors are in following table. We can see that most of the recent authors still use the same definitions or explanations. They still have the same view on knowledge and its impact on firm.

School of Thought	Basic Ideas on Knowledge	Comparison with recent ideas
Positivism	Knowledge is gained from the observation of objective reality.	Nonaka mentioned that we can gain our knowledge by observing reality and also master.
Constructivism	Knowledge is constructed in our minds, thus is not objective.	All authors assert that knowledge is subjective.
Critical Theory	Uses knowledge to integrate the tension between reality and society and the real societal function of science.	Although any author did not mention about this, we can say, that it is true.
Critical Rationalism	All knowledge must be open to empirical falsification before it can be accepted.	Nonaka explains that practical reasoning occurs as a sequence of thoughts and actions toward a goal.
Empiricism	Knowledge can be created from experiments, and thus only mathematics and natural science can provide secure knowledge.	This is not true that only natural sciences can provide secure knowledge. Their knowledge is very specific but is not the only one which is secure.
Sociology of knowledge	Knowledge is a socially constructed reality.	This is the Nonaka’s process of social validation of truth.
Pragmatism	Knowledge represents a local reality based on our experiences.	Because knowledge is subjective, it has to be based on our experiences.

**Tab. 1.** Different perspectives on knowledge - before and now.

Source: Own elaboration based on Schwartz

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# Public relations – important communication tool of the universities in the Slovak republic

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**Abstract.** Communication is necessary part of everyday life not only for humans but also for companies or universities. If companies or universities want to communicate they can use various tools. One of these tools are Public relations. But laic public often make mistakes because many people interchange term Public relations and term advertising. The following papers show the differences between these two terms and at the same time it is focused on importance of Public relations as communication tool and why they are so important for communication of universities in the Slovak republic.

**Keywords:** Communication, Public relations, Advertising, Universities in the Slovak republic.

## 1. Introduction

The word Public relations (or abbreviation PR) are mentioned everywhere in these days. Many of companies establish their own departments of PR with a goal to create a positive image about company. If there is somebody who doesn't know what abbreviation PR means, he doesn't go with times.

The importance of this communication tool is still increasing, namely in these days when customers start being oversaturated by (more or less) interesting advertising. Customers often consider advertising as disturbing and don't pay attention to it. And mainly confidence of customers in truthfulness of advertising is rapidly decreasing. It often comes from poor ethics in advertising, when an offering product often didn't meet the parameters, which have been guaranteed.

And also a Harvard professor T. Levitt marks (after comparison of PR and advertisement) PR as more reliable source of information. He claims, that if information is formulated by reliable journalists and reporters, by detached persons, it sounds more reliable.

## 2. Public relations – a tool of marketing communication

PR are one of a tool of marketing communication but they can't work alone. This communication tool has to be combined with other tools, because it is integrated not only with marketing but also with zone of production or finance.

It is not possible for PR to work effective and public believes to it, if they aren't based upon truth. If people can't trust a product, trade mark or a whole company, it doesn't have any sense to use tools of PR, because just PR are related to trust, social responsibility and ethic behavior and who will believe to a company that behave unethical to its customers or even it impair them by its products? And this fact is also valid for Universities.

Also universities in the Slovak republic have to communicate with their surroundings when they want to be successful in competitors fight. The right communication is a secret of success. If a university doesn't communicate nobody will know anything about it. One of the basic rule of successful communication is (according to Miroslav Foret) credibility. Actually he mentions this rule first and foremost. And as it was mentioned above PR are related to credibility. (Foret, 2006, pg. 10)

We know that PR are one of the very important tool of marketing communication but on the other hand they are different in some things. Marketing communication is orientated mainly commercially and on a short-term basis. And because of this only a small group of marketing managers are ready to sacrifice present profit in favour of long-term return, which is on the other hand a goal of PR managers. PR managers take into account an importance of satisfying of customer's needs and making profit but on the other hand they are mainly focused on very good long-term relationships and building of a good name and good reputation. (Pelsmacker, 2007, pg. 302)

Each marketing manager should take care of the way of communication with its surroundings and shouldn't be short-sighted in communication. It is very good to achieve specified turnover in short-term period but it isn't convenient to make it at the expenses of for example quality, because it can turn to him as boomerang. Universities can assure some for example students in this way but not for a longer time. Present students have many choices how to satisfy their needs (educational needs) and if one university disappoints their trust there is no way back. And the worst thing is that they share their bad experience with other people. Because of this the universities should adjusted their communications with public. It is much more easier to use PR as one of the tool that can bring support of public and assurance of market position on the market of education.

## 2.1. Public relations and advertising

Public relations are a tool of marketing communication. PR is used with other tools of marketing communication to achieve the final goals which were set before. Company (in this case university) has to combine these tools very sensitively and care about their harmony. For example specialists in the field of marketing advise to company which is in the stage of product leading - at first to use tools of PR (and create good name and positive relation of customer to company) and after this use an advertising (abbreviation ad).

Nowadays more and more companies starting to use PR and often this tool is used at the expense of the others communication tools (many statistics, which shows that at the time of economic crisis the companies use more and more PR for example instead of ad, are proof). The main reason of its increasing usage is that PR needs lower expenses and on the other hand it is more effective because this tool speak to bigger group of people.

Laic public thinks that PR and ad are the same tool. Maybe they are very similar in some points but there are a lot of differences between them, like for example:

- *paid space or free coverage* – following a definition of ad (it's any paid form of company's presentation or presentation of its product) it is obvious that the company has to pay for space and it creates costs. But on the other hand PR doesn't create these costs, because company doesn't pay anything to publish something about itself. There are some costs of course but these costs are related to salary of PR manager, repayment of PR agency etc.
- *creative control vs. no control* – as it was mentioned above, when company use advertising it pays for the space. It means that company has creative control of what is presented, when it is presented, how and where. On the other hand PR are uncontrolled because company doesn't paid anything so the company can't make a decision what, when and where it is presented because media needn't to publish anything about you just because you send something new about your company.
- *shelf life* – in this case ad is more effective because you can use it as long as you have money. So you can use it over and over if you have enough money. But if you use PR it realizes in press only once because editor isn't willing to press the same news more than once.
- *wise customer* – customers are oversaturated by ad. But often it isn't only oversaturation by ad, the consumers are many times sick of the poor ethic in ad (many times they bought a goods which was different from what was promised in ad). So they are getting more and

more cleverer and skeptical towards ad. On the other hand there is PR and for example article in newspaper which seems to be more disinterested and true.

- *creativity and nose for news* – while you can use (and very often you have to if you want to attract customers attention) a lot of creativity in ad, when you use PR it is more about nose for news. You exercise your creativity in the way you search for new news to release to the media.
- *writing style* – nowadays we can see very creative ads. Many of ads are full of ideas and try to attract customers. We can say that there are no borders for your imagination. But in PR it is different. You have to attract customer's attention by interesting story but it's up to editor what he or she will publish from your story.

### **3. Importance of Public relations for universities in the Slovak republic**

In the Slovak republic the companies have been getting through turbulent changes in the last 20 years. But this statement isn't valid only for business but it is also valid for whole economic and social life. So these changes have struck also field of universities in the Slovak republic.

Present-day universities have to face to competitors fight, because opening of frontiers hasn't meant only incoming of foreign students but simultaneously possibility of Slovak students to travel abroad where they can study or on the other hand possibilities for foreign universities to work in our county.

The proof of these statements is fact that Ministry of Education, Science, Research and Sport of the Slovak republic register 20 public, 3 state, 10 private and 4 foreign universities in our country so when a university wants to be successful it has to use various marketing tools, but their using is determined by a level of financial resources.

J. Světlík defines marketing of school (and also of university) as process which result is to managing that influencing and satisfying need of school in effective way. And he also shows that marketing of a school is a mix of two theories – marketing of non-profit organizations and marketing of services. And like companies fight for their customers, universities also fight for their customers which are in this case students. And because of the fact that education is a service, which is characteristic by its untangibility, it is very difficult to persuade student to study at the concrete university. Many students make decision based on references, information from friends, ratings of universities etc.

Each potential student makes its own decision based on same factors – external or internal. And one of the important factors for decision making is communication of the universities. But as it was mention above universities have limited budget and they have to use communication tools in the most effective way. And PR seems to be the one of the most effective way how to communicate with public.

We have spoken about customers of universities only as students, but target groups are varied. We can speak about potential or present students, employees of the university, civil service or sponsors.

Universities can use a lot of PR tools within the frame of creation good relationships with public, to inform public about its activities, results in education, research, cooperation with foreign universities etc. And many universities can also respond to untrue information published in medias just by using of PR.

### **4. Conclusion**

PR are very important tool of marketing communication. This communication tool is associated with credibility and good image. They can't be used isolated from the others communication tools

but on the contrary they have to be tuned with them to achieve unit goal of marketing communication.

PR are often the only possibility how universities (which nowadays are facing to competitors) can communicate with their target group that can be for example students, civil services or sponsors.

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## Corporate social responsibility in a postal sector

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**Abstract.** The article is focused on the corporate social responsibility and points to specifics of this concept in a postal sector. It is really topical issue because of the impact of the postal sector on our society. From its social role of providing communications services, to impacting the lives of the many employees (the postal operators are still the largest employer in many countries) and the environment (with varied transportation means and large sorting offices, the impact on the environment is important). This article deals with analysis of implementation of corporate social responsibility in strategies of postal operators all over the world. The main aim is to determine the status of corporate social responsibility in this business.

**Keywords:** Corporate social responsibility, postal operator, stakeholders, sustainable development, environment, triple-bottom-line.

### 1. Introduction

Corporate social responsibility (CSR) is a concept whereby organizations integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis. Through CSR, enterprises of all sizes, in cooperation with their stakeholders, can help to reconcile economic, social and environmental ambitions. [1]

One of the earliest books of CSR, “The Social Responsibilities of the Businessman”, was written by *Howard Rothman Bowen* in 1953. Bowen argued that since social institutions shaped economic outcomes it was to be expected that business firms as an economic outcome of societal interests should consider the social impact of business activity. [2]

Definitions of CSR are presented in Table 1.

Author	Definition
Business for Social Responsibility	Operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business.
The Canadian Centre for Philanthropy	A set of management practices that ensure the company minimises the negative impacts of its operations on society while maximising its positive impacts.
The CSR Newswire Service	CSR integrates the interests of stakeholders - all of those affected by a company's conduct - into the company's business policies and actions. CSR focuses on the social, environmental, and financial success of a company - the triple bottom line, with the goal being to positively impact society while achieving business success.
The World Business Council for Sustainable Development	Corporate Social Responsibility is the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large.

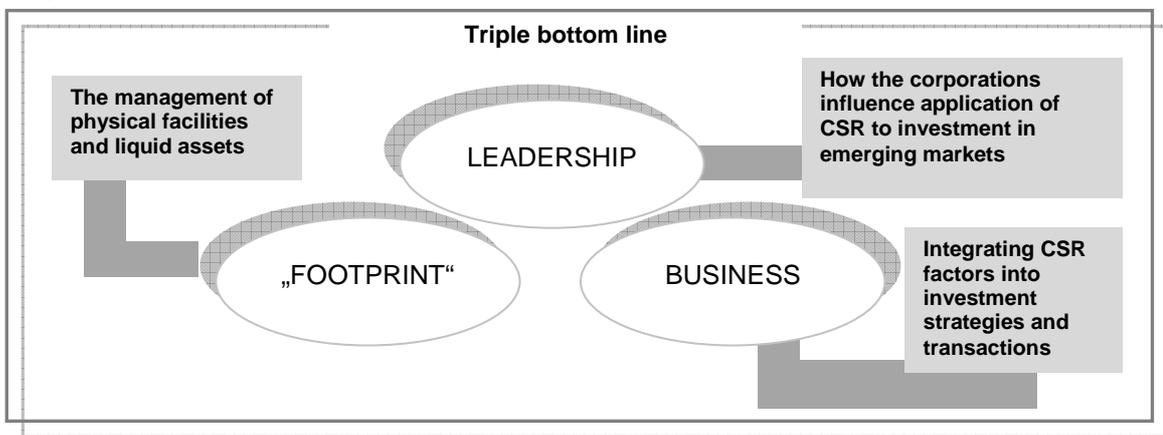
Tab. 1. Definitions of CSR.

*The Green Paper* defines CSR as a “concept whereby companies decide voluntarily to contribute to a better society and a cleaner environment.” Many factors are driving this move towards CSR:

- ❑ new concerns and expectations from citizens, consumers, public authorities and investors in the context of globalisation and large scale industrial change;
- ❑ social criteria are increasingly influencing the investment decisions of individuals and institutions both as consumers and as investors;
- ❑ increased concern about the damage caused by economic activity to the environment;
- ❑ transparency of business activities brought about by the media and modern information and communication technologies. [3]

On the basis of these definitions, following key elements of CSR can be presented:

- **versatility** - valid concept for all types of business;
- **voluntariness** - voluntary commitment of corporations strain a point of the legislative obligations;
- **triple bottom line** - concept that indicates financial, social and environmental performance (Figure 1) [4]



**Fig. 1.** Triple bottom line – economic, social and environmental factors of CSR.

- **stakeholder involvement** - stakeholders are all the individuals and groups who see themselves as potentially affected by the operations of a facility, whether on a local, national, or international scale. [5]

## 2. Importance of involving the postal operators to CSR practices

Every business day, postal operators play a significant role in helping managers conduct business affairs, ship goods around the world and communicate with one another through a variety of world-class innovative physical and electronic delivery solutions.

Increasingly postal operators share a common vision of sustainable development and are committed through social and environmental programs to match their customer’s and other stakeholder’s strategy and expectations in this area. It is also expected that postal operators will work together through different programs to exploit synergies in their management approach to climate change.

Benefits for social responsible postal operators are:

- economic by reducing fuel, energy and resources consumption;
- regulatory by anticipating the evolution of ‘green’ regulation;
- scientific by encouraging innovative technologies;
- social by demonstrating postal operator’s goodwill to address their social responsibility. [6]

The concept of CSR is formed by social, economic and environmental areas (Table 2) according to the structure triple bottom line.

Main areas of CSR		
<i>economic</i>	<i>social</i>	<i>environment</i>
<ul style="list-style-type: none"> <li>- code of conduct</li> <li>- code of ethics</li> <li>- transparency</li> <li>- corporate governance</li> <li>- rejection of corruption</li> <li>- shareholders dialogue</li> <li>- stakeholders dialogue – customers, suppliers, investors</li> <li>- protection of intellectual property</li> </ul>	<ul style="list-style-type: none"> <li>- corporate philanthropy</li> <li>- employee’s involvement in health and safety</li> <li>- human resources development</li> <li>- compliance with labour standards</li> <li>- work-life balance</li> <li>- workplace diversity</li> <li>- laid-off workers retrain</li> <li>- human rights</li> </ul>	<ul style="list-style-type: none"> <li>- ecologic services and products</li> <li>- corporate environmental policy</li> <li>- reducing environmental impacts</li> <li>- protection of natural resources</li> <li>- alternative sources</li> </ul>

**Tab. 2.** Key areas of CSR.

Caring for the health of employees, customers and the environment is high on the agenda of *PostEurop Members with the creation of the Social Responsibility Committee.*

### 3. Participation of postal sector on CSR activities

PostEurop has been active in promoting CSR in the European postal sector and raising its Members awareness on the issue since 2005. In March 2006 PostEurop was the first European trade association to support the European Alliance for CSR launched by the European Commission.

Postal operators and organizations are increasingly active in social responsible practices. *International Post Corporation (IPC)*<sup>1</sup> has been nominated for ‘innovative reporting’ in the 2011 Responsible Business Awards for the Postal Industry Sustainability Report 2010 on IPC’s Environmental Measurement and Monitoring System. IPC member United States Postal Service also nominated in separate category. The prestigious awards celebrate leaders in sustainability and corporate responsibility and are organized by Ethical Corporation, the independent organization promoting responsible business practices. [7]

*Participating posts* on this report are:

- ▀ An Post - Ireland
- ▀ Australian Postal Corporation – Australia
- ▀ bpost – Belgium
- ▀ Canada Post Corporation – Canada
- ▀ Correos y Telégrafos – Spain
- ▀ CTT Correios de Portugal – Portugal
- ▀ Entreprises des Postes et Télécommunications Luxembourg - Luxembourg
- ▀ Posten Norden - Denmark and Sweden
- ▀ United States Postal Service - United States
- ▀ Groupe La Poste - France
- ▀ Hellenic Post-ELTA – Greece
- ▀ Itella Ltd – Finland
- ▀ Magyar Posta Zrt – Hungary
- ▀ New Zealand Post Ltd - New Zealand
- ▀ Österreichische Post
- ▀ Poste Italiane
- ▀ Posten Norge – Norway
- ▀ Royal Mail Group Plc - United Kingdom
- ▀ Swiss Post – Switzerland
- ▀ TNT - The Netherlands

<sup>1</sup> International Post Corporation is the postal industry’s partner company that provides leadership by driving service quality, interoperability and business-critical intelligence, and gives its members an authoritative, independent and collective voice. More than 75 percent of global postal operators participating in the IPC.

A lot of world postal operators implement the principles of CSR into their strategies are active members of the *UN Global Compact Initiative*, which covers the United Nations. International Post Corporation and operators - Post Danmark, Deutsche Post DHL, Hungarian Post, Japan Post Group, Business Post Group, Royal Mail Group, Austrian Post, Groupe La Poste, Albanian Post, Iceland Post, An Post are associated in this initiative. This initiative covers the basic principles defining environmental and social standards. It relies on principles of public accountability, transparency and open dialogue with stakeholders.

Carbon management and environmental sustainability are issues that fall under the wider framework of a company's corporate social responsibility framework, but in postal sector are these issues the most important.

*PostEurop's Environment Working Group* (under the Social Responsibility Committee) supports the actions against climate change and proposes the introduction of a Greenhouse Gas Reduction Programme to help Member postal operators quantify and mitigate its impact and exploit opportunities provided by progressing to a low carbon economy. In January 2007 the Commission unveiled its awaited energy proposals in a move to hopefully, "set the pace for a new global industrial revolution". [6]

The postal industry today became the first services sector to set a global emissions target for its industry when the IPC, which represents the world's leading post operators, today announced that 20 member postal operators will work together to collectively reduce their carbon emissions by 20% by 2020, based on 2008 levels. [8]

#### 4. Conclusion

The postal sector is one of the most important factors of strengthening national and political uniformity of the country, development of international relations, economic development and also an important part of the production process.

These characteristics pose claim of corporate social responsibility with respect to the external environment and all stakeholders on the postal operators. The aim of socially responsible corporation is not only to maximize profit or increase the value of the corporation, but its goals are based on the needs of the environment in which it operates, and include social and environmental aspects of its operations.

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**TRANSCOM 2011**

Proceedings, Section 2, Part 2

Published by University of Žilina

First Editions

Printed by EDIS-Žilina University publisher

ISBN 978-80-554-0371-7