

# ORGANIZATION AND MANAGEMENT

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THE COMMITTEE ON ORGANIZATIONAL  
AND MANAGEMENT SCIENCES

WARSAW SCHOOL OF ECONOMICS  
COLLEGIUM OF MANAGEMENT AND FINANCE

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## THE INTRODUCTION

The complexity of the phenomena and processes occurring in the business environment force organizations to dynamically adapt their activity to meet the expectations formulated by the said environment. One of the consequences of these processes are the changing systems of objectives in modern organizations, increasingly more often taking into consideration the expectations of interest groups emerging both within organizations and in their environments. Striving to meet the demands of interest groups, which not only emphasize the need to take certain steps aimed at generating a financial result but also point to the fact that organizations should feel responsible for the environment in which they operate, an increasing number of companies are making attempts at implementing the concept of corporate social responsibility.

An analysis of the processes of CSR principles implementation leads to the conclusion that such processes are rather ineffective. When looking for the reasons explaining why they fail, three determinants should be pointed out: first of all – lack of coherence and explicitness of the premises of the concept, second of all – the managerial staff's attitude towards corporate social responsibility – they often see it more as a "fad" than a tool for designing their organization's business model, third of all – the internal barriers within an organization, which reduce the effectiveness of implementation processes. The foregoing determinants are often used as the basic arguments against corporate social responsibility, however, failure to incorporate the principles of CRS into a company's business strategy may translate into a reduced effectiveness of the management system, resulting from a non-systemic approach to actions within the broadly-understood CSR area. This means that we should not be asking whether to implement the concept of corporate social responsibility but how to implement and improve it in order to create value for an organization.

Two articles refer to the concept of corporate social responsibility. In the first one Piotr Wachowiak presents his own proposal for a social reporting process shaped

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in a way to ensure effective communication between the company and its environment, connected with the concept of corporate social responsibility. In the second article Waldemar Rogowski attempts to analyze the implementation of corporate social responsibility principles from the perspective of strategic management processes. The author discusses five case studies of companies which have implemented the CSR concept and presents some preconditions for taking socially responsible action.

Agnieszka Sopińska makes an attempt to evaluate the concept of knowledge management in network associations, emphasizing the role of knowledge resources in the networking of organizations and presenting a model for the management of such resources both at the level of a network element and the whole network.

Kamila Malewska discusses some new trends in the decision-making process. Pointing to the rising importance of intuition in the decision-making processes, she discusses a model for ethical decision-making, combining rational analysis with the use of intuition.

Emphasizing the impact of ownership structure solutions on the logic behind companies' operation on the market, Maria Aluchna attempts to explain the creation and functioning of the pyramid structure and describes the pyramid structures existing on the Warsaw Stock Exchange.

Stressing the role of coepetition in the implementation of complex undertakings, Bili Sam and Grzegorz Krzos discuss the results of the study on the application of coepetition in European projects.

Alberto A. Suárez, Pablo Albañil, Javier Alonso, Ramiro Martís, Carlos Catalán and Miguel Angel Pascual emphasize the importance of improving the quality of service in managing a higher education institution and discuss the premises of the Quality Plan for Services of the University of Oviedo.

Anna Wójcik-Karpacz discusses a case study and describes the utilitarian and cognitive values of an interorganizational synergy effect.

Bogdan Nogalski and Przemysław Niewiadomski attempt to present selected issues connected with product flexibility of a plant from the theoretical, cognitive and practical points of view.

Sladana Benković, Miloš Milosavljević and Nataša Petrović discuss an application of a public-private partnership in Serbia.

Enjoy the reading!

*Szymon Cyfert*

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# PYRAMIDAL STRUCTURES IN POLAND

## Introduction

Ownership structure remains the crucial company's characteristics, it belongs to the most important governance mechanisms, and delivers fundamental legacy for oversight and control. The studies on ownership structure patterns, dynamics and characteristics help understand the directions of strategic development of companies. The growing interest in the comparative analysis delivers insights into the studies of different ownership types and form, shareholder identities and the logic of their operation. Interestingly, the literature dominated by the research on the dispersed ownership and Anglo-Saxon economies placed the ownership structure studies in the framework of principal agent theory and conflicts between executives and shareholders. Moreover, the largest companies in other countries also depict such ownership pattern and face – in the language of agency theory – the problems of hidden action, hidden information and hidden intention. Further comparative research indicated the concentrated ownership as the dominant pattern for control. The concentrated ownership is revealed in continental Europe, Latin America, Australia, Asia (Morck, 2002; Morck, 2009). Moreover, in many companies the concentrated ownership is not only the result of the simple majority stake held by the dominant shareholder but is tied to the control exerted via pyramidal structures which allow to lower the capital involvement. The pyramidal structures depicted in line of the comparative analysis of emerging markets are revealed in India, South Korea, Thailand, Russia, Ukraine, Latin American countries (mostly researched – Mexico, Brazil, Chile, Peru, Argentina). Interestingly, pyramidal structures are also to be found in developed economies such as Canada, Belgium, Italy, France, Sweden (Aluchna, 2010). Despite the extensive evidence on some negative motivations for creating pyramidal structures such as tunneling and abuse of minority shareholders, there is a growing number of

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\* **Maria Aluchna, Ph.D.** – Department of Management Theory, Warsaw School of Economics.

studies suggesting that pyramids do not destroy shareholder value but simply serve as a tool for control exerted over the companies by their founders.

The paper presents the essential dimensions of ownership structure focusing on its specific form known as pyramids. The aim of the paper is to analyze the reasons for creating and logic of functioning of pyramidal structures and to deliver a brief presentation of the pyramidal structures identified in Poland amongst the largest public listed companies. The paper is organized as follows. The first section provides a literature review presenting the theme of pyramidal structures as the specific form of ownership and control pointing out at the reasons behind their creation and the logic of their functioning. The characteristics of the ownership structure of Polish companies with the discussion of its strengths and challenges is outlined in the second section. The third section delivers the initial results on the analysis of the pyramidal structures identified amongst the largest public companies listed on the Warsaw Stock Exchange. The final remarks are presented in the conclusion section.

## 1. Ownership structure

The analyses on ownership structure usually distinguish its two types: dispersed ownership and concentrated ownership. Additionally, for the purpose of studies the identity of shareholders is analyzed identifying individual and institutional shareholders, state ownership, managerial ownership as well as the presence of financial and non financial institutions in the ownership structure. The analysis of ownership structure allows to relate a specific ownership patterns and characteristics to company behavior, strategy and performance. For instance dispersed ownership offers a lot of opportunities for raising significant funds and risk diversification, it leads, however, to increased principal-agent conflicts as the residual rights of control are in the hands of executives (Monks and Minow, 2004). Shareholders face the limited possibility to monitor and control executives and experience the problems of hidden action, hidden information and hidden intention (Jensen and Meckling, 1976; Shleifer and Vishny, 1997). Dispersed ownership also is characterized with the free rider problem as the holders of small stakes are not interested in collecting and processing information for the evaluation of the executives. They remain passive and vote by feet, not getting involved in the supervision and governance (Monks and Minow, 2004). The concentrated ownership is seen as the solution to agency conflicts and free rider problem (Jensen and Meckling, 1976; Shleifer and Vishny, 1997) and is believed to lead to higher profitability when the dominating owners are active (Neun and Santerre, 1986; Holderness and Sheehan, 1988). The ownership concentration proves to be an important monitoring mechanism being the second best solution

when market/ external mechanisms are not working well (Morck and Steier, 2005). The majority shareholder is able to internalize the costs of collecting information and to exert effective control over management as they possess significant stakes and crucial know-how. The active engagement in monitoring and control appears to be an efficient strategy for majority shareholders. Some doubts refer however to the threat of the majority shareholder abusing their position via representatives on the board favoring them at the cost of minority shareholders (Fama and Jensen, 1983). The dominant shareholders may expropriate minority shareholders through a tunneling or compensation policy (Stulz, 1988), blocking dividend payout or limiting access to information.

With the reference to shareholder identity most studies focus on the effects of institutional and managerial ownership. The involvement of institutional investors in the ownership structure is positively correlated with corporate performance due to their skills and experience in monitoring (Brickley et al., 1988; McConnell and Servaes, 1990; Useem, 1996; Maug, 1998; Woitke, 2002; Faccio and Lasfer, 2000). Managerial ownership is also believed to increase executives' motivation for creating shareholder value and to improve corporate performance. Research indicates that the positive effects are noted when the manager owns a stake between 0–5% and above 25% of shares (Morck et al., 1988).

The comparative analysis reveals that the dispersed ownership is mostly found in Anglo-Saxon economies and in the case of the largest companies worldwide. Continental European countries are characterized by significant ownership concentration (Allen and Gale, 2000; Murphy, 2003; Frohlin, 2003; Aganin and Volpin, 2003; Högfeltdt, 2003) which results in the limited number of shareholders and the dominance by powerful owner over the company. A similar pattern is also depicted in companies in Latin America and Asia (Morck et al., 2004). The ownership concentration is connected to a different specificity of shareholder identity – families and non financial institutions play an important role in the ownership structure for continental Europe, Latin America and Asia. Table 1 presents ownership structure in selected countries with reference to the degree of ownership concentration and family control.

As shown in Table 1 dispersed ownership is reported mostly in Anglo-Saxon countries. Concentrated ownership and control by families is found mostly in continental Europe and Asia.

Table 1. Ownership structure in selected countries

Country	10% threshold		20% threshold		Source
	Dispersed ownership	Family control	Dispersed ownership	Family control	
Argentina	0	65	0	65	La Porta et al. (1999, table 2 and 3)
Australia	55	10	65	5	La Porta et al. (1999, table 2 and 3)
Austria	5	15	5	15	La Porta et al. (1999, table 2 and 3)
Belgium	0	50	5	50	La Porta et al. (1999, table 2 and 3)
Canada	50 17.54	30 46.67	60 36.24	25 26.18	La Porta et al. (1999, table 2 and 3) Attandg, Gradhoum, Lang (2003)
Denmark	10	35	40	35	La Porta et al. (1999, table 2 and 3)
Finland	15	10	35	10	La Porta et al. (1999, table 2 and 3)
France	30 8.92	20 70.44	60 17.79	20 64.83	La Porta et al. (1999, table 2 and 3) Faccio, Lang (2002)
Germany	35	10 74.64	50 14.02	10 64.62	La Porta et al. (1999, table 2 and 3) Faccio, Lang (2002)
Greece	5	65	10	50	La Porta et al. (1999, table 2 and 3)
Hong Kong	10 0.6	70 64.7	10 7	70 66.7	La Porta et al. (1999, table 2 and 3) Claessens, Djankov, Lang (2000)
Indonesia	0.6	68.6	5.5	71.5	Claessens, Djankov, Lang (2000)
Ireland	45	15	65	10	La Porta et al. (1999, table 2 and 3)
Israel	5	50	5	50	La Porta et al. (1999, table 2 and 3)
Italy	15 7.83	20 64.87	20 15.86	15 59.61	La Porta et al. (1999, table 2 and 3) Faccio, Lang (2002)
Japan	50 42	10 13.1	90 79.8	5 9.7	La Porta et al. (1999, table 2 and 3) Claessens, Djankov, Lang (2000)
Korea	40 14.3	35 67.9	55 43.2	20 48.4	La Porta et al. (1999, table 2 and 3) Claessens, Djankov, Lang (2000)
Malaysia	1	57.5	10.3	67.2	Claessens, Djankov, Lang (2000)
Mexico	0	100	0	100	La Porta et al. (1999, table 2 and 3)
Holland	30	20	30	20	La Porta et al. (1999, table 2 and 3)
New Zealand	5	45	30	25	La Porta et al. (1999, table 2 and 3)
Norway	5	25	25	25	La Porta et al. (1999, table 2 and 3)
Philippines	1.7	42.1	19.2	44.6	Claessens, Djankov, Lang (2000)
Portugal	5	50	10	45	La Porta et al. (1999, table 2 and 3)
Singapore	5 1.4	45 52	15 5.4	30 55.4	La Porta et al. (1999, table 2 and 3) Claessens, Djankov, Lang (2000)
Spain	15 12.74	25 67.33	35 28.06	15 55.79	La Porta et al. (1999, table 2 and 3) Faccio, Lang (2002)
Sweden	0	55	25	45	La Porta et al. (1999, table 2 and 3)
Switzerland	50	40	60	30	La Porta et al. (1999, table 2 and 3)
Taiwan	2.9	65.6	26.2	48.2	Claessens, Djankov, Lang (2000)

Thailand	2.2	56.5	6.6	61.6	Claessens, Djankov, Lang (2000)
UK	90 27.06	5 33.75	100 69.08	0 19.88	La Porta et al. (1999, table 2 and 3) Faccio, Lang (2002)
US	80 38.95	20 23.37	80 69.26	20 6.13	La Porta et al. (1999, table 2 and 3) Attig, Gradhoum, Lang (2003)

Source: Morck R., Wolfenzon D., Yeung B. (2004), *Corporate governance, economic entrenchment and growth*, NBER Working Paper No. 10692, p. 8.

## 2. Pyramids as a specific form of ownership structure

The ownership concentration, involvement of families or financial and industrial companies as well as the preferred shares which companies are allowed to use have very often related to the popularity of pyramidal structures (Morck et al., 2004; Bebchuck, 1999). Pyramidal structures are the ownership type constituting of multi level companies with cross shareholdings which form relations of control (Zattoni, 1998; Bennedsen and Nielsen, 2006). The dominant shareholder via the controlling (holding) company exerts control and influence on decision making and profit distribution over all the portfolio companies, many of which may be listed (Cuervo-Cazzura, 2006). The main listed company is located at the apex of the pyramid and is controlled via the chain of subsidiaries, many of which do not report any operational activity but serve as financial and holding vehicles. Pyramidal structures do not replace preferred shares (they are more popular), although sometimes companies adopt both techniques of separating control and cash flow rights (Almeida and Wolfenzon, 2005). The characteristics of pyramidal structures, preferred shares and multi-level connections between different shareholders limit the transparency of continental European companies and are heavily criticized by Anglo-Saxon and pro-investor representatives. Pyramidal structures are often reported in economies of Germany, France, Sweden as well as Italy. Pyramids are also the popular ownership form in Latin America, Asia, Canada and Central and Eastern Europe. They very rarely are found in Anglo-Saxon countries. Table 2 presents mechanisms of separation control and cash flow rights in Europe addressing the aspects of the use of preferred shares, pyramids and cross shareholdings.

As shown in Table 2 pyramids are revealed in many European countries, mostly in Italy, France, Belgium, Austria, Germany, Norway and Sweden. Also the use of preferred shares is reported across European economies.

The separation of control and cash flow rights via the adoption of preferred shares and building multilayer pyramidal structures allow the dominant shareholder (founder, family) to exert full control over the group and assure for control at the lower capital involvement of the majority shareholder. Although separation of control and cash flow

rights motivates controlling shareholders to list publicly the company from the group and improves risk diversification, it may also lead to abuse of minority shareholders (investment policy and dividend payouts) and tunneling (Zattoni, 1999). Thus, the problems of pyramids corresponds to the classical negative consequences of concentrated ownership characterized by the majority owners abusing minority shareholders.

Table 2. Mechanisms of separation control and cash flow rights in Europe

Country	Sample	Preferred shares		Pyramids		Cross shareholdings		Other		Total	
		No. of firms	% firms	No. of firms	% firms	No. of firms	% firms	No. of firms	% firms	No. of firms	% firms
Austria	90	21	0.23	23	0.26	1	0.01	0	0.00	39	0.43
Belgium	85	0	0.00	23	0.27	0	0.00	5	0.06	28	0.33
Denmark	164	48	0.29	28	0.17	0	0.00	9	0.05	75	0.46
Finland	104	46	0.44	7	0.07	0	0.00	7	0.07	56	0.54
France	495	15	0.03	72	0.15	0	0.00	0	0.00	86	0.17
Germany	582	112	0.19	137	0.24	18	0.03	3	0.01	233	0.40
Ireland	60	15	0.43	11	0.18	0	0.00	2	0.03	25	0.42
Italy	169	73	0.43	42	0.25	2	0.01	1	0.01	93	0.55
Norway	138	15	0.11	45	0.33	3	0.02	1	0.01	57	0.41
Portugal	70	0	0.00	9	0.13	0	0.00	0	0.00	9	0.13
Spain	146	0	0.00	24	0.16	0	0.00	3	0.02	27	0.18
Sweden	200	123	0.62	53	0.27	1	0.01	0	0.00	147	0.74
Switzerland	161	84	0.52	10	0.06	0	0.00	0	0.00	93	0.58
UK	1632	411	0.25	358	0.22	2	0.00	10	0.01	689	0.42
Total	4096	963	0.24	842	0.21	27	0.01	41	0.01	1657	0.40

Source: Bennedsen M., Nielsen K. (2006), *The principle of proportional ownership, investors protection and firm value in Western Europe*, ECGI working paper No. 134, p. 37.

### 3. Pyramids in Poland

Polish listed companies reveal significant concentration of ownership characterized by the average majority shareholder stake estimated at 41% shares (Kozarzewski, 2003; Dzierzanowski and Tamowicz, 2002; Aluchna, 2007; Urbanek, 2009). The most popular types of dominant shareholders include domestic and foreign strategic investors and private investors (entrepreneurs who serve as CEOs). Although financial investors contribute to the number of shareholders, they prefer to hold smaller stakes and remain relatively passive in monitoring and governance (Kozarzewski, 2006; Dzierzanowski and Tamowicz, 2002).

The ownership structure analysis depicts a slight evolution of the identity of the dominant shareholder and the degree of ownership concentration resulting mostly from the economic development and the expansion of domestic companies. The early analyses pointed out the strategic foreign investors as the dominant group of shareholders which are now taken over by domestic shareholders. The domestic private and domestic strategic investors become the most frequent identity of dominant shareholder of Polish listed companies as presented in Table 3.

Table 3. Ownership structure of Polish companies (No. of sample companies, % of sample companies)

Shareholder category	1 <sup>st</sup> largest	2 <sup>nd</sup> largest	3 <sup>rd</sup> largest	4 <sup>th</sup> largest
Top Management Team members	88 (25.1%)	49 (17.3%)	31 (15.3%)	18 (14.5%)
Supervisory board directors	39 (11.4%)	40 (14.1%)	28 (13.8%)	12 (9.7%)
Other individual	24 (7.1%)	24 (8.5%)	25 (12.3%)	13 (10.5%)
Strategic foreign investor	60 (17.1%)	18 (6.4%)	8 (3.9%)	5 (4.0%)
Financial foreign investor	6 (1.7%)	14 (4.9%)	9 (4.4%)	5 (4.0%)
Strategic domestic investor	71 (20.3%)	26 (9.2%)	16 (7.9%)	6 (4.8%)
Financial domestic investor	28 (8.0%)	66 (23.3%)	47 (23.2%)	42 (33.9%)
NIF	4 (1.1%)	2 (0.7%)	–	–
Pension fund	7 (2.0%)	36 (12.7%)	35 (17.2%)	20 (16.1%)
State	14 (4.0%)	4 (1.4%)	1 (0.5%)	1 (0.8%)
Cross shareholding (to be liquidated)	4 (1.1%)	4 (1.4%)	3 (1.5%)	2 (1.6%)
Dispersed ownership	7 (2.0%)	–	–	–
Total	350 (100%)	283 (100%)	203 (100%)	124 (100%)

Source: compilation based on Urbanek (2009), pp. 392–393.

Table 3 reveals a significant popularity of domestic individual investors as the majority shareholders of Polish listed companies who aim at keeping the controlling share despite their companies IPOs. Although not shown in Table 3, the trend of creating corporate groups controlled by the domestic investors (individual or family) appears to be a strong phenomenon noted recently (Aluchna, 2010).

In order to provide some insights in the trends of the ownership structure and the popularity of pyramids among the listed companies, an additional analysis has been conducted. Table 4 presents the characteristics of 30 largest companies listed at the Warsaw Stock Exchange (as of the end of 2011) with respect of the degree of ownership concentration (concentrated or dispersed), the dominant shareholder (stake and name of the company, institution or individual investor), the use of the pyramidal structure and the adoption of preferred shares.



Table 4. Ownership structure of 30 largest public listed companies

Company	Ownership structure	Dominant shareholder	Pyramidal structure	Preferred shares
PGE	Concentrated	State – 85%	No	No
PGNiG	Concentrated	State – 73.5%	No	No
TP SA	Concentrated	France Telecom – 49.7%	No	No
KGHM	Concentrated	State – 42%	No	No
PKN Orlen	Concentrated	State – 27%	No	No
Enea	Concentrated	State – 60.4%	No	No
GTC	Concentrated	GTC Real Estate Holding B.V. – 46%	Yes – 2 levels	No
Żywiec	Concentrated	Brau Union AG – 62%	Yes – 4 levels	No
TVN	Concentrated	ITI – 64%	Yes – at least 2 levels	No
Asseco Poland	Dispersed	Asseco Poland – 12% A. Góral – 11%	No	No
Cyfrowy Polsat	Concentrated	Polaris Finance BV – 68.2% C, 78.53% V	Yes – at least 2 levels	Yes
Świecie	Concentrated	Framondi NV – 66%	Yes – at least 2 levels	No
Lotos	Concentrated	State – 53.2%	No	No
Stalprodukt	Concentrated	Arcelor Mittal – 38%	Yes – at least 2 levels	Yes
LPP	Concentrated	M. Piechocki – 33%, J. Lubianiec 29%	No	Yes
PBG	Concentrated	J. Wiśniewski – 45.7%	No	Yes
Bogdanka	Concentrated	State – 60.5%	No	No
Eurocash	Concentrated	L. Amaral plus subsidiary Politra B. V – 53%	Yes – at least 2 levels	No
NG2	Concentrated	D. Miłek i Luxprofi – 50.5%	Yes – at least 2 levels	Yes
Cersanit	Concentrated	M. Sołowiow (directly and indirectly) – 48.6%	Yes – at least 2 levels	No
Polimex Mostostal	Dispersed	ING – 8.7%	No	No
Budimex	Concentrated	Ferrovial 59%	Yes – at least 2 levels	No
Kopex	Concentrated	K. Jędrzejewski – 60.4%	Yes – at least 2 levels	No
Netia	Rather dispersed	Third Avenue Management LLC 24%	No	No
Orbis	Concentrated	Accor – 50.01%	Yes – at least 2 levels	No
Echo	Concentrated	M. Sołowiow (directly and indirectly) – 4%	Yes – at least 2 levels	No
Emperia	Dispersed	Aviva CU – 9.8%	No	No
InterCars	Concentrated	K. Oleksowicz – 35%	No	No
MMPP	Concentrated	3 holding subsidiaries – 56%	Yes, at least 2 levels	No
AMREST	Dispersed	BZ WBK Asset Management SA 22%	No	No

Source: own compilation based on the annual reports of the analyzed companies.

As shown in Table 4.25 out of 30 sample companies reveal concentrated ownership, which is consistent with previous studies (Kozarzewski, 2003; Dzierżanowski and Tamowicz, 2002; Aluchna, 2007; Urbanek, 2009). It is important to emphasize that ownership concentration is depicted also amongst the largest companies which usually tend to show a lesser degree of ownership concentration. The analysis also indicates that 14 out of 30 analyzed companies adopt pyramidal structure in their ownership. The pyramids are usually formed in the case of companies which were privatized to the strategic investors and which were founded after 1990 by individual investors. Pyramids are usually formed in the case of corporate groups with the listed company controlled by the strategic investor (Aluchna, 2010). Interestingly, the state control in the ownership structure translates into absence of pyramidal structure patterns in Polish companies. Additionally, 4 out of 30 analyzed companies use preferred share, which means that 16 of the sample firms adopt mechanisms of separation of control and cash flow rights. This initial analysis does not allow for any conclusion on the reasons behind the adoption of the pyramidal structures by Polish listed companies. In line however with previous research the most likely reasons refer to the aim of keeping control by the founders and dominant shareholders, which becomes a crucial governance mechanism, particularly under the conditions of a weak legal system.

## Conclusion

Pyramidal structures are the specific form of ownership and control created with the use of cross shareholdings and multi level relations of companies. Pyramids are well known and quite popular in listed companies worldwide, particularly in emerging markets such as India, Korea, Latin America and continental Europe, mostly in Sweden, Belgium and Italy. The prime reasons for creating pyramidal structure is to maintain control over portfolio companies while lowering the capital involvement. Pyramids are traditionally used by founders and their families a company which in the process of growth and development becomes listed on the stock market. The form of a pyramid is often criticized by pro-investors and Anglo-Saxon practitioners since this ownership form is perceived as less transparent. Moreover, pyramids lead to the separation of ownership and cash flow rights and leave the control and decision making in the hands of the dominant shareholder. Comparative analysis reveals that the development of pyramids may lead to the expropriation of minority shareholders by the controlling investor via the transfer of the value and controversial party-related transactions within the corporate group. The analysis of 30 largest Polish listed companies confirm the ownership concentration as the most popular method of control and depicts the strong presence of pyramidal structures. According to the collected

evidence almost half of the largest companies listed on the Warsaw Stock Exchange adopt pyramidal structures which are controlled either by the strategic investor or an individual investors (founder and his/ her family). Undoubtedly, the identified phenomenon requires further research.

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## PYRAMIDAL STRUCTURES IN POLAND

### Abstract

The extensive research on corporate governance, economies' transition and strategic management delivers interesting and important insights into the characteristics of companies operating in different countries. The growing popularity of the comparative analysis approach also enriches management literature as it allows for extended studies on similarities and differences and dynamics of the patterns which companies follow with respect to both their operation and characteristics. Ownership structure with the reference to the comparative studies worldwide, types, forms and patterns identified in companies as well as the logic behind the behavior of different owners constitutes an important theme in management studies. The opportunity to confront forms found in different countries (with the reference to the degree of concentration and shareholder identity) and the dynamics of the current changes help understand the shifts in realized strategies, undertaken restructuring schemes, adopted organizational structures and implemented motivation or reporting frameworks. The paper presents the essential dimensions of ownership structure focusing on its specific form known as pyramids. It analyzes the reasons for creating and logic of functioning pyramidal structures and delivers a brief presentation of the pyramidal structures identified in Poland amongst the largest public listed companies.

**KEY WORDS: OWNERSHIP STRUCTURE, PYRAMIDAL STRUCTURE, CORPORATE GOVERNANCE, POLAND**

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## STRUKTURY PIRAMIDOWE W POLSCE

### Streszczenie

Badania z zakresu ładu korporacyjnego, transformacji gospodarek oraz zarządzania strategicznego dostarczają wielu cennych wniosków i obserwacji w zakresie charakterystyki przedsiębiorstw działających w poszczególnych krajach. Rosnące zainteresowanie analizami porównawczymi wzbogaca literaturę przedmiotu i pozwala na identyfikację różnic i podobieństw oraz dynamiki zmian zachodzących w odniesieniu do charakterystyki i strategii wielu różnych przedsiębiorstw. Jednym z zagadnień poruszanych w analizach porównawczych jest struktura własności, w szczególności różne jej wzorce, typy i formy. Poszczególne rozwiązania z zakresu struktury własności (stopień koncentracji, tożsamość akcjonariuszy) wywierają wpływ na logikę działania przedsiębiorstw na rynku i stanowią istotny wątek w analizach nauk o zarządzaniu. Możliwość skonfrontowania wzorców i dynamiki struktury własności zachodzących w poszczególnych krajach pomaga zrozumieć wdrażane zmiany, przeprowadzane programy restrukturyzacyjne, przyjęte struktury organizacyjne czy nawet konstruowane systemy motywacyjne. Niniejszy artykuł przedstawia różne wymiary struktury własności, koncentrując się na jej specyficznej formie, jaką są struktury piramidowe. Artykuł podejmuje także próbę przedstawienia logiki tworzenia i funkcjonowania struktury piramidy oraz prezentuje występowanie struktur piramidowych wśród największych spółek giełdowych w Polsce.

**SŁOWA KLUCZOWE: STRUKTURA WŁASNOŚCI, STRUKTURY PIRAMIDOWE, ŁAD KORPORACYJNY, POLSKA**



# POTENTIALS OF HYDROELECTRIC POWER PLANT FINANCING THROUGH THE CONCEPT OF PUBLIC- PRIVATE PARTNERSHIP IN SERBIA

## Introduction

The last half of the twentieth century was marked by strict control over energy sector by governments of countries. Accordingly, all electric power facilities, such as electric power plants, switchgear plants, transmission and distribution networks were financed from the public sector. However, the need to finance infrastructure projects in many countries around the world is growing faster than the financial resources, i.e. capital sources that could finance such projects. In their study, Merna and Njiru (2002) came to the conclusion that developed countries allot 200 billion dollars, which is 4% of their national output, a fifth of total investments and 40–60% of public investments in infrastructure.

Only towards the end of the twentieth century was there a subtle influx of private capital into the electric power sector. Private companies do not easily decide to invest money in power plants due to the relatively high risk and long periods of return on investment. That especially refers to hydroelectric power plants. For that reason, many countries have started harmonizing and designing legal regulations that encourage participation of the private sector in the development, financing,

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operationalization, i.e. shared ownership of infrastructure projects. The idea of including private investors in traditionally public (state) infrastructure projects conditioned the public-private partnership.

The public-private partnership phenomenon represents one of the most important legislative instruments in the world, especially within the European Union. It also represents a big opportunity for Serbia, since there is a great need for infrastructure investments. It has been known for a long time that due to permanently growing needs for improvement and construction of new facilities, public sector has never enough of its own financial resources. That is especially prominent in the sector of electric power generation. Therefore, many developing countries partially opened their markets for private investors through the process of privatization. Starting from short-term contracts, concession contracts, to joint investments, where there is shared ownership between the public and private sector, public-private partnerships (PPP) have an important place between traditional project implementation and complete privatization.

The research subject of this paper are modern methods of hydropower project financing. Hydroelectric power plants are production facilities that are special in many aspects, so, in accordance with that, their construction is complicated and requires enormous funds, knowledge and experience.

The main goal of the research is to point out new financing methods that could be applied in Serbia, as well as the significance of use of renewable energy sources. That is, above all, due to the fact that Serbian electric power industry is in continuous deficit, regarding both production and consumption of electrical energy. Moreover, it can be expected that consumption will increase in the future as well. Therefore, it is necessary to carry out the planned hydro projects. Regarding the development of electrical energy market, Serbia is significantly behind the rest of the world. Analyzing the experiences of developed countries and implementing them in Serbia, we get to the financing model that would certainly significantly improve the financing process.

The hypothesis that we will attempt to answer is:

- the motive for forming public-private partnership as a form of financing infrastructure projects is not solely of a financial nature.

The data used in the analysis are predominantly of secondary nature, i.e. based on already conducted research of already implemented projects.

The paper has been organized into several units. After the introductory chapter, the second chapter is dedicated to potentials of private financing sources for hydropower projects. The next chapter points to the role of hydropower sector in fulfilling needs for electrical energy. The fourth chapter presents a financing model for hydroelectric power plants in Serbia. The fifth chapter gives an answer to the given hypothesis, while the last chapter is dedicated to concluding remarks.

## 1. Participation of private capital in financing hydropower projects

Financing infrastructure projects can be implemented through foreign direct investments, commercial bank loans, export loans, international development bank loans, assets from bilateral and multilateral aid programs, as well as through different financial elements of capital market. Due to many options to include the private sector in the process of infrastructure project financing, there are numerous possibilities of combining public and private capital, which can go from one extreme to the other, i.e. the government can take on full responsibility and all project risks, or the private investor can do the same (Benkovic et al, 2012).

The idea of mixed finance appeared as economic necessity since many countries were not able to finance intensive infrastructure projects from their own sources. Mixed finance includes partnership of public and private capital. Since the 1990s public-private partnerships became the key instrument of public policy of many countries around the world (Osborne, 2000). Public-private partnership gives a possibility to the government to treat the whole project in a way which will take care of its share as well as interests of the users of the infrastructure project. Public interest of end users is protected by the government ensuring that the private investor fights for his profit in the fiercest competition possible with other investors in the same or similar private sector.

Apart from being profitable, public-private partnerships are also an efficient mechanism for investing public policy, as well as an important factor of society development. Partnership involves cooperation, i.e. 'to work or act together' and in a public policy can be defined as cooperation between people or organizations in the public or private sector for mutual benefit (Osborne, 2000). Guidelines for Private Public Partnership for Infrastructure Development by the United Nations and Economic Commission for Europe (2000) defines infrastructure as any legal and economic form that enables private means to be invested into public infrastructure and services.

Investment equipment providers, material and energy-generating product providers, as well as contractors can also, to a great extent, participate as investors and financiers in project finance. Apart from the abovementioned, leasing companies can also participate as owners of the equipment necessary for construction or operation of the project, less often as financiers. New conditions for every national economy functioning during the time of crisis exert great pressure on increasing productivity and creativity in attracting capital, improving organization, developing new technologies and human resources, creating new products and so on. Having this in mind, it is clear that one of the most significant things in the next period for economy of any

country is to attract the private capital as a potential for investing in projects and objects that will influence the development of economy.

That is also true for hydroelectric power plant construction projects, for which it is almost impossible to find funds solely from private sources. The form of financing most often found in the largest number of countries is based on a combination of own and borrowed funds. That ratio is mostly 3:1 in favor of borrowed funds (Head, 2006). Such projects include creation of a new local company, whose purpose is defined by a common goal of all capital owners. Based on project analysis in the area of hydropower so far, it can be established that the share of capital from private sources is most often around 27% of the project value (Head, 2006). The amount of own funds that are included in a project depends on the risk perception by the investor towards a specific project. The higher the risk, the larger the number of private investors in the total project value, by which risk allocation is achieved. At the same time, around 30% of funds for a project is most often provided by the public sector (Head, 2006).

Despite the fact that main construction works during the construction of a hydroelectric power plant are local, local financing sources are virtually non-existent. This statement primarily refers to poorer countries and countries in transition, including Serbia. The largest percentage of investors come from international sources and are contracted in foreign currency. The existing risk due to this type of financing is most often in devaluation of domestic currency, because of which, in countries around the world, public companies were not able to finance immediate liabilities on the basis of foreign loans. In order to avoid this threat, it is better to find financing sources for hydroelectric power plant construction in domestic currency. That is not an easy task at all, especially in countries where domestic currency is not stable and where there is no well developed capital market.

## 2. Role of hydropower sector in fulfillment of needs for electrical energy

Hydroelectric power plants, as facilities of electrical energy system, are very safe. Looking at the whole system, it is necessary that the expenses of production, transmission and distribution of electrical energy be as low as possible. Different types of hydroelectric power plants contribute to that the most, because they produce the cheapest energy and because they are economically most affordable. A well planned and constructed hydroelectric power plant cannot be an investment failure in any electrical energy system development concept; moreover, introduction of a hydroelectric power plant of any type into the system contributes to the strengthening of its economic stability.

Hydropower is different from other sources of energy in many aspects, so, according to that, its advantages and shortcomings are different as well (Energy Informative, 2012).

- Hydropower belongs to renewable sources (Petrović and Ćirović, 2012).
- Electrical energy produced in hydroelectric power plants can be presented as 'green', because its production does not pollute the environment.
- Hydropower is a very reliable source of electrical energy.
- Compared to thermal power plants and nuclear power plants, hydroelectric power plants are quite safe.

There are certain weaknesses in operation of hydroelectric power plants. Those weaknesses refer to the influence on the environment, high construction costs, problems that occur during drought years and limitations of available construction sites.

### 3. Financing models for hydroelectric power plants in Serbia

Financing models in hydropower had to be transformed in the last twenty years. All major projects in Europe and North America were carried out prior to 1990s. Almost all of them were financed by the governments of the countries and strong state energy corporations. This trend has been changing in the last decades (Milosavljevic and Benkovic, 2010). There are no unlimited government funds to fund serious hydropower projects. Therefore, cooperation of private and public capital is necessary.

In the context of the capability to collect necessary funds for implementation of a project, thermal power plants dominated over hydroelectric power plants. Capital owners were more willing to invest into electric power plants powered by fossil fuels, primarily electric power plants powered by natural gas, due to incomparably lower risk and their cost-effectiveness (Head, 2006).

At the time when electrical energy production from renewable sources is being stimulated and when people are striving to decrease carbon-dioxide emission into the atmosphere, the share of hydropower in the world is decreasing. Investment of private capital in the production of electrical energy is still 40:1 in favor of thermal power stations (Head, 2006). The main reason for that is lack of funds. Until 1990s, there was the Union of Electric Power Industries of Yugoslavia, which encompassed all electric power industries from Yugoslav republics. After the civil war, the Union fell apart, together with the country. The last production facility that was built in Serbia was 'Piroć' hydroelectric power plant, put into operation in 1990. Elektroprivreda Srbije (EPS – Electric Power Industry of Serbia) continued to operate independently in a country isolated by sanctions. The only goal in the conditions of isolation and lack of funds was to maintain the system. During the bombing of

Serbia in 1999, EPS suffered enormous losses measured in hundreds of millions of euros. Such an event would be too big a shock for electric power industries of much more developed countries.

After the political changes in 2000, there were large, but not so obvious works to renew the whole electrical energy system. It was necessary to revitalize electric power plants, renew and modernize the network and transformer substations and connect to the European network. All these projects required significant funds, that were partly provided from donations and partly from own sources. At the same time, gradual deregulation of electrical energy market started. The plan was to completely liberalize the market by 2015, although, considering the crisis in the country, that is unlikely to happen.

Following the directives from the European Union, there was an organizational transformation of the Electric Power Industry of Serbia. A vertically integrated company was divided into two independent business subjects, i.e. two public enterprises. The Electric Power Industry of Serbia today deals with the production of electrical energy and its distribution, while Serbian Transmission System and Market Operator (Elektromreža Srbije) deals with the transmission of electrical energy. Both companies are monopolists in their areas of business.

Within EPS there are 12 dependent business entities, out of which 7 are for the production of electrical energy and coal, and 5 for the distribution of electrical energy. As the demand for electrical energy is growing from year to year, the existing capacities are not enough. Each winter, due to consumption that exceeds production, EPS imports great amounts of electrical energy at quite high prices. There have been considerations of launching new production capacities.

Thermal power plants are not facilities that should be considered, due to depleting coal resources. As the only possible solution at this moment, there is the construction of new hydroelectric power plants. The projects that have been mentioned are HPP on the Velika Morava, HPP on the Drina, HPP on the Ibar, HPP Bistrica and HPP Đerdap 3. The preparations for the construction project of a hydroelectric power plant on the Ibar have probably advanced the most.

During 2009, Serbia and Italy have signed a protocol on cooperation in the area of energetics. EPS and an Italian company SECI Energia SpA were labelled strategic partners in projects for the production of electrical energy. In October of the same year, according to an agreement from Rome, it was decided that the first project in mutual cooperation be the construction of hydroelectric power plants on the Ibar. SECI Energia SpA company was founded in 2005 as a member of Gruppo Maccaferri. The company headquarters are in Bologna, Italy, and it specializes in the energy sector. The owner of the company is the Maccaferri family. For the purposes of the project, a special company named 'PD Ibarske hidroelektrane' was founded, in which ownership is divided between SECI and EPS in the ratio of 51:49. This is

a partnership of a public enterprise and a private company, with a strong support of the governments of both countries.

There are multiple goals to be achieved through the implementation of this project. The energy potential of the river Ibar is completely unexploited. By construction of new hydro power plants, the hydropotential of the Ibar would be partially exploited and that would influence the improvement of stability of the electrical energy system in Serbia. Economic subjects from our country would be employed to construct the facilities. Besides that, an investment of such a scope in a relatively undeveloped municipality would mean employment of local labor and partial activation of the economy.

At the same time, the municipality of Kraljevo would charge a resource fee for the use of the waters on its territory, which is about 2% to 3% of the revenue earned by hydroelectric power plants. All this has to be taken into consideration while making a decision on starting this and similar projects.

There were several options in relation to the number of hydroelectric power plants and their installed capacity. After longer consideration, a solution of 10 cascade impoundment hydro-power plants has been accepted. All 10 hydroelectric power plants were going to be constructed between Kraljevo and Raška, in the length of 55 km of the Ibar riverbed. The main obstacles for the construction of the power plants are towns and the road and railroad infrastructure. The Ibar Basin is relatively sparsely inhabited, which is an advantage.

The total installed power of all the planned hydroelectric power plants is 118 MW, with planned annual production of 443,400 MWh of electrical energy. The construction starting date is expected in 2013, and each electric power plant will successively be connected to the system. The construction of all 10 electric power plants is expected to be completed in 7 years.

The produced electrical energy could be sold at the markets of both Serbia and Italy. For the feasibility of the company, it would be much more profitable to sell the electrical energy at the Italian market, due to the economic price of electrical energy there. The cost structure would consist of the electrical energy costs, costs of transmission through Serbia, costs of border transmission from Serbia to Montenegro, costs of transmission through Montenegro, costs of transmission through an undersea cable to Italy and costs of green certificates in Italy (Institut za vodoprivredu „Jaroslav Čarni”, 2010).

In order to provide a reliable distribution of electrical energy in Italy, it is necessary for the agreement to be ratified by the Italian Parliament, and to ensure sales of one MWh of electrical energy out of the power plant at 150 euros in the first 15 years of operation. After those 15 years, the price of electrical energy would be 55 euros per one MWh. Respecting the abovementioned prices of electrical energy, investment costs and planned production of electrical energy, internal rate of return in the event

of selling electric energy in Italy is 15%, while the current net value of the project is around 140 million euros. Based on these dynamic indicators of profitability, it can be concluded that the project is very attractive (Institut za vodoprivredu „Jaroslav Čarni”, 2010). When it comes to the Serbian market, the price of electrical energy is extremely low, so the indicators of project profitability would be far worse than in the case of selling it in Italy.

The estimated value of the project is over 300 million euros. That amount should be provided from loans and own funds of the investors. The ratio of borrowed and own capital will be 75:25. Grace period should be equal to the length of construction of all hydro power plants. The interest rate during the construction is planned to be 6%, while, in the period of loan repayment, it would be 7%. After the completion of the project, the loan would be paid off in 15 years.

It is likely that international development banks would need to be included in the implementation of such a project, above all, the European Bank for Reconstruction and Development (EBRD), which is interested in financing projects of renewable energy sources exploitation. Supported by the governments of Italy and Serbia, it is likely that international development banks will be included in the project more easily.

As it has been mentioned, the construction starting date for the first hydroelectric power plant was planned for 2013. At the moment, the necessary permits are being collected, the blueprints for individual power plants are being created, as well as the technical documentation, etc. The spatial plan for special-purpose areas has been accepted, a general blueprint for all hydroelectric power plants has been created and revised.

## 4. Discussion

The operation of hydroelectric power plants is undoubtedly very important for an electric power system to function well. Due to its maneuverability and relatively inexpensive electrical energy that it produces, this type of power plant cannot be compared to any other. Hydroelectric power plants are still the only type of use of renewable energy sources, which is economically justified. The fact is that there is a constant increase in demand for electrical energy in the world, while the fossil fuel resources, the main energy source on the planet, are diminishing every day. Logically, it can be concluded that hydropower will, in the future, be the energetic base in a large number of countries.

The most serious problem with hydroelectric power plants is their financing. Most power plants, until 1990s, were built from government funds, in the world and in our country. In those years, there were serious changes in the electrical energy market, as well as in the world economy in general. Government funds do not have

enough means any more to fund large energy projects. There was a need to include private capital, which will, supported by governments of countries, implement large hydropower projects.

The countries that should serve as an example to us have gone a long way ahead in the application of contemporary financing methods of hydroelectric power plants. They have found ways to successfully implement such projects. Attracting domestic and foreign investors and supporting them, they have built dozens of large energy facilities. From successful examples it can be seen that the time between the initial studies and putting a hydroelectric power plant into operation is quite long. It took more than ten years to complete an individual project. The main point is that there is awareness of the need to construct hydroelectric power plants, not only for economic reasons, but for energy safety in the future. That also provides the answer to the defined hypothesis.

## Conclusions

Serbia is significantly behind the world in liberalization of the electrical energy market and investments into the energy sector. Political instability in the last few decades slowed down the reforms in all areas more than it was necessary. The newest power plant in Serbia was built 22 years ago, which is incomprehensible in normal economies. In order to provide new investments, it is necessary to understand that electrical energy is a commodity that, as any other, has its price. In the last ten years or so, there have been thoughts on potential locations for new hydropower plants and strategic partners to cooperate with, who are ready to invest funds. Public-private partnerships should give significant support for further investments, because they are one of the best methods to include private capital in important infrastructure projects. This law should offer support to all the interested parties, but also provide reliable and clean sources for production of electrical energy, without which contemporary life would be impossible to imagine.

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## POTENTIALS OF HYDROELECTRIC POWER PLANT FINANCING THROUGH THE CONCEPT OF PUBLIC-PRIVATE PARTNERSHIP IN SERBIA

### Abstract

In the last few decades, the participation of private sources in financing energy projects has become an attractive way to obtain the missing capital. This organizational structure defines the rights and responsibilities of partners, which enables a distribution of responsibility connected to providing the needed resources and risk allocation among the partners. The research subject of this paper are modern methods of hydropower project financing. Hydroelectric power plants are production facilities that are special in many aspects, therefore their construction is complicated and requires enormous funds, knowledge and experience. The main goal of the research is to point out new financing methods that could be applied in Serbia, as well as the significance of use of renewable energy sources.

**KEY WORDS: PUBLIC-PRIVATE PARTNERSHIP, HYDROELECTRIC POWER PLANT FINANCING IN SERBIA, RENEWABLE ENERGY SOURCES IN SERBIA**

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## MOŻLIWOŚCI FINANSOWANIA ELEKTROWNI WODNYCH Z WYKORZYSTANIEM KONCEPCJI PARTNERSTWA PUBLICZNO-PRYWATNEGO W SERBII

### Streszczenie

W ciągu ostatnich kilku dekad partycypacja źródeł prywatnych w finansowaniu projektów energetycznych stała się atrakcyjnym sposobem pozyskania brakującego kapitału. Ta struktura organizacyjna definiuje prawa i obowiązki partnerów, co umożliwia rozproszenie odpowiedzialności związanej z dostarczeniem potrzebnych zasobów oraz alokację ryzyka wśród partnerów. Tematem badawczym artykułu są metody finansowania projektów hydroenergetycznych. Elektrownie wodne są zakładami wyjątkowymi pod wieloma względami, i dlatego ich budowa jest złożona oraz wymaga ogromnych nakładów finansowych, wiedzy oraz doświadczenia. Głównym celem badania jest wskazanie nowych metod finansowania, które mogłyby zostać zastosowane w Serbii, a także podkreślenie znaczenia odnawialnych źródeł energii.

**SŁOWA KLUCZOWE: PARTNERSTWO PUBLICZNO-PRYWATNE, FINANSOWANIE  
ELEKTROWNI WODNYCH W SERBII, ODNAWIALNE ŹRÓDŁA ENERGII W SERBII**



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# NEW TRENDS IN THE DECISION MAKING PROCESS

## Introduction

Generalised uncertainty, a phenomenon that managers of today deal with as part of their professional life, makes it impossible to project how the environment will develop or what consequences potential decisions may have. As such, it creates a challenge for managers who are trying to ensure that their organisations can survive and grow. Decisions are made under the pressure of time, with either too much or not enough information, and they are usually considerably complex and unique. For this reason, classical (rational) models of decision making, as presented in the literature on the subject, prove to be insufficient and outdated, while traditional techniques to support decision making turn out to be useless. According to empirical research, effective managers are moving away from the traditional decision-making process (i.e. one that involves primarily rational analysis) and compensate for any limitations in time and information by relying on intuition. Both the literature on the subject and management practice testify to a growing interest in intuition, a concept that as recently as a few years ago was treated as unscientific, even mystical. Nowadays it is increasingly the subject of empirical studies.

The purpose of this paper is to identify and analyse critically those of the new tendencies in decision making that are connected with an increased significance of intuition. Firstly, the notion of quasi-rationality, utilized in the Cognitive Continuum Theory, will be presented, following which there will be a discussion of the concept of non-rational thinking and its relevance in decision making process. In the last part, this paper will describe what is called a model for ethical decision making which combines rational analysis with intuition. Lastly, some conclusions will

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be offered concerning future applications of intuition in decision making, and proposed directions for research.

## Intuition v. rational analysis in decision making

The Oxford Dictionary of English defines intuition as immediate apprehension by the mind without the intervention of reasoning. Intuition is an immediate process and as such is not perceived as a conscious process of reflective thinking. It is mistakenly identified with processes that are of solely subconscious nature. To understand the concept of intuition, one could try to consider it in combination with what is its opposite, i.e. reasoning. Ever more often, the literature on decision making refers to the so-called dual process of decision making which is a combination of the two contrastive ways of thinking and perceiving: rational analysis and intuition. Intuition is seen as a fast and high-capacity process that requires relatively small workload; reasoning, on the other hand, is a process that is time-consuming, reflective, goal-oriented and rather low-capacity. By applying intuition, managers can handle a large amount of information and processes in parallel. Even though they are unaware of how the process itself works, this does not mean that it only occurs outside of consciousness. Researchers link rational thinking and perception to the so-called working memory which is measured by the number of pieces of transitory information that are stored while performing a cognitive task. In contrast to reasoning, it is assumed that the use of intuition does not require any working memory to be employed; as a result, intuitive cognition is fast and of high capacity and is less related to consciousness [4, pp. 313–314].

Recent years have witnessed a growing interest in the concept of intuition among both theoreticians and management practitioners. Following the initial elation, a time has come for reflection and critical analysis of intuition as a kind of thinking. More and more authors have been suggesting that thinking, perceiving and decision making must be informed by both intuition and rational analysis in order to make the decision-making process more effective. The Cognitive Continuum Theory posits that cognition lies in a continuum anchored by pure intuition at one end and rational analysis at the other, with all possible combinations of intuition and analysis termed as quasi-rationality. According to specialists in the area of decision making, the majority of our cognitive acts, including decision making, are quasi-rational in character. How much of the mix is rational analysis and how much is intuition changes depending on the decisional context, i.e. depending on how complex a problem is, how much information is available and how much time there is to make a decision. The combination of intuition and analysis may vary over the course of time a specific decision is being made in, depending on the characteristics of the task to be

performed and available information. That is why the specific attributes of intuition and analysis that are linked to judgment and decision making will always depend on the current location along the cognitive continuum. The permanent changeability of combinations of analysis and intuition and, in consequence, the changing attributes of cognition make the decision-making process ever more complex. The dynamic nature of quasi-rationality makes it very difficult to measure and analyse. Quasi-rationality represents rationality in its focus on adaptiveness and, because of this, is a positive form of cognition. The “quasi” – part of the term denotes the process which is imperfect in terms of the logic involved, lacking up-to-date knowledge because the decision-maker is either forced to rely upon unreliable information or fails to make a necessary effort to carry out a rational analysis. Even though the existence of the quasi-rational process of cognition is hard to prove empirically, it cannot be dismissed as the outcome of irrational and emotional cognition. The dual-process models, a subject of extensive discussion in the literature on the subject, are proof that the assumption of quasi-rationality is justified. Quasi-rationality provides a compromise between competing opinions of individual members of a decision-making team [5, pp. 327–337].

Empirical research shows that, in their professional practice, managers rarely resort to complex decision-making models as postulated in the literature on the subject. These models, whether quantitative or qualitative, are used to enhance the expert studies conducted. What is relied on in the decision-making process, including especially the stage at which alternative variants are developed and final choices are made, are intuition, experience, imagination and management of emotions. According to A. Burciu and C. Haperciuc, efficient decision making requires certain skills and abilities spanning conscious and unconscious thinking and reasoning (what they call non-rational thinking or second bounded rationality) [2, p. 155].

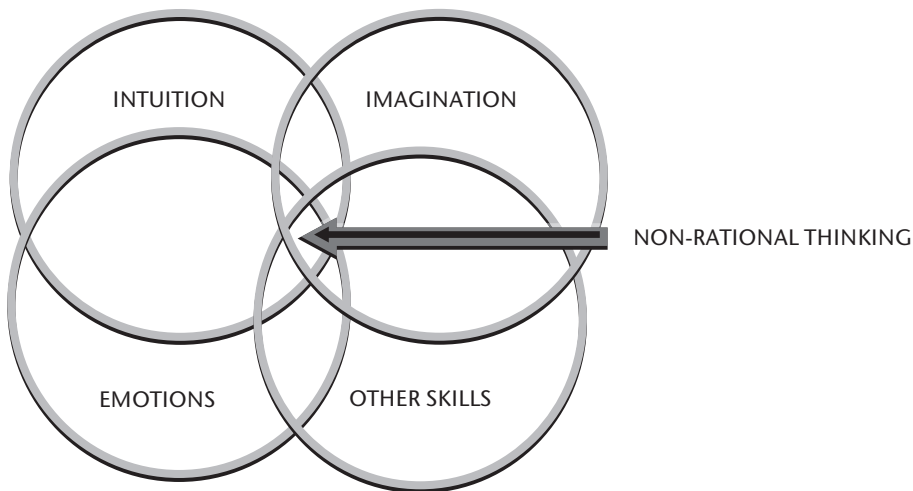
Two kinds of human thinking can be distinguished: rational and non-rational. Thinking and behaviour are considered rational if they take account of socially accumulated values (rationality at the social level). Rationality, on the other hand, is defined as a set of aptitudes (skills) whereby a course of action can be identified that will allow us to achieve a goal. Non-rational thinking can be understood as an extension of rational thinking, i.e. an ability to mix thinking into patterns related to logic structures in order to reach an objective. Non-rational thinking and actions do not mean that logical thinking is not applied. What they do mean is that thinking is informed by principles that deviate from classical, rational reasoning.

Intuition, imagination and management of emotions are based on a person's accumulated experience. Experience, in turn, is a combination of explicit and implicit (or tacit) knowledge that a person has gathered. It is defined as a set of skills and abilities that an individual accumulates while formally and informally learning through practice and observation.

Some authors believe that intuition is a form of rationality rather than its opposite. It reflects the person's ability to identify a solution deriving from his or her unique experience and a combination of such a person's explicit and tacit knowledge. Primarily, intuition is used for strategic decisions. Rather than being an irrational process, it is based on a deep understanding of a problem situation. Intuition is a complex phenomenon drawing upon experience and the store of knowledge that are primarily rooted in the subconscious [6].

Imagination is defined as the capacity to create new ideas based on knowledge accumulated in the past. It is developed through practice and by iteration. As a trait of the human mind, it is similar to intuition. In its turn, management of emotions is a similar concept to both intuition and imagination. It is assumed that it can be improved and, as demonstrated by neurobiological research, it is directly connected with the working mechanism of the brain.

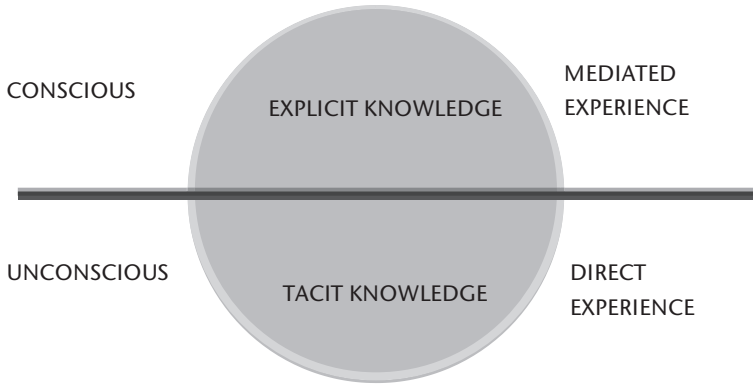
Figure 1. Components of non-rational thinking



Source: [2, p. 156].

Knowledge can be divided into two categories: explicit and tacit. Explicit knowledge is stored in the conscious and is the result of learning. Accumulation of explicit knowledge results in the so-called mediated experience. Explicit knowledge may be accumulated as books, encyclopaedias, databases, and innovations both on sociological and technical levels. Explicit knowledge cannot be monopolised: it spreads rapidly in organisations and continuously evolves with the accumulated experience of the organisation's members. Tacit knowledge, on the other hand, derives directly from a given person's experience and is primarily stored in the subconscious; for this latter reason, it is harder to quantify.

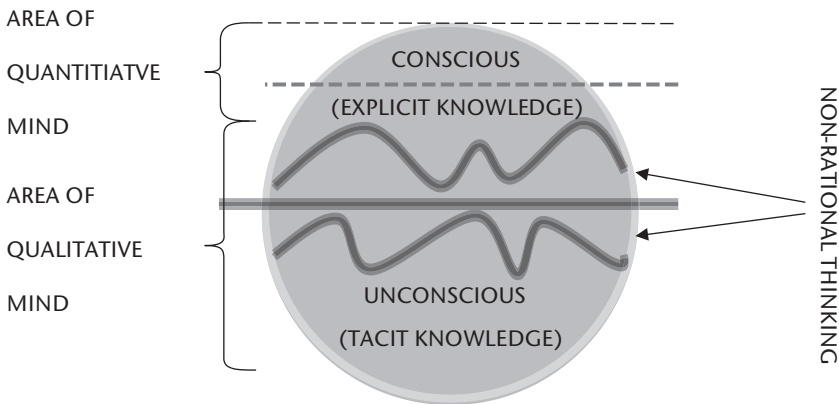
Figure 2. Structure of knowledge sources



Source: [1, pp. 75–82].

In an attempt to localize non-rational thinking as part of the conscious and unconscious, the authors have placed it at the boundary between those two states of mind. Notably, non-rational thinking is related solely to the area of qualitative mind (non-linear, flexible and very hard to quantify).

Figure 3. Localisation of non-rational thinking between conscious and unconscious



Source: [2, p. 157].

The literature on the subject makes a distinction between rational thinking and the application of intuition. The distinction cannot be made with precision with respect to the decision-making process because, to a considerable extent, reasoning is based on the decision maker’s experience and knowledge and, in the course of the mental processes involved, relates to emotions, intuition and imagination.



Accordingly, it can be said that the logical-rational structure of any effective decision-making process is enhanced by a mixture of experience, imagination, intuition and emotions (all of them being components of non-rational thinking). It is believed that the proportions of the rational and the non-rational in this mixture depend on the decision maker's personality and the type of the problem and the decisional situation involved. We could therefore assume that the manager may apply different combinations of the rational and the non-rational thinking when dealing with different decisional situations.

The literature on the subject offers the following guidelines for efficient decision making [3]:

- group-based decision making increases the efficiency of the entire process,
- decisions should stem from conflicting opinions of team members and not by consensus,
- efficient decisions require that non-traditional approaches are used, unorthodox questions are asked, and solutions are accepted that are not always logical.

When looking at these guidelines, an observation may be made that more effective decision making boils down to adding non-rational thinking components (such as intuition, emotions, and imagination) to the rational way of cognition. The traditional model of decision making involves stages which, more than others, require application of non-rational thinking. These are: identifying a decisional problem and choosing a decision from among a large number of alternative solutions. For these stages to proceed correctly, all available sources of information should be tapped into, including intuition, imaginations or emotions.

To recapitulate, managers who strive to ensure a more efficient decision-making process should add the non-rational element to their rational thinking, draw on the conscious and the unconscious, and tap into both explicit and tacit knowledge. Now, turning to the notions of bounded and "double" bounded rationality, we will observe that:

- bounded rationality is primarily the result of organizational rules, insufficient resources, time pressure and lack of necessary information;
- „double" bounded rationality is the result of the managers' thinking mechanisms (mixture of the rational and non-rational in their thinking).

Decision making which combines rational analysis with intuition is also postulated by J. Woiceshyn, the author of a model for ethical decision making in which interplay between intuition and analysis is facilitated by certain moral principles that are formulated, relied on and applied in order to achieve a long-term success [9, pp. 311–323]. Ethical decisions in business involve many transactions and relationships with shareholders, employees, suppliers, and customers. A model for ethical decision was created on the basis of an empirical study the focus of which was strategic decision making by effective executives. The executives in the study employed

the so-called dual process involving reasoning and intuition. The crucial elements of the process included “integration by essentials”, which yielded principles applied in any decision making, and the spiralling process.

Intuition is often understood as the effect of subconscious processing, one that arises from integrating present observations and confronting them with past experience. Empirical research shows that the use of intuition is related to subconscious processing. Acting in a fully conscious manner requires a vast amount of knowledge. Holding this knowledge in focal awareness all the time so that it can be freely used is impossible. Some knowledge is therefore stored in the subconscious. The use of intuition boils down to segregating the knowledge held in the subconscious and recalling it in a specific situation. The kind of knowledge we store in the subconscious is affected by past experience; for this reason, experienced managers employ intuition more effectively. It is not only experience but also the way in which knowledge is segregated in the subconscious and how often it is retrieved from there that affect how intuition is used and, as a result, the quality of decisions and how quickly they are made. If new knowledge is not segregated and linked to past knowledge, it will likely not be used properly in future. How the conscious mind integrates new knowledge depends to a large extent on the subconscious and there is not one universal way to integrate knowledge that we all rely on automatically. The knowledge of objects, phenomena or processes should be filed into specific groups, classes or categories. It is then easier to recall and use in practice. Effective managers integrate by essentials, which means that they first identify the essence of the object, phenomenon or process they are dealing with. This facilitates retrieval of the related knowledge that is stored in the subconscious. In the next stage, the knowledge of essentials is integrated into wider concepts and then principles are formed based on those concepts. Integration of knowledge through identification of the essence of any given phenomenon not only facilitates and speeds up the retrieval of information from the subconscious but also provides decision makers with a decision-making tool in the form of principles. Principles are created as a result of a broader integration of knowledge; they are based on the essences of phenomena, processes or objects and uncover causal relationships between them that are applicable to specific situations. Principles are a sort of generalizations that are drawn from observation or past experience. They guide decision makers in their decision making processes. Managers need principles because our ability to retain knowledge in the conscious is limited; at the same time, full information is one of the conditions that are necessary if we want to make a right decision. Principles allow us to condense extensive knowledge into statements which are easy to remember and retrieve when making decisions. The following are some principles that are most often relied on in decision making [8, pp. 305–308]:

1. rationality – this principle involves systematic observation and logical assessment of facts and advocates that:

- decisions should be made based on facts rather than emotions,
  - greater objectivity should be striven for by seeking opinions of outside experts and the use of advisory teams whose members have backgrounds spanning diverse areas or specializations,
  - rush should be avoided when making decisions,
  - the quality of information should be checked;
2. productivity – this principle, focused on the creation of added value, postulates that:
    - risk should be reduced because it threatens value creation,
    - the focus should be on competitive advantage (what we can do better than our competitors),
    - resources and skills should be aligned with strategy;
  3. first-handedness – this principle, which recommends reliance on one's own judgment rather than that of others, postulates that:
    - decisions should be consulted with others but made on one's own,
    - one should have confidence in one's ability to solve problems;
  4. justice – this principle is about evaluating and treating other people objectively through, among others:
    - honest criticism,
    - fair treatment of subordinates and associates,
    - terminating people who show little commitment;
  5. honesty – this principle involves honest assessment of reality, not faking the facts or conditions in order to fake value creation.

When these principles are adhered to, the most common mistakes in decision making can be avoided, including those in which too much value is placed on information that one gets hold of first or where only selected positive aspects of a solution are presented, and the negative ones are ignored. They prompt decision makers to analyse significant facts and evaluate them objectively; to acquire information all the time; to have confidence in their own skills, and, at the same, to remain receptive to suggestions from others. Additionally, these principles help to avoid what is called reasoning by analogy where in any decisional context managers rely on situations they have dealt with in the past and try to apply the same solution regardless of the fact that the decisional conditions are different. As already mentioned, decision making in which intuition and rational analysis are combined is made up of two processes. The first one was discussed above and involves integration of essentials; the other one is called spiralling. The notion of spiralling takes its name from the fact that the process involves an iterative pattern of actions (looping). Three stages can be distinguished:

- stage one: here, the decision maker performs a quick analysis of a decisional context and then focuses his or her attention on essentials and facts; as a result,

feasible solutions are selected and those which are unrealistic are discarded. As part of this stage, information resulting from observation is integrated with intuition which draws upon the knowledge from past experience;

- stage two: here, available decisional options are assessed against the adopted principles in order to arrive at an initial decision;
- stage three: here, the initial decision is compared with and tested against the alternatives that have been rejected. This is done with a view to finding out which of these alternatives satisfies the requirements and principles to the largest degree. The outcome of this stage is new knowledge resulting from the integration of essentials and facts.

The spiralling process ends with a selection of one decision or a logical combination of decisions. The three-stage process is not a rigid sequence of actions. Empirical research shows that managers who are effective decision makers move from one stage to another but often return to earlier sequences in order to improve their decisions. Even though they focus their attention on solutions which are initially identified as feasible, those managers do not discard other decisional alternatives completely. Decision makers try to explain why they chose to discard them and select others instead [7, pp. 334–351].

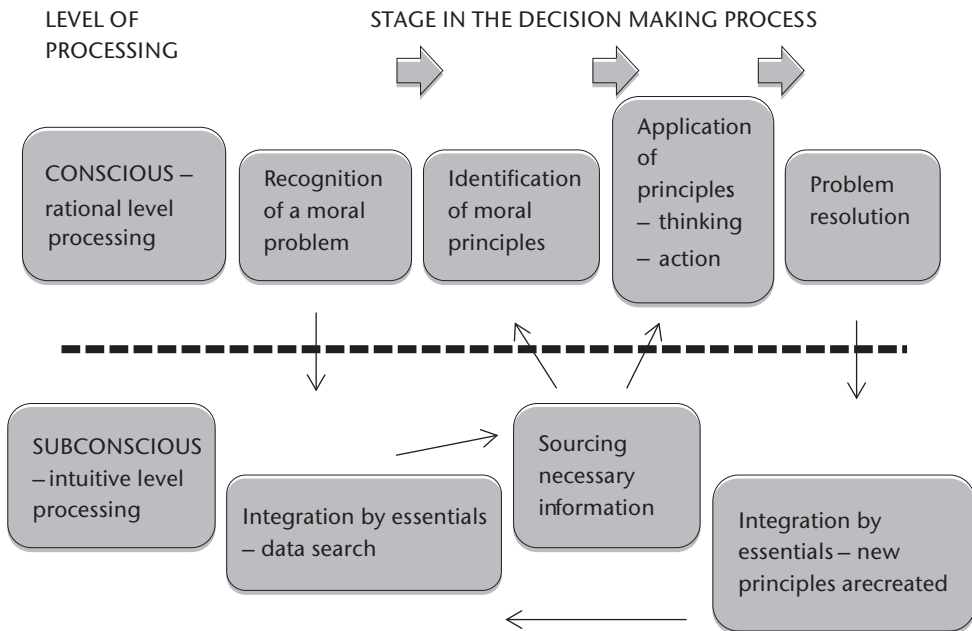
When making their decisions, managers identify and use not only those principles that pertain to strategy but they also apply ethical principles in an iterative spiralling process that combines both the conscious and the subconscious. Research findings show that managers use the same decision process in relation to ethical issues as the one used in making long-term business decisions. Notably, the moral principles which the managers in the study applied seemed to be consistent with a relatively new ethical theory, namely that of rational egoism. The following are the main principles of this theory:

- self-interest (every person should see himself or herself as the primary value and be a beneficiary of his or her own actions);
- human life as the overriding value (choices and actions should have impact on human survival and flourishing);
- rationality (recognition of reasoning as the only source of knowledge);
- productiveness (process of creating material values by adjusting nature to man);
- honesty (reality cannot be faked);
- justice (action should be objective, rewards should be adequate);
- independence (orientation to reality, not to other people);
- integrity (loyalty to rational principles);
- pride (commitment to achieve moral perfection).

The figure above shows a model of ethical decision making. Central to the model are two information processing levels and the interaction between the two (integration by essentials). The interaction involves spiralling between the conscious and the

subconscious levels. The first step in ethical decision making is to identify a moral problem. A decision maker then identifies applicable moral principles, which is done at the rational processing level. At this stage, the decision maker's conscious mind relies on the subconscious to find necessary information to solve the problem. If the manager has integrated his or her knowledge by essentials, necessary information would come up in his or her conscious mind. The next stage is to apply the identified principles (which are adequate in the situation) to the problem, both in thinking and action. By applying relevant principles, the problem is solved and the solution itself should, through integration by essentials, result in new principles being formulated that conclude the decision making process. Importantly, the principles which J. Woicishyn identified in her empirical study are, to a large extent, consistent with the characteristics and principles of the rational egoism theory.

Figure 4. Dual model for ethical decision making



Source: [9, p. 318].

## Summary

In summary, new trends in decision making are mostly related to the so-called dual process model of decision making in which rational analysis is combined with intuition. A variety of terms is used by numerous management theoreticians and

practitioners, including quasi-rationality, the conscious, the subconscious, or rational and non-rational thinking. Terminological differences notwithstanding, the essence of changes in current-day decision making remains unchanged and involves comprehensive decision making in which reasoning is mixed with a manager's intuition. Rational analysis has been extensively researched in empirical studies and is well documented in the literature on the subject. Therefore, it seems warranted to try and look for answers to the question about the role of intuition in decision making, and especially about the determinants of its effective application.

Empirical research shows that, in their professional practice, managers rarely resort to complex decision-making models. Instead, they are more prone to rely on experience, intuition, imagination and management of emotions. It seems reasonable, then, to hone those abilities to ensure more efficient decision making processes, particularly given the fact that the educational focus of future managers is primarily on the development of analytical skills which are related to the rational area of thinking.

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## NEW TRENDS IN THE DECISION MAKING PROCESS

### Abstract

The purpose of this paper is to identify and analyse critically those of the new tendencies in decision making that are connected with an increased significance of intuition. Firstly, the notion of quasi-rationality, utilized in the Cognitive Continuum Theory, will be presented, following which there will be a discussion of the concept of non-rational thinking and its relevance in the decision making process. In the last part, this paper will describe what is called a model for ethical decision making which combines rational analysis with intuition. Lastly, some conclusions will be offered concerning future applications of intuition in decision making, and proposed directions for research.

**KEY WORDS: DECISION MAKING PROCESS, INTUITION, ANALYSIS**

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## NOWE TRENDY W PROCESIE PODEJMOWANIA DECYZJI

### Streszczenie

Celem artykułu jest identyfikacja i krytyczna analiza nowych tendencji w procesie podejmowania decyzji związanych ze wzrostem znaczenia intuicji. W pierwszej części przedstawiono pojęcie quasi-racjonalności występujące w ramach Kognitywnej Teorii Kontinuum, następnie scharakteryzowano kategorię myślenia nieracjonalnego i jego znaczenia w procesie podejmowania decyzji. W ostatniej części zaprezentowano tzw. model etycznego podejmowania decyzji łączący racjonalną analizę z wykorzystaniem intuicji. Artykuł kończą wnioski dotyczące perspektyw wykorzystania intuicji w procesie decyzyjnym oraz proponowane kierunki badań.

**SŁOWA KLUCZOWE: PROCES PODEJMOWANIA DECYZJI, INTUICJA, RACJONALNA ANALIZA**

# THE STRATEGIC DIMENSION OF PRODUCT FLEXIBILITY OF A MANUFACTURING PLANT – THE CONCEPT AND ITS APPLICATION

## Introduction

The notions of “new economy” and “turbulent times” reflect the entirety of the phenomena and processes taking place in the current socio-economic circumstances<sup>1</sup>.

An examination of economic practices shows that the success of an enterprise, understood as an effective use of a specific management instrument, in given conditions (business model<sup>2</sup>), is measured in terms of efficiency and

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<sup>1</sup> J.M. Lichtarski, *Struktury zadaniowe. Składniki, własności i uwarunkowania*, Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu, Wrocław 2011, p. 141.

<sup>2</sup> According to B. Nogalski business model is a realization of the many nebulous meanings that so far have been attached to the notion of strategy. It gives strategy a definite and, very often, practical sense, suggesting the necessity to make clearly defined choices. Its aim is to create conditions for the development of an enterprise, defined and analysed in the context of its competitiveness, innovativeness and profitability. For more or on business models see: B. Nogalski, *Rozważania o modelach biznesowych przedsiębiorstw jako ciekawym poznawczo kierunku badań problematyki zarządzania strategicznego*, in: *Zarządzanie strategiczne. Modele i kierunki badań*, R. Krupski (ed.), The College of Management and Enterprise in Wałbrzych, Wałbrzych 2009, pp. 33–47. For more also see: B. Nogalski, A. Szpitter, *Model biznesowy jako strategiczne narzędzie w zarządzaniu finansami*, in: *Zarządzanie finansami. Wycena przedsiębiorstw i zarządzanie wartością*, D. Zarzecki (scientific ed.), Zeszyty Naukowe Uniwersytetu Szczecińskiego No. 534, „Finanse, Rynki finansowe, Ubezpieczenia” 2009, No. 17; ISSN 1640–6818; ISSN 1733–2842, p. 586; B. Nogalski, A. Szpitter, *Rada nadzorcza a model biznesu przedsiębiorstwa*, in: *Nadzór korporacyjny a przedsiębiorstwo*, Prace i Materiały Wydziału Zarządzania Uniwersytetu Gdańskiego 2009, No. 1, pp. 301–310 and T. Falencikowski, B. Nogalski, *Creation of Business Models: Designing Issues*, in: *Management Sciences in Kazakhstan and in Poland at the Beginning of the 21 st Century Perspectives for Development and Cooperation*, scientific editors:



efficacy<sup>3</sup>. According to B. Nogalski<sup>4</sup>, an undoubtedly important factor which determines those two agents is the strategy adopted and implemented by a business<sup>5</sup>. Strategic flexibility, i.e. the capability to modify the strategy<sup>6</sup> and actions according to the changes in the business environment using the possessed competences and abilities<sup>7</sup> as effectively as possible, becomes of key importance.

One must agree with the statement that gaining and maintaining the competitive advantage<sup>8</sup> by a business, which conditions its effective operation on the market, is expressed by a higher operation strategy than that of its competition, which in turn allows it to achieve above-average, sector-wide profitability.

If manufacturing plants in Poland want to compete effectively with the foreign companies which enter our market intensively and extensively, and with their strong and established positions, they ought to shape their attitude to the ever-changing conditions and needs of the market purposefully and flexibly<sup>9</sup>.

In the face of the above, it is the authors' opinion that the ability to adapt the possessed physical, financial, human and information resources is of special importance. Resources and their possession, or rather access to them in fact, are of key importance to flexible reactions of any organisation<sup>10</sup>.

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P. Buła, J. Czekaj, H. Łyszczarz, Bakyt U. Syzdykbayeva, Cracow School of Business, Cracow University of Economics, Cracow–Astana 2012, pp. 263–279.

<sup>3</sup> A very important determinant of management is the assurance of smooth, efficient and effective achievement of the goals of an organization.

<sup>4</sup> B. Nogalski, *Rozważania o modelach biznesowych przedsiębiorstw jako ciekawym poznawczo kierunku badań problematyki zarządzania strategicznego*, in: *Zarządzanie strategiczne. Modele i kierunki badań*, R. Krupski (ed.), The College of Management and Enterprise in Wałbrzych, Wałbrzych 2009, p. 39.

<sup>5</sup> Being aware of the multitude of definitions accentuating the various dimensions of strategies, it is worth noting S. Sudoł's definition, which says that a strategy is the concept of operation in a longer perspective which takes into account the expected changes in the business environment as well as the expected changes in the resources and conditions for operation of a business. See: S. Sudoł, *Przedsiębiorstwo. Podstawy nauki o przedsiębiorstwie. Teorie i praktyka zarządzania*, TNOiK, Toruń 1999, p. 214. Wider considerations concerning the strategy of a business are presented in A. Sopińska's work, alongside the description of its genesis and essence. See: A. Sopińska, *Wiedza jako strategiczny zasób przedsiębiorstwa. Analiza i pomiar kapitału intelektualnego przedsiębiorstwa*, Publishing House of the Warsaw School of Economics, Warszawa 2010, pp. 15–24.

<sup>6</sup> A mistaken choice of any strategy, whether for the whole organization or whether of the functional strategy, may lead to many negative consequences for the current operation of a business and for its future. In: G. Gierszewska, *Zarządzanie wiedzą w przedsiębiorstwie*, Publishing House of The Warsaw University of Technology, Warszawa 2011, p. 222.

<sup>7</sup> A.M. Hitt, D.R. Ireland, E.R. Hoskisson, *Strategic Management – Competitiveness and Globalization*, 6<sup>th</sup> edition, Thomson South-Western Int. 2005, p. 15.

<sup>8</sup> Among the main paradigms of customer orientation in management is the assumption that customers' expectations and needs are determinants of business operations. Implementation of that concept leads to the adaptation to those expectations.

<sup>9</sup> D. Nowak, *Zarządzanie międzyorganizacyjnymi relacjami kooperacyjnymi w przedsiębiorstwach przemysłowych*, Publishing House of Poznań University of Economics, Poznań 2012, p. 5.

<sup>10</sup> R. Krupski (ed.), *Elastyczność organizacji*, Publishing House of Wrocław University of Economics, Wrocław 2008, p. 87.

The present article deals with this issue. It has a character of a creative synthesis based, on the one hand, on a detailed analysis of the theory of the problem and, on the other hand, on the authors' previous research. The considerations mentioned above have led to the decision that manufacturing plants will be at the core of interest. They are characterised by excellent flexibility, which reflects their ability to spot market opportunities that manufacturers may use through a quick reconfiguration and integration of the manufacturing process as well as the implementation of a finished product that is adjusted to the needs of the market.

Thus the general aim of the elaboration is to present – in its theoretical, cognitive and practical aspect – the issues connected with product flexibility of a manufacturing plant. It is the authors' intention:

- to conduct literature queries in the subject of the flexibility paradigm of a manufacturing plant, which – as is the authors' supposition – will allow them to present the flexibility criterion as a key success factor.
- to propose a resource model of a flexible manufacturing plant.
- to define the relation between resources and the flexibility of a manufacturing plant.
- to refer the resource model of a flexible manufacturing plant to economic practice.

By analysing the specificity of the resource model of flexibility management and presenting the main conditions influencing that specificity, the authors will suggest their recommendations in this respect. For management practitioners they may serve as a basis of diagnosis and be an inspiration to develop strategies of implementation of that model.

## 1. Three dimensions of product flexibility – the concept of the resource model

### 1.1. Flexibility – the systematic consideration

The emergence of the need of flexibility as well as the growing demand of flexibility have their universal grounds in changes<sup>11</sup>. Changes<sup>12</sup> affect particular and general elements of the market environment of an organisation as well as its resources, processes and internal structures. The changes taking place in its international environment, caused by progressing globalisation, as well as the changes brought about by the development of information technologies should be stressed here. At the same

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<sup>11</sup> G. Osbert-Pociecha, *Elastyczność organizacji – „tańczenie” w turbulentnym otoczeniu*, The Open University of Economics, Wiedza.info.pl.

<sup>12</sup> Changes in the immediate environment cause changes in a business, which, in the authors' opinion, leads to the necessity to break away from the traditional perception of an organization and its management.

time the pressure to improve its effectiveness (very often the point is not only to improve its effectiveness in terms of its sales or capital profitability but also, for example, to maximise the value of the business) or to gain and maintain the competitive advantage in an appropriately long period of time is increased. It forces businesses to search for new methods or tools to achieve those goals.

A business that operates in specific conditions shaped by its environment has to take into consideration the environment's demands, especially ones which stem from the expectations of its customers and from the challenges of its competitors. This means that it must adapt its structure and the level of the resources at its disposal to those requirements. This also, and perhaps even above all, includes, the production technology, bearing in mind, however, that the basic determinant of the chosen technology are the expectations of the market, technological background capabilities as well as the financial and technical potential of the business. The choice of technology then must be a compromise between what is desired (the needs of the market in particular) and what is feasible (first of all the financial capabilities of the business)<sup>13</sup>.

Flexibility is then the most desired feature of a manufacturing plant, an important condition for its operation and a determinant of its development. Therefore it is vital to enquire about its essence.

In the literature concerning the subject matter one may encounter many definitions of flexibility. A comprehensive interpretative analysis of various authors' suggestions was presented by R. Krupski<sup>14</sup> and G. Osbert-Pociecha<sup>15</sup>, who had searched for a resultant of various concepts of adapting organisations to their changing environments. According to the analysis a uniform and commonly accepted definition of flexibility has not been arrived at yet. One may find general and detailed definitions in the literature which describe only its selected aspects or which refer to just about any organisation (Table 1).

In order to keep the size of the present work within reasonable limits it is necessary to present the flexibility deliberations brought up in this article synthetically. While initiating a discussion on the matter the authors' own definition was formulated, corresponding to the aims of the elaboration. The authors' definition of flexibility: „refers to a product, to effective, smooth, and efficient management of the resources necessary for its swift implementation as a response to the challenges of demand volatility and customers' expectations, which, in perspective,

<sup>13</sup> R. Rutka, *Organizacja*, in: A. Czermiński, M. Czerska, B. Nogalski, R. Rutka, J. Apanowicz, *Zarządzanie organizacjami*, TNOiK „Dom Organizatora”, Toruń 2002, p. 195.

<sup>14</sup> R. Krupski, *Elastyczność organizacji*, Publishing House of Wrocław University of Economics, Wrocław 2008, pp. 15–17.

<sup>15</sup> G. Osbert-Pociecha, *Elastyczność organizacji – atrybut pożądaný a niezidentyfikowany*, „Organizacja i kierowanie” 2004, Vol. 6, No. 3–4; G. Osbert-Pociecha, *Zdolność do zmian jako siła sprawcza elastyczności organizacji*, Publishing House of the Wrocław University of Economics, Wrocław 2011; G. Osbert-Pociecha, *Elastyczność organizacji – „tańczenie” w turbulentnym otoczeniu*, op.cit.

grant the manufacturer with development possibilities, whereby product flexibility of a manufacturing plant is determined by information transformed into knowledge which allows it to see market opportunities that manufacturers find in possibly swift reconfiguration and integration of the manufacturing process”.

Table 1. A review of the definitions of “flexibility” as perceived by selected authors

Author	Definition
J.S. Evans	An ability to adapt, mobility, an ability to modify, to improve, a skill, an agility, smoothness, formability, resilience, etc. Each of these dimensions of flexibility might be a response to a threat coming from the changes mainly in the environment of an organisation or be a form of pressure on that environment.
H.I. Ansoff	The qualities of an organisation which allow it to cope with the changes in its environment (instead of influencing them the organisation attempts to respond to them – mainly by increasing the liquidity of its resources).
D.J. Eppink	A characteristic of an organisation which makes it less sensitive to unexpected external changes or finds a better position for it to respond to those changes effectively.
R. Krupski	It is described by two dimensions of spacetime: reaction speed (creation) and level of adaptation to the environment. The basic types of flexibility: reactive, adaptive and inert, anticipative, creative.
M. Juchnowicz	An ability and a potential readiness to adapt to various, new and changing conditions, tasks or situations of a cognitive and social character, as well as an ability to initiate such changes.
S. Trzcieliński	An ability to expand the repertory of actions irrespective of whether those actions are a response to the changes in the immediate environment or whether they are caused by other circumstances.
G. Stigler	A manufacturing quality which permits to use various production modes.
G. Osbert-Pociecha	An ability to introduce changes under the influence of internal or external impulses in such a way that conditions to compete on the market are created and chosen efficiency targets are implemented without affecting the consistency limits of an organization which guarantee the achievement of its synergistic effect.

Source: Authors' own work based on: G. Osbert-Pociecha, *Elastyczność organizacji – “tańczenie” w turbulentnym otoczeniu*, The Open University of Economics, Wiedzainfo.pl; rafalkrupski.pl; S. Trzcieliński, *Przedsiębiorstwo zwinne*, Publishing House of Poznań University of Technology, Poznań 2011; M. Juchnowicz (ed.), *Elastyczne zarządzanie kapitałem ludzkim w organizacji wiedzy*, Difin, Warszawa 2007.

In that context the attempts made in this work at terminological organisation are of purely cognitive character, which makes it possible to capture common areas, dependences and research approaches. Besides, systematization of various approaches to the same issue increases opportunities of a comprehensive analysis as well as becomes an inspiration for further research.

In conclusion, the authors are making a point that the term flexibility is a multi-dimensional construct, which makes it difficult for authors who represent both

management science as well as other related sciences, technical ones above all, to define it and to interpret it. It is the authors' opinion that there has been a methodological confusion, which sometimes leads to opinion clashes and even arguments about what flexibility actually is and, as a result, what methods to employ to examine it and then develop it.

A specific confusion concerning the notion of product flexibility is caused by the following factors:

- there are numerous definitions of the term flexible/flexibility,
- flexibility is referred to specific resources,
- the management science is of an interdisciplinary character, it is influenced by various research trends,
- a transfer of scientific achievements from other countries may be noted without clear information on the country of origin of those achievements or on the significance of the discussed notions.

## 1.2. The development of the resource model – conditions for product flexibility

The school of strategic resource management is undergoing a dynamic development<sup>16</sup>. On the one hand, as K. Obłój<sup>17</sup> points out, attempts are made to eliminate its various shortcomings, such as: tautology, metaphorical ontology, or lack of operationalization; on the other hand though, R. Krupski<sup>18</sup> says that it absorbs new areas of theoretical and practical activity, which leads to connections with other perspectives, acquisition processes and resource development.

It is the authors' opinion that the resource approach to flexibility management in a manufacturing plant is close to strategic management because it refers to flexibility as a strategic resource<sup>19</sup> pertaining to the concept of key competences as a basis for the development of competitiveness of manufacturing organisations<sup>20</sup>. This

<sup>16</sup> R. Krupski, *Badanie zasobów przedsiębiorstw z perspektywy strategicznej*, „Organizacja i Kierowanie” 2012, No. 1A (149), „The Organisation and Management”, Science Committee at the Polish Academy of Sciences, Warsaw School of Economics, p. 131.

<sup>17</sup> K. Obłój, *Pasja i dyscyplina strategii. Jak z marzeń i decyzji zbudować sukces firmy*, Poltext, Warszawa 2010, p. 147.

<sup>18</sup> R. Krupski, *Badanie zasobów przedsiębiorstw z perspektywy strategicznej*, op.cit., p. 131.

<sup>19</sup> Aspirations to manage the available resource effectively, fight with wastefulness and minimization of loss have been at the core of organisers' and leaders' concern for years. For more: B. Nogalski, P. Niewiadomski, *Szczupłe wytwarzanie – paradygmat lidera kosztowego w przedsiębiorstwie wiedzy*, „Przegląd Organizacji” 2012, No. 8, p. 15–19.

<sup>20</sup> According to G. Gierszewska the achievement of and first of all maintaining a global competitive advantage is increasingly difficult. Therefore new unique competences must be built on the basis of organisations' knowledge. See: G. Gierszewska, *Zarządzanie wiedzą w przedsiębiorstwie*, Publishing House of the Warsaw University of Technology, Warszawa 2011, p. 11.

view is shared by K. Krzakiewicz, assuming that flexibility is a factor which influences the processing of strategic information and, as a result, the structure and content of managers' mental images on the subject of strategic problems<sup>21</sup>. Flexibility also appears as one of the key criteria in the modern concepts of organisation effectiveness. This aspect is also present, among others, in the Balances Scoreboard as an element of grounds for organisation development<sup>22</sup>.

The far-reaching and rapid economic transformations of recent years make every enterprise devote more and more attention to those management instruments which determine their competitiveness<sup>23</sup>. A guarantee of success on the increasingly competitive and volatile market is a quick and flexible realisation of implementation processes. The main aim of any industrial enterprise is to produce, in a short time, goods which are characterised both by high quality and low total costs. Thus the suggested possibility to achieve a market success in the present-day economic conditions is the appropriate selection and effective use of all the available resources included in production sub-systems contained in a manufacturing enterprise. The complex nature of flexibility is in direct relation with the multitude of factors (context variables), which it is shaped by, which determine its scope and manifestation intensity as well as its results<sup>24</sup>. Therefore the implementation perspective is particularly interesting, because the most important determinants of a new product development are the main levers of a long-term success of a business. In face of the above the implementation area of research should focus on those mechanisms and elements which designate the actions of a business, build its competitive advantage, and thus its success. A new paradigm of a flexible business is adapted then which assumes that the following are of the vital importance for implementation processes: production resources (technology<sup>25</sup>, means of production, work items), knowledge resources, and financial resources (see Picture 1). These factors determine the dynamics of the product portfolio, and thus the adaptation to the turbulent circumstances. According to the authors, the factors mentioned above determine product flexibility and the level of their characteristics implies the ability to notice market opportunities which arise from finding a product niche as well as from the quick reconfiguration

<sup>21</sup> K. Krzakiewicz, *Kognitywne kompetencje menedżerów w aspekcie zarządzania strategicznego*, in: *Praca kierownicza w nowoczesnym zarządzaniu*, K. Krzakiewicz (ed.), Publishing House of the Poznań University of Economics, Poznań 2011, p. 106.

<sup>22</sup> R.S. Kaplan, D.P. Norton, *Strategiczna karta wyników. Jak przełożyć strategię na działanie*, PWN, Warszawa 2007, pp. 122–138.

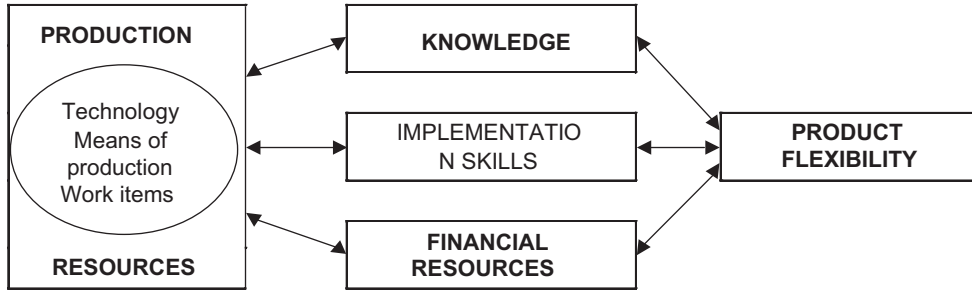
<sup>23</sup> Z. Banaszak, S. Kłós, J. Mleczek, *Zintegrowane systemy zarządzania*, PWE, Warszawa 2011, p. 9.

<sup>24</sup> G. Osbert-Pociecha, *Zdolność do zmian jako siła sprawcza elastyczności organizacji*, op.cit., p. 262.

<sup>25</sup> Technology, i.e. the way a task is done. It is the technology applied in a given manufacturing plant that decides on machines, tools, materials, etc. It means that the choice of means of production and work items is determined by technology.

and integration of the manufacturing process, which leads to a quick launch of the finished product.

Picture 1. Product flexibility as a resource function



Source: authors' own work.

The considerations presented in this work show clearly that a flexible business is a customer-oriented business, it is able to and wants to co-operate with its internal and external environment, which in turn manifests itself in a high level of communicativeness and in the readiness to change and reconfigure its previous actions. The guidelines for product flexibility of a manufacturing plant are different, they vary depending on the area of activity; for flexibility is characterised by individualism. In this part of the work the authors have presented their own model of product flexibility, using their own definition as a basis, pointing their own guidelines in reference to manufacturing plants in the sector of agricultural machines. The authors are aware of the fact that it is not an easy task to fully identify the various factors, their direction and the power of their influence, especially as those determinants, as G. Osbert-Pociecha points out<sup>26</sup>, are dynamic by nature (variable in time) and the relations taking place among them are of a feedback character.

## 2. The model of product flexibility and the practice of manufacturing plants

### 2.1. Research assumptions

The research that is discussed in the present work has been conducted in the Spare Parts and Agricultural Machines Production Plant (Zakład Produkcji Części Zamiennej i Maszyn Rolniczych), based in the village of Września, the voivodeship of

<sup>26</sup> G. Osbert-Pociecha, *Zdolność do zmian jako siła sprawcza elastyczności organizacji*, op.cit., p. 262.

Greater Poland. The main area of activity of the business in question is the production process<sup>27</sup> of modern machines for agriculture, their components and spare parts.

The authors obtained the data necessary to do the research on the basis of a documentation analysis (materials cards, technology drafts, assembly documentation), on the basis of a directed interview with the manager of the plant (who is responsible for implementation processes) as well as participatory observations.

The subject of the research was the implementation process of a new product, i.e. the suspension of a trailer (Picture 2), which is used as a spare part or a component in a production process. In order to facilitate the information flow among the individuals concerned with the research the authors suggested using a symbol of the part and gave it the number 203 910 200.

The aim of further deliberations is to refer the authors' resource model of product flexibility to the practice of a specific manufacturing plant. It is the authors' intention to develop a methodology for an assessment of resource capabilities of the manufacturer in the context of the model as well as to model the resources in the implementation process of the trailer.

Picture 2. The implemented trailer suspension



Source: P. Niewiadomski, *Instrukcja obsługi. Rozrzutnik Obornika ZPCZ-T-088*, Spare Parts and Agricultural Machines Production Plant, Września 2010, p. 19.

<sup>27</sup> Its essence (speaking in general and simple terms) is the processing of a raw material into the finished product, wherein the “raw material” is any material (object) processed and released in its changed form as the finished product, while the “finished product” is any final product of a company which is going to undergo further processing or use in another company or is directly going to satisfy consumers' needs.



## 2.2. The method of assessment of implementation capabilities of a manufacturing plant

The method of assessment of implementation capabilities of a specific product (Picture 3) relies on the ability to determine the requirements a particular manufacturing plant must face when accepting such a challenge. It defines and selects subjective and objective factors. In its first stage it is necessary to determine all the possible variants of the implementation process and to choose solutions in the context of production capabilities. However, because of the assumed economic criteria (profit maximization)<sup>28</sup>, the producer's aim should be to develop a manufacturing process within the framework of existing resources. The producer gains maximal profits because minimal investment is a guarantee of a quick and high return on the implemented product. In a situation where production capabilities of a manufacturing plant do not allow to implement a particular product (resource barriers) then the producer may choose between two implementation variants: 1) purchase of necessary resources (knowledge, technology, means and objects of work), which results in incurring an extra cost, 2) the use of co-operative possibilities (e.g. virtualisation production). Naturally, in extreme circumstances there exists the possibility of renunciation of the product implementation but in the authors' opinion it is the producer's task to seek solutions within the variants which ensure implementation capabilities as they are the only factors which foster the development and increase the market value of a particular organisation.

## 2.3. The modelling of the resources necessary in the implementation process of a trailer suspension in a perfectly flexible manufacturing plant

K. Adamiecki considered the changes taking place in industry at the end of the 17<sup>th</sup> century, called the Industrial Revolution, as a crucial period in the history of mankind. According to Adamiecki "man, who for many hundreds and thousands of years had only been making use of his own muscles and of those of domesticated animals, harnessed to work within that short period of time incredible amounts of natural energy. He handed manual labour over to machines and as a result stopped being a beast of burden"<sup>29</sup>. He noted that by handing over most of his tasks to a machine he changed his method of work and "his own way of life". He could manufacture

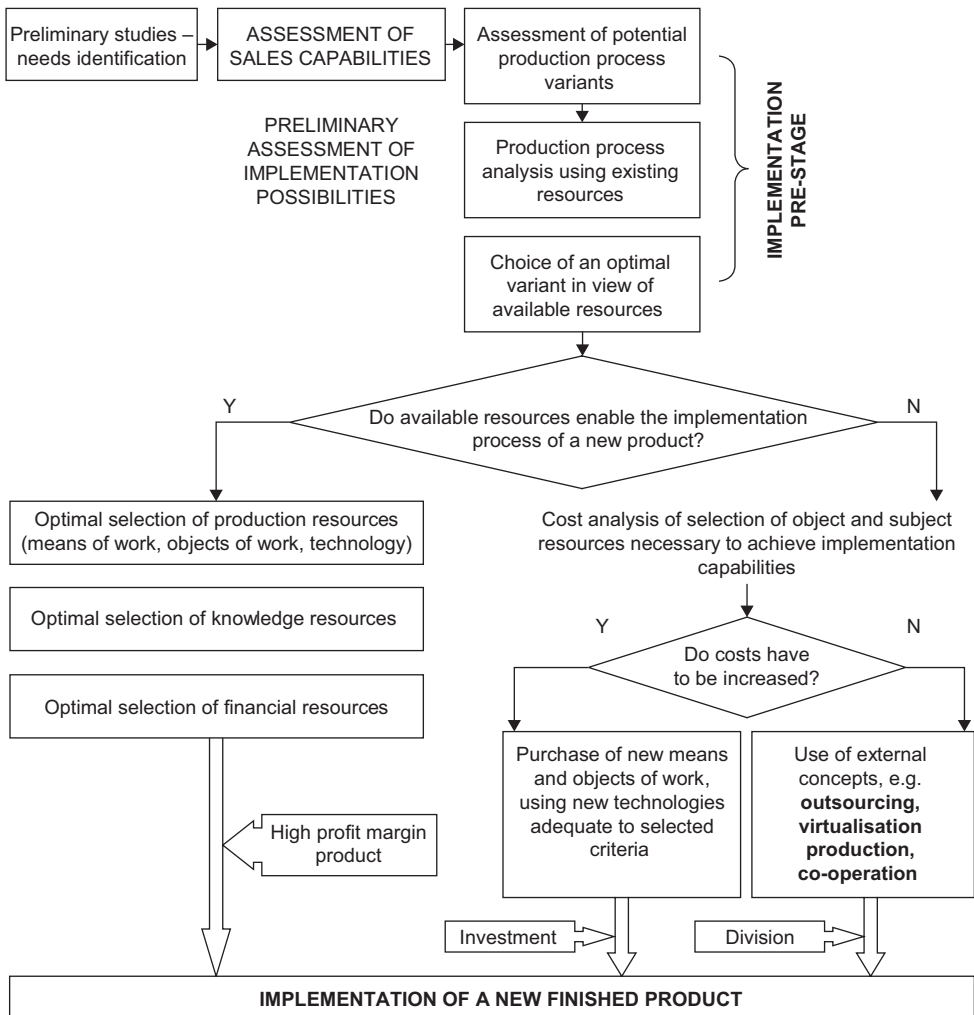
<sup>28</sup> The so called *productivity* is one of the approaches to management and organization issues. Its aim is to implement a permanent and comprehensive method of assessment of a manufacturing plant actions in terms of achieving the best technical and economic results, eliminating redundant or unsold production, accumulation of stock, etc. It leads to increased effectiveness and lower production costs.

<sup>29</sup> K. Adamiecki, *O nauce organizacji*, PWN, Warszawa 1981, p. 178.

many more products in a shorter time and with very little assistance. New material resources (means of work, objects of work, technology) changed work methods and became a basis of the development of manufactures.

The deliberations presented above show that the resources and their possession, or rather access to them, are of key importance for flexible behaviours of manufactures. Product flexibility associated with the material side of implementation processes results first of all from the characteristics of production means.

Picture 3. The method of assessment of a manufacture product flexibility



Source: authors' own work.

The data obtained as a result of observations confirm the authors' initial assumptions, which said that it is the material and personal factors (knowledge engineers) that influence product flexibility of a manufacture. Using a used up machine, lack of a certain body of knowledge, using an inappropriate or low-quality (incompatible with specifications) material, tool or technology makes it impossible to achieve a flexible implementation process.

In the implementation process of the trailer suspension (Table 2) modelled for the purposes of the present work an appropriate material (column A) must be used in appropriate amounts (columns C and D), which is purchased at a certain cost (column F).

Table 2. Objects of work and financial resources in the implementation process of a trailer suspension

Part No.: 203 910 200		Part name: Suspension		Purpose: Trailer	
OBJECT OF WORK				FINANCIAL RESOURCES	
Material	Size/ITEM (mm)	Quantity/ITEM (item)	Weight/ITEM (kg)	Material purchase price (PLN)	TOTAL (PLN)
A	B	C	D	E	F
Sheet metal	1250x450x6	1	27	2.31/kg	62.37
Sheet metal	300x65x6	4	0.94	2.31/kg	8.69
Sheet metal	300x200x5	2	2.4	2.31/kg	11.09
Sheet metal	200x30x5	4	0.24	2.31/kg	2.22
Rolled rod diam.120	L-20	2	1.78	2.89/kg	10.29
Pipe 159x17.5	L-450	1	–	290.00/m	130.50
Pipe 127x16	L-385	1	–	171.00/m	65.84
Square rod 90x90	L-700	2	44.52	3.17/kg	282.26
Pipe 36x4	L-500	2	–	12.5/m	12.50
				MATERIALS COST (PLN):	585.76

Source: authors' own work based on research.

In a given production process certain machining operation are necessary to be conducted (Table 3) (column H), therefore the manufacturer must have an appropriate stock of machines at their disposal (column G), and be equipped with certain tools and instruments (column I). Technology, understood as the science or a field of knowledge dealing with material or objects processing methods, as well as with methods of manufacturing finished products, and with machines, appliances, tools

used for processing and production<sup>30</sup>, is determined by materials, their purpose and properties. Therefore constant improvement of technologies and their use in a manufacture become necessary.

Table 3. Means of work, technology and financial resources in the implementation process of a trailer suspension

Part No.: 203 910 200		Part name: Suspension		Purpose: Trailer	
MEANS OF WORK/TECHNOLOGY			FINANCIAL RESOURCES		
Means of work	Operation <sup>31</sup>	Additional equipment		Work cost (PLN) item	
G	H	I		J	
Universal lathe	Lathing <sup>32</sup>			27.80	
Universal milling machine	Milling <sup>33</sup>			5.30	
Band-saw	Cutting			2.00	
Pillar drill	Drilling			1.00	
Plasma cutter	Burning			20.00	
Welder	Welding			20.00	
Edge press	Folding			2.00	
Paint shop	Painting			2.00	
				WORK COST <sup>34</sup> (PLN):	80.10
				OTHER COSTS <sup>35</sup> (PLN):	64.08
				TOTAL (Tab. 1 – F) + (Tab. 2 – J) (PLN):	729.94

Source: authors' own work based on research.

<sup>30</sup> T. Pszczołowski, *Mała encyklopedia prakseologii i teorii organizacji*, The Ossolineum, Wrocław–Warszawa–Kraków–Gdańsk 1978, p. 246.

<sup>31</sup> A manufacturing operation is a set of standardised actions which are performed repeatedly regardless of the type of the final product. The essence of the calculations is the register of processing costs, i.e. direct labour and general costs, according to the operations included in the process of a product or service manufacture. The processing cost is assigned to physical units of the product which undergo processing at every position where operations are done. As we know there are many varieties of the same product. What makes them different in the manufacturing process is the specific set of manufacturing operations which must be done for the final product to be finished.

<sup>32</sup> Chip machining – most common form of external and internal surfaces processing of objects. While lathing the main movement is performed most often by a spinning object, whereas the auxiliary movement is the flat movement of the tool.

<sup>33</sup> The kind of cutting processing where the rotation is performed by the tool and the sliding motion is done by the object being processed.

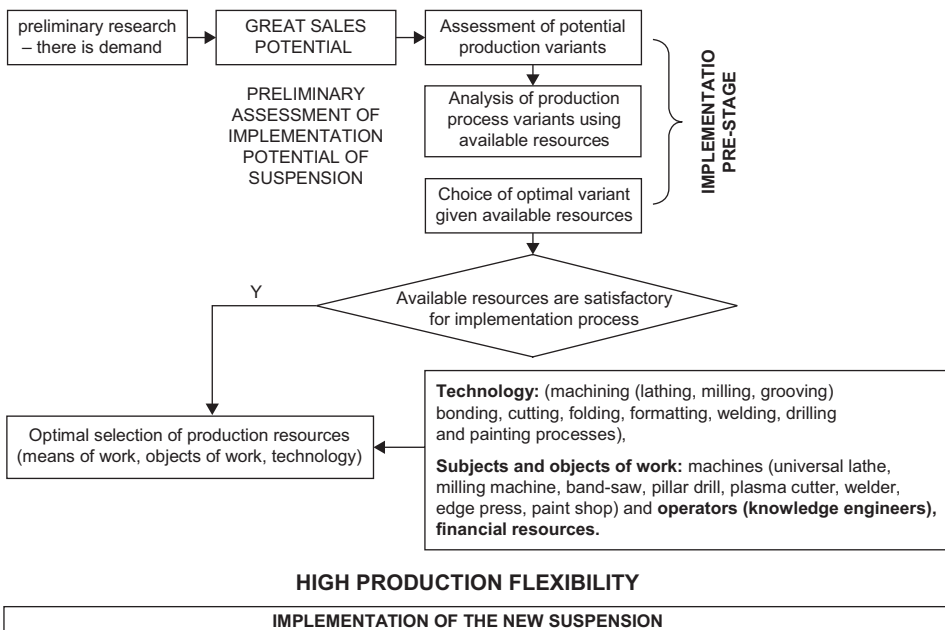
<sup>34</sup> They are designated for a given specification of materials necessary to manufacture a given unit of the product.

<sup>35</sup> In the presented cost group the following are included: the cost of special tools, energy, depreciation, taxes and fees, social security and other expenses such as business trips or representation. A basic formula is used to calculate those expenses: **other costs = work costs x 80%**.

## 2.4. The assessment of product flexibility of a manufacture – research results

In the implementation process of the trailer suspension modelled for the purposes of the present work the manufacture where observations were conducted has at its disposal both objective and subjective factors, which allow it to take advantage of its own resources only (Picture 3). It makes it possible to lower the cost of product implementation considerably and shorten it, which is of immeasurable importance in the agricultural sector due to the seasonal character of purchases<sup>36</sup>. When making a decision to implement a trailer suspension the producer has to take the following criteria in to account: the necessary objects of work (Table 2), means of work and the technology (Table 3) as well as the financial resources and know-how for each of these areas.

Picture 4. The method of assessing the production flexibility of the researched manufacture – authors’ own research



Source: authors’ own work.

<sup>36</sup> A lengthy inflexible implementation process may generate additional expenses, which is a manifestation of prodigality. If the producer does not implement their product at an appropriate moment then on occasions they must postpone their sale even for a year. This is the case of harvesting machines where the demand lasts not longer than one month.

It has been stressed on numerous occasions in the present work that every manufacture or factory is a production system. Its material and human elements are used to implement various production processes. When implementing a new product it must be borne in mind that the available resources of the production system may vary from the resources necessary to implement the production process – the manufacture loses its flexibility, i.e. a reconfiguration or integration of the production process do not create the capabilities to implement the new product.

The manufacture discussed in the present work has a well-equipped stock of machines (which was confirmed by document analyses and observations), which includes e.g.: lathes, milling machines, edge presses, sheet metal guillotines, band-saws, welders, drills, grinders, slotting machines, broaching machines, benders, hydraulic and mechanic presses, plasma cutters, etc., objects of work which offer a great span of production possibilities, a unique technology and competent staff (knowledge engineers), which according to the criteria assumed in this work testifies to its product flexibility.

## Conclusion

Striking a balance between two opposing tendencies<sup>37</sup> seems to be an important problem that businesses face nowadays. On the one hand, flexibility, innovativeness, and creativity in preparing development concepts for businesses are gaining in significance, which is always connected with creators, visionaries, brave and frequently uncompromising strategists. On the other hand, the role of the communication of developmental concepts and engaging a wider circle of people and resources in it are increasingly important, which is clearly connected with participation in strategic management. In order to understand the way a business changes it is necessary to get to know and understand the general social and economic trends<sup>38</sup>. After all, a modern business is part of a wide socio-economic arrangement, in which it co-exists.

The aim of the work, to present the issues of product flexibility of a manufacture in its theoretical, cognitive and practical aspects, has been achieved. Literature was queried in respect of the flexibility paradigm of a manufacture, which – in the authors' opinion – led to the presentation of the flexibility criterion as a key success factor. A resource flexibility model of a manufacture was suggested, which was referred

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<sup>37</sup> A. Kaleta, *Przywództwo strategiczne – warunek sukcesu czy bariera rozwoju współczesnych przedsiębiorstw*, in: *Problemy pracy kierowniczej we współczesnym przedsiębiorstwie*, K. Krzakiewicz (ed.), TNOiK, Poznań 2008, p. 37.

<sup>38</sup> B. Nogalski, A. Szpitter, A. Mazur-Jelonek, *Identyfikacja i diagnoza procesu kierowania zmianą organizacyjną w restrukturyzacji przedsiębiorstw dystrybucyjnych polskiego sektora energetycznego*, in: *Problemy pracy kierowniczej we współczesnym przedsiębiorstwie*, K. Krzakiewicz (ed.), TNOiK, Poznań 2008, p. 103.

to economic practice, including the case of a specific manufacture which was characterised by perfect flexibility, where a swift reconfiguration and integration of the production process and thus the implementation of the finished product in the form of a trailer suspension was possible using the resources at hand.

The authors consider it necessary to do further and deeper research in this area. The problems solved in the consecutive chapters of the article may be a subject of separate elaborations and analyses, which will undoubtedly influence the effectiveness of manufacture management.

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## THE STRATEGIC DIMENSION OF PRODUCT FLEXIBILITY OF A MANUFACTURING PLANT THE CONCEPT AND ITS APPLICATION

### Abstract

The area of interest in this publication are manufacturing facilities, that are characterized by excellent flexibility, which reflects their ability to recognize market opportunities that manufacturers are provided with due to a quick reconfiguration and integration of their manufacturing processes, and thus implementation of finished products tailored to the needs of the market.

The overall objective of this paper is to show, in terms of theoretical, cognitive and practical aspects, the issues related to product flexibility of a manufacturing plant.

This article is a creative synthesis based, on the one hand, on a detailed analysis of the theory of the problem, and on the other hand – the authors' own research, carried out to-date.

**KEY WORDS: MANUFACTURING FACILITIES, FLEXIBILITY, RECONFIGURATION AND INTEGRATION OF THEIR MANUFACTURING PROCESSES, THE MARKET**

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## STRATEGICZNY WYMIAR ELASTYCZNOŚCI PRODUKTOWEJ ZAKŁADU WYTWÓRCZEGO – KONCEPCJA I ZASTOSOWANIE

### Streszczenie

Przedmiotem zainteresowania w niniejszej publikacji są zakłady wytwórcze charakteryzujące się doskonałą elastycznością, którą odzwierciedla umiejętność dostrzegania szans rynkowych, jakie daje wytwórcom możliwie szybka rekonfiguracja i integracja procesu wytwarzania, i tym samym implementacja wyrobu gotowego dostosowanego do wymagań rynku.

Celem ogólnym pracy jest zatem przedstawienie, w aspekcie teoretycznym, poznawczym i praktycznym, zagadnień związanych z elastycznością produktową zakładu wytwórczego. Niniejszy artykuł ma charakter twórczej syntezy opartej z jednej strony na szczegółowej analizie teorii problemu, a z drugiej – na dotychczasowych badaniach własnych autorów.

**SŁOWA KLUCZOWE: ZAKŁADY WYTWÓRCZE, ELASTYCZNOŚĆ, REKONFIGURACJA I INTEGRACJA PROCESU WYTWARZANIA, RYNEK**

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# EXAMPLES OF CSR RELATED ACTIVITIES IN POLISH COMPANIES

## Introduction

Polish companies increasingly declare that the concept of *Corporate Social Responsibility* is inherent in their strategies and constitutes a crucial element in their business activities. The rise in the significance of corporate social responsibility is reflected in the growing number of companies publishing their social reports that give detailed descriptions of their social involvement and stress the impact they exert on their numerous stakeholders. Thus, it is worth a thorough consideration whether the involvement in social responsibility results only from their concern for society or manifests the current fashion of being socially responsible or is eventually a form of manipulation to promote the image and build up the brand value. What does corporate social responsibility mean for Polish companies then? Is it their strategy, fashion or a common manipulation? The article presents five examples of involvement in social responsibility on the basis of which the author attempts to answer the aforementioned questions.

## 1. Ecological shopping bags introduced by Carrefour Poland

On 5 June 2008 the Carrefour Poland hypermarket network withdrew disposable plastic shopping bags from their stores to replace them with **biodegradable** reusables. Network President Gilles Roudy emphasized that the action was an element of the social campaign *Out of Love for the Environment*, begun by Carrefour on 12 May 2008. Its partner was the Ministry of Environment. Poland is the fifth

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country to follow Belgium, France, Italy and Taiwan, where the network decided to withdraw free shopping bags.<sup>1</sup> In the “Report on CSR of Carrefour Poland” published in June 2009, the company described its involvement in the social, ecological and systemic area undertaken in 2008. In the chapter on ecological involvement the company stressed that when making a decision to remove the free shopping bags and replace them with biodegradable ones, it responded to the requests made by the representatives of local governments. In the report Carrefour stated that through its activity it wanted to contribute to the reduction of shopping bags in circulation, improve the ecological awareness of their customers and encourage them to make pro-ecological consumer decisions. One month after the introduction of the paid shopping bags, their use dropped by nearly 80% as recorded by the company, and this action resulted in the reduction in uncontrolled use of bags, which had been the goal set by the company. Carrefour claims that this involvement is favourably perceived by the customers who do understand the need for the change in certain behaviours and habits prevailing in Polish society.

## 2. On-line statements in the Citi Handlowy Bank

In order to mark the 125 anniversary of Bank Handlowy in Warszawa JSC, Citi Handlowy, as a bank proud of the practical implementation of its corporate social responsibility policy, established the Leopold Kronenberg Bank Foundation, through which it implements national and local programmes to reflect its corporate social responsibility. The foundation supports activities in favour of the public good in the area of education and local development. The Kronenberg Foundation co-ordinated the project *More Trees Thanks to You*, implemented jointly by Citi Handlowy and Our Earth Foundation. The bank undertook to purchase and plant one tree on behalf of every customer who would decide to choose an on-line statement to replace the old paper account statement. On its website Citi Handlowy encourages customers to order on-line statements as follows:

- “reduce the amount of paper lying on your desk,
- generate your statement quickly: anywhere and anytime,
- be a conscious citizen of our Planet – plant your tree!”<sup>2</sup>.

In the spring of 2008 within this initiative 40,000 trees were planted in the Masovian region, which is troubled with the problem of disappearance of the so-called green corridors, i.e. animal migration tracks. This means that 40,000 people resigned from paper account statements in favour of statements sent via the Internet. The tree

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<sup>1</sup> <http://wyhacz.gazeta.pl/Wyhacz/1,88542,5207700>

<sup>2</sup> <http://www.online.citibank.pl/las/>

planting campaign was participated by schools of the Masovian region and Citi Handlowy staff and customers<sup>3</sup>.

During the second edition of the project *More Trees Thanks to You* in the spring of 2009 in the Olkusz Forest District there were 138,000 trees planted, whereas during the final of the campaign outside Warsaw in the Chojnów Forest District, outside Olsztyn in the Wipsowo Forest District and outside Gdańsk in the Kolbudy Forest District more than 700 bank staff and customers together with their families and friends planted 3,000 trees: oaks, beeches, pines and firs and took part in the Family Ecological Picnic. The afforestation was implemented under the supervision of Lasy Państwowe (the State Forests) and according to its plan to afforest and regenerate the green corridors<sup>4</sup>. The Family Ecological Picnics were accompanied by tree planting trainings, workshops on ecology to improve the knowledge of the impact of forests on the environment and climate protection as well as talks on ecological behaviours, e.g. how to sort waste effectively and properly.

The project *More Trees Thanks to You* organized by Citi Handlowy and Our Earth Foundation represents the joint efforts of the bank and non-governmental organisations in favour of ecological behaviour promotion. In the course of two years over 180,000 trees were planted, which means that the same number of customers resigned from paper accounts statements in favour of on-line statements<sup>5</sup>.

Promoting the shift to the on-line statements, Citi Handlowy has its own business interest. The bank has over a million customers. And the number of customers making use of on-line statements in 2008 amounted to 300 thousand, which accounted for 31% of all personal account and credit card holders<sup>6</sup>. Due to the campaign *More Trees Thanks to You* about 180,000 people resigned from paper accounts statements in favour of the on-line ones. In this way they reduced the costs incurred by the bank every month for the generation of bank statements and their distribution by post. Similarly, the actions undertaken within the Environmental Management Plan bring measurable effects in the form of reduction of energy costs, waste as well as the use of paper and office materials. Thus, the aforementioned activities do not only reflect the idea of social responsibility within the ecological area but, first of all, they are meant to considerably reduce banking costs.

Social involvement is reflected in commercial projects within the social environment, most frequently in the form of the sponsoring of culture, sports or education. By being involved in them the company does not reap any direct benefits. Nevertheless, thanks to the promotion of the image among the stakeholders and building up relations with them, the company is able to develop and its value rises. The growth

<sup>3</sup> [http://www.citibank.com/poland/kronenberg/polish/6606\\_9719.htm](http://www.citibank.com/poland/kronenberg/polish/6606_9719.htm)

<sup>4</sup> <http://www.citibank.com/poland/kronenberg/polish/6606.htm>

<sup>5</sup> <http://ekoinfo.pl/art.php?action=more&id=1801&idg=26>

<sup>6</sup> [http://www.odpowiedzialnybiznes.pl/cms\\_a/upload/file/Raport%202008/FOB\\_rap2008\\_ost.pdf](http://www.odpowiedzialnybiznes.pl/cms_a/upload/file/Raport%202008/FOB_rap2008_ost.pdf)

in the so-called relationship capital is, besides the human and structural capital, a significant element of the company's intellectual capital<sup>7</sup>.

### 3. RWE STOEN in support of Polish football

STOEN SA is a company whose major business is transfer, distribution and turnover of energy. Since 23 December 2002 the company has belonged to the international group RWE and like other group members it supports sports, cultural and social undertakings. In the period of 2003–2006 the company co-operated with Legia Warszawa Football Club, which is a large STOEN corporate customer, e.g. advertising itself on the stadium during the League and National Cup matches. The best fruit borne as a result of this co-operation was the charity match organised by the company in 2005 between Legia Warszawa and Bayer 04 Leverkusen – a team sponsored by the RWE concern. There were 11,000 fans in the stands. The whole income from the tickets amounting to 208,000 zlotys was donated to the programme Orliki STOEN, initiated by the commission established in November 2005 by the RWE Foundation within which the company undertakes charity and social actions<sup>8</sup>. The aim of the Orliki STOEN programme is to fish out, from Warsaw clubs and those outside the city participating in the tournaments organised by the Masovian Football Association, the most talented football players at the very beginning of their careers and to make sure that they are given a chance to develop their potential through access to sport equipment and participation in training camps<sup>9</sup>.

### 4. PKO Bank Polski SA in support of Polish culture and sport

PKO Bank Polski SA has been active in its sponsoring and charitable activities for years. The Board 2008 Report states that *sponsoring is aimed at the creation of PKO BP SA image as a trustworthy financial institution open to the needs and expectations of customers, and involved in the development of the country and local communities*<sup>10</sup>. Sponsoring as a marketing tool is as effective for a bank as advertising. Since 2003 sponsoring has focused on three programmes:

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<sup>7</sup> See more on the intellectual capital in: S. Kasiewicz, W. Rogowski, M. Kicińska, *Kapitał intelektualny – spojrzenie z perspektywy interesariuszy (Intellectual capital from the perspective of stakeholders)*, Oficyna Ekonomiczna, Kraków 2006.

<sup>8</sup> [http://www.bezpiecznaenergia.pl/?d=1&nazwa=fundacja\\_rwe.html](http://www.bezpiecznaenergia.pl/?d=1&nazwa=fundacja_rwe.html)

<sup>9</sup> <http://www.rwe.pl/index.php?id=567>

<sup>10</sup> [http://www.pkobp.pl/index.php/id=rel\\_raproc/akt\\_id=7927/source=rel\\_raproc/section=ri](http://www.pkobp.pl/index.php/id=rel_raproc/akt_id=7927/source=rel_raproc/section=ri)

#### 4.1. PKO Bank Polski in favour of national culture

The programme was inaugurated in 2001 in order to create an image of the bank as a patron of culture and national heritage. The bank co-operates with the National Museum and philharmonic assemblies from all over the country through the sponsoring or financial support of numerous cultural events. In 2008 PKO BP SA sponsored the exhibition *An Expedition to the Interwar Period* organised by the National Museum, with which the bank has been co-operating for several years. Thanks to the patronage of PKO BP, thousands of visitors were able to familiarize themselves with the artistic work of, inter alia, painters Andrzej Wróblewski and Rafał Malczewski or fine art photographer Jan Bułhak.

The projects sponsored by the bank are not only the national campaigns but also numerous local projects, e.g. *The 10th Bydgoszcz Opera Festival* or *The 13th International Theatre Festival* in Toruń.

#### 4.2. PKO Bank Polski Close to You

The idea of the programme is undertakings in the area of economic education as well as social sponsoring. Within the project the bank co-operates with universities all over the country participating in events, co-financing Juvenalia, conferences and scientific seminars.

#### 4.3. PKO Bank Polski: the bank of the Olympic Team

Within this programme PKO BP SA concluded an agreement with the Polish Olympic Committee on the basis of which it patronised the Polish Olympic movement during the Summer Olympic Games in Athens in 2004 and Winter Olympic Games in Turin. The bank also co-operates with the Handball Association and women basketball team LOTOS PKO BP Gdynia. Furthermore, it sponsored the Polish women national foil team<sup>11</sup>.

Besides sponsoring, PKO Bank Polski SA deals with charity, which develops the image of the bank as an institution aware of the significance of corporate social responsibility, enabling contacts with opinion-forming environments and local authorities. The example of such activities is, for instance, the financing of the monument commemorating the Warsaw Ghetto Uprising or financial support of the restoration of works of art in the Raczyński Library in Poznań.

<sup>11</sup> [http://www.superbrands.easysite.org/files/PKOBankPolski\\_1700.pdf](http://www.superbrands.easysite.org/files/PKOBankPolski_1700.pdf)

## 5. Żywiec Zdrój SA educational campaign in favour of drinking water

The social responsibility of Żywiec Zdrój SA is reflected in the care for the people and places where the company does business. It really wants to be perceived by the local community as a good and responsible neighbour. An element of social responsibility in the company is reflected in the campaigns undertaken in order to develop Poles' awareness of the healthy lifestyle<sup>12</sup>.

In September 2009 Żywiec Zdrój began its nation-wide campaign *Mum, Dad, I prefer water!* It is aimed at the creation of appropriate nutrition habits among children with special interest in the role of water in their everyday diet. The substantive patronage was taken by the Institute of Food and Nutrition as well as the Institute of Mother and Child and the honorary patronage by the Ministry of Health.

Żywiec Zdrój recognised the problem of children's excessive consumption of sweetened drinks and juices, which may account for 10–20% of their daily energy intake and are the source of unnecessary calories and sugar. Calories consumed in the form of liquid are assimilated more easily, which contributes to the higher risk of obesity among the youngest. In order to change these habits, the company began its educational campaign encouraging people to drink water and pursue a well-balanced diet standards from early childhood<sup>13</sup>.

Żywiec Zdrój encourages parents to develop appropriate behaviours and habits among their children. It points to the role played in this process by educational organisations. In this connection, the major element of the campaign will be a cycle of classes held in 1100 kindergartens, 1100 schools in 40 towns in Poland. Specialists in the fields of nutrition, psychology and ecology having consulted experts from the Institute of Mother and Child and the Institute of Food and Nutrition, prepared educational materials for children, parents and teachers. Classes based on fun and a variety of topical contests will make children familiar with the principles of appropriate nutrition and the impact of water on their life and health<sup>14</sup>.

## Conclusion

The examples quoted in the article indicate that companies treat corporate responsibility in a different way. Some of them make use of the ecological fashion in the

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<sup>12</sup> <http://www.zywiec-zdroj.pl/#/0X4X>

<sup>13</sup> <http://www.zywiec-zdroj.pl/#/4X0X>

<sup>14</sup> [http://www.mamanaczasie.pl/wolewode/o\\_programie.html](http://www.mamanaczasie.pl/wolewode/o_programie.html)

society and under the pretext of care for the good of the environment they promote undertakings whose aim is to reduce costs incurred by the company. They cunningly manipulate the public opinion taking advantage of the idea of corporate social responsibility in order to generate additional economic benefits.

In other companies pro-social activities are part of marketing and serve the purpose of promotion of the brand or firm image as perceived by their customers. They also enhance relations with partners, thanks to which they are an effective tool of the construction of relationship capital value. The company does not gain financial benefits from them directly, however in the long-run these activities contribute to the growth in corporate value.

Social programmes are another form oriented towards solving important social issues. Admittedly, they are similar to the activities described above. However, thanks to the fact that they focus on a definite problem and are frequently of a nationwide scope, the effects related to the corporate image promotion and the development of relations with the environment may be stronger.

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## EXAMPLES OF CSR RELATED ACTIVITIES IN POLISH COMPANIES

### Abstract

Polish companies increasingly declare that the concept of Corporate Social Responsibility is inherent in their strategies and constitutes a crucial element in their business activities. The rise in the significance of corporate social responsibility is reflected in the growing number of companies publishing their social reports. It is so deeply consider the conditions that guide the company to take action under corporate social responsibility. The article presents five examples of involvement in social responsibility on the basis of which an attempt was made to identify those conditions.

**KEY WORDS: CORPORATE SOCIAL RESPONSIBILITY, COST REDUCTION ORIENTED CSR ACTIVITIES, COMPANY PROMOTION, SOCIAL PROGRAMMES**

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## MIEJSCE SPOŁECZNEJ ODPOWIEDZIALNOŚCI W STRATEGIACH PRZEDSIĘBIORSTW

### Streszczenie

Polskie przedsiębiorstwa coraz częściej deklarują, że koncepcja społecznej odpowiedzialności biznesu – CSR (*Corporate Social Responsibility*) jest wpisana w ich strategię i stanowi istotny oraz kluczowy element prowadzonej przez nie działalności biznesowej. O wzroście znaczenia społecznej odpowiedzialności biznesu świadczy również wzrost liczby przedsiębiorstw publikujących raporty społeczne. Warto więc głębiej przeanalizować przesłanki, którymi kierują się przedsiębiorstwa, podejmując działania w ramach społecznej odpowiedzialności biznesu. W referacie zaprezentowano przykłady działań pięciu firm z zakresu społecznej odpowiedzialności, w oparciu o które podjęto próbę zidentyfikowania tych przesłanek.

**SŁOWA KLUCZOWE: SPOŁECZNA ODPOWIEDZIALNOŚĆ BIZNESU, DZIAŁANIA SPOŁECZNIE ODPOWIEDZIALNE UKIERUNKOWANE NA OBNIŻENIE KOSZTÓW ORAZ PROMOCJĘ PRZEDSIĘBIORSTWA, PROGRAMY SPOŁECZNE**

# THE PHENOMENON OF COOPETITION IN EUROPEAN PROJECT<sup>1</sup> MANAGEMENT TEAMS

## Introduction

The pillars and basic assumptions of cooperative or competition structures have been described in “game theory”, a scientific field that received more attention with the famous book “Theory of Games and Economic Behavior” in 1944 and the works of John Forbes Nash on non-cooperative games. By deduction Nash findings have been applied in several situations, and in different fields (politics, sciences, economics, sociology, psychology, and business strategy, among others). In organizational theory several authors claim that “coopetition” happens when firms interact with partial congruence or partial compatibility of goals or rationales. They could share or cooperate partially with each other to reach a common goal or objective or the consortium or the cluster, and restart their battles and fights to achieve an advantage over the others using all the means or competitive advantages possible.

The interest in the phenomenon of co-existence of cooperation and competition between enterprises, that is known as “coopetition”, was then noticed in 1993 by Noord Raymond, who managed Novell, an IT company based in the United States of America. He noted that, on the one hand, IT companies compete fiercely with each other and, on the other hand, in certain cases they are capable of uniting their efforts to collaborate towards a specific business goal. Only two years upon identifying

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<sup>1</sup> A European project – a shortened name for a project co-financed from the European Regional Development Fund and the state budget often “incarnate” or structured by joint-ventures, and other types of alliances and consortiums.

the phenomenon of coopetition by Noord many scholars became interested in these issues, with the following persons among them: the duo Brandenburger A. – Nalebuff B. duo, Dagino G.B., Gnyawali D.R., Padula G., Walley K., Yami S., Le Roy F. In Poland, in turn, the major researchers of this phenomenon include: Czakon W., Cygler J., Wyrwicka M.K. and the Lozano A. – Sysko-Romańczuk S. duo. Due to the fact that coopetition is not accounted for in up-to-date dictionaries of foreign words, the dictionary of the Polish language or dictionaries of business terms, it should be considered a neologism which seems to have established itself in management terminology.

For the situation where competition and collaboration occur simultaneously, the researcher K.E. Walley proposed to distinguish three subtypes of coopetition:

- cooperation prevalence: where cooperation prevails over competition when two entities collaborate with each other,
- equal collaboration: in the case of such coopetition there is an equal amount of collaboration and competition within the existing relationship,
- competition prevalence: where competitive activities prevail over cooperative activities.

M. Bengston and S. Knock [2] proposed a different perception of the phenomenon of coopetition. When at least two enterprises compete and cooperate with each other in similar conditions and take decisions independently of other enterprises, reciprocal coopetition occurs. However, when cooperation and competition between two enterprises are determined by many actors playing in a network, it is called multipolar coopetition.

For Levy et al.: “Coopetition is the contractual agreement between competitive organizations to exist in a parallel cooperative and competitive environment. Contracts align organizations that perceive beneficial information and resource exchange” [12].

The issue of coopetition has still been a new and trendy topic in Poland, and the phenomenon of coopetition itself was presented and discussed during the academic conferences on management organised in the period 2008–2012 in Poland. The achievements of management sciences with respect to cooperation and competition is rich and precise enough to constitute a truly mature source of reference for the attempt to analyse the phenomenon of coopetition in European project management<sup>2</sup>.

<sup>2</sup> In the Polish management literature an additional term “kooperencja” [“cooperance”] occurred. It is promoted by Joanna Cygler, the author of the book titled *Kooperencja przedsiębiorstw. Czynniki sektorowe i korporacyjne*, SGH, Warsaw 2009. It includes the definition of “kooperencja”, which is considered by the writer as a type of relationships between competitors where cooperation and competition streams occur simultaneously. The cooperation stream may assume diverse forms of collaboration: from social agreements (gentlemen’s agreements sealed with a handshake), to non-capital projects, to capital agreements. “Kooperencja” is discussed comprehensively: as streams (and not single agreements or projects).

The intention was to prove that the phenomenon of coopetition occurred in the examined project management teams, identify the causes of coopetition and determine the specificity of this phenomenon which accompanies European project management.

The present paper presents these results of the research that are related to the aspects of multi-entity and virtual management of European projects. One of the indirect goals of the research was an attempt to analyse the relationships between the entities present in project management teams. The results of the research confirmed the earlier assumptions and hypotheses that the phenomenon of coopetition occurs in such teams. The examined entities were beneficiaries of EU assistance, that is enterprises (35), public sector entities (35) and project management enterprises (42) from five Polish voivodeships. The total number of 115 European projects were examined. The research was conducted with the use of research techniques such as the analysis of application documentation and project documentation (115), interviews (including cati) with beneficiaries of EU assistance (44), interviews (including cati) with management staff of a project management team (42), participant observation (36) and analysis of tender documentation placed on the websites of beneficiaries of EU assistance (115). Both the pilot and the proper research were carried out in the period 2007–2012.

## 1. Coopetition in a “consortium” in European project management

Together with Loebeke et al. [13, p. 14], we could define coopetition as: “simultaneous co-operation and competition between firms. Coopetition entails the sharing of knowledge which may be a key source of competitive advantage. Under coopetition there is a paradox that the knowledge shared for cooperation may also be used for competition. While the existence of this problem is known, there is little investigation of how it may be modelled and, thus, managed.” Loebeke and Al introduce a game-theoretic framework for analysing inter-organizational knowledge sharing in the context of coopetition. For the authors: “This allows the value of knowledge shared to be investigated and reveals that a crucial aspect will be the firm's ability to manage the process”.

More recently, Wong and Al study on Cross-Functional Team Organizational Citizenship Behavior in China proposes that a shared organizational vision develops cooperative interdependence among departments which, in turn, facilitates cross-functional teams' organizational citizenship behaviour (OCB). “Team members indicated their organizations' shared vision, and leaders indicated the goal interdependence among departments and the OCB of the teams. Their analysis and

results suggested combining independent and competitive goals, and this combined measure negatively predicted team OCB. These results suggest that a shared organizational vision and cooperative goals among departments are important foundations for cross-functional teams to contribute to the performance of organizations through socially responsible behaviour” [19, pp. 1879–2909].

The results of the conducted research proved that the dominant form of European project management was a “virtual organisation” (consortium)<sup>3</sup>, that is one consisting of at least two equity-unrelated economic entities establishing a project alliance in the form of a consortium for the term of the project. The external solution (67), that is management by an external entity or external entities, was most commonly applied in EU project management. This solution resulted from the decision to outsource the project management service. The internal solution (34), that is one fully based on internal resources of the beneficiary, was ranked next. 14 cases of the examined population, in turn, were mixed solutions, that is ones based both on employees of a beneficiary of EU assistance and entities and individuals not being beneficiaries of EU assistance or their employees. It turned out that in the examined projects the phenomenon of cooptation occurred in 70.4% of the cases of project management and in all (100%) cases of the external and mixed project management method. The results disclosed that at least one of the enterprises belonging to a given consortium had earlier competed in tendering procedures with enterprises from other consortia. The owners and managers of the enterprises collaborated with each other by negotiating and establishing project consortia in order to win a given contract. The consortia and teams created in this manner collaborated when managing the project within the developed agreements and signed civil agreements. This case of cooptation seems to be a result of a market game played on two planes of collaboration and competition of entities in the virtual organisation established for the purpose of managing the examined European projects [9, pp. 215–226].

The observations and analysis of the phenomenon of cooptation and one of its components, that is cooperation, unambiguously prove that what occurs in European projects management is a type of external cooperation that displays the features of positive collaboration [16, p. 47]. The dominant role of specialisation and vertical integration in creating a project management team was a characteristic of such collaboration. The vast majority of the examined teams (70.3% of the cases) formed management teams in such a way that all objectives to be executed in a given contract were divided among the members of the management teams in accordance

<sup>3</sup> Bili Sam – when we talk about virtual organisations, I think we should refer in this case to consortiums or alliances, or partnership networks. However virtual organisation in my understanding are in general com firms, like google, ebay, etc. We call them also hollow firms.

with their competences. Therefore, the basis for the division of works was grouping them by specialisations of the objectives and performed activities [15, p. 71]. The cases of the management teams where having formal references crucial for winning the contract were the dominant in the process of negotiating the division of the objectives among partners are an exception to the analysis. In 19.7% of the cases the entity having the crucial references pursued virtually no objectives from the contract except providing the virtual organisation (consortium) with formal references necessary to win the contract.

## 2. Characteristics of coepetition and accompanying phenomena in European project management

As mentioned above, it was noticed during the conducted research that project management is accompanied by new phenomena that are inter- and intraorganisational in nature. One of them is the phenomenon of coepetition, whose specificity consists, among others, in:

- diverse nature and diverse intensity of coepetition in the individual life phases of a virtual organisation in European project management,
- occurrence of competitive, cooperative and balanced coepetition,
- occurrence of reciprocal and virtual coepetition,
- occurrence of informal coepetition based on informal agreements called by project managers “gentlemen’s agreements”,
- occurrence of project treason.

The analysis of the occurrence of coepetition and its intensity in project management as well as the analysis of the results of the research on life phases of a virtual organisation in project management published by the author permits to notice that various intensity levels of the phenomenon of coepetition occur in the project management practice (Tab.1., Fig. 1. and Fig. 2.) [10, pp. 166–170]. The type and level of coepetition arise from competitive and cooperative behaviours [3] of the partners which create an interorganisational project management team in the form of a virtual organisation (Fig.1.). The resultant of these behaviours, in turn, is competitive behaviours and, consequently, the phenomenon of coepetition. The results of the research carried out on 36 projects by means of the participant observation method indicate that the phenomenon of coepetition changes its intensity and nature during the performance of the European project management service.

In order to determine and illustrate competitive behaviours (Tab. 1.) between partners in a project management team, characteristic actions on the competition plane were identified and counted. The greater the number of the items listed below in a given phase, the higher the intensity of competitive behaviours and vice versa.

During the research the following competitive behaviours were identified in an interorganisational project management team creating a virtual organisation:

- a) negotiating in the “win-lose” instead of “win-win” style,
- b) no or low trust for employees from other companies,
- c) no or low trust for the owners and the management staff of collaborating companies,
- d) limited loyalty to partners,
- e) undermining the credibility of partners (persons and companies),
- f) questioning the competences of partners (persons and companies),
- g) lying and concealing significant information,
- h) seeking new customers independently, without collaboration with partners,
- i) reducing diffusion and popularisation of specialised knowledge among persons and companies in the team,
- j) no or low sense of responsibility for the project as a whole,
- k) being disloyal to partners in favour of other persons and/or companies.

In order to determine and illustrate cooperative behaviours (Tab. 1.) between partners in a project management team, in turn, characteristic actions on the cooperation plane were identified and counted. The greater the number of the items listed below in a given phase, the higher the intensity of competitive behaviours and vice versa. The following cooperative behaviours were identified in an interorganisational project management team:

- a) co-decision-making,
- b) intensive information exchange,
- c) experience exchange,
- d) developing crucial competences jointly,
- e) resolving problems in the project jointly,
- f) supervising the project jointly,
- g) negotiating with partners in the “win-win” style,
- h) trust for the owners and management staff of cooperating companies,
- i) loyalty to partners,
- j) common strategy for attracting customers,
- k) sense of collective responsibility for the entire project, and not its components.

The results of the research on competitive and cooperative behaviours which indicate what number of both types of behaviours occurred in the individual life phases of a virtual organisation established for the purpose of European project management are presented in Tab. 1. The quantity prevalence of the items enumerated above from one set over the items from the other set indicates the dominance of competitive or cooperative behaviours in a given phase.

Table 1. Analysis of the intensity of cooperative, competitive and cooperative behaviours in the individual life phases of a virtual organisation established for the purpose of European project management

Phases	Phase I	Phase II	Phase III	Phase IV	Phase V	Phase VI	Phase VII
Intensity of cooperative behaviours	0	a, g, i, j (4)	a, g, h, j, i (5)	a, b, h, i (4)	a, d, c, h, i, k (6)	a, b, c, d, e, f, h, i, j, k (10)	a, b, e, f, g, h, i, j, k (9)
Intensity of competitive behaviours	h (1)	a, c, d, g, h, k (6)	a, c, d, g, h, k (6)	b, c, i, j (4)	b, c, i, j (4)	b, e, f, i, j (5)	b, c, d, e, f, g, h, j, k (9)
Intensity of cooperative behaviours	1	10	11	8	10	15	18

Source: own work based on the participant observation in European projects (n=36).

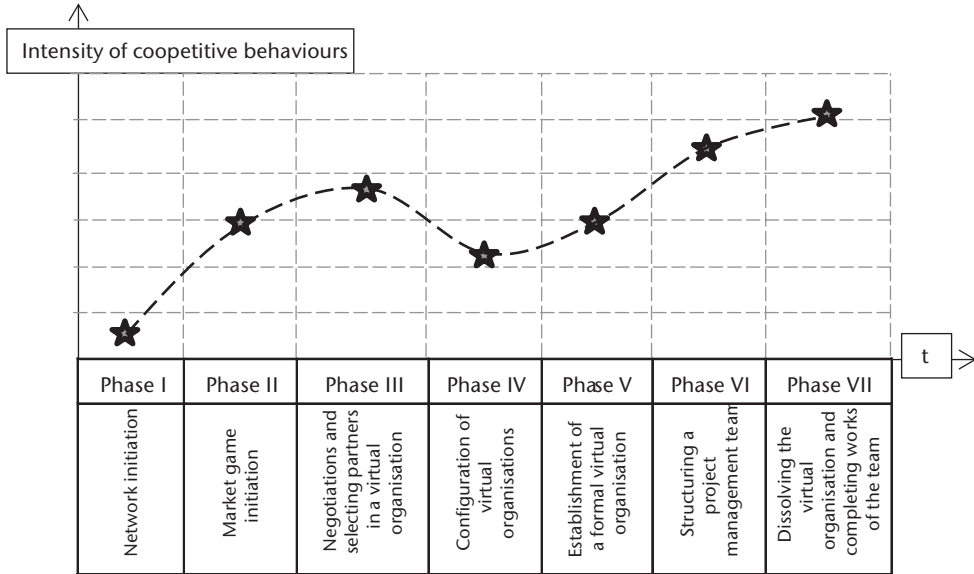
The presented results of the observation of competitive and cooperative behaviours could be reduced to basic mathematical operations. Thus, four aggregated relationships confirmed in the practice of the carried out research are presented below.

1. Intensity of cooperative behaviours = intensity of competitive behaviours + intensity of cooperative behaviours.
2. If intensity of competitive behaviours > intensity of cooperative behaviours, then competitive behaviours between partners prevail. Competitive cooperation occurs then (phases I, II, III).
3. If intensity of competitive behaviours < intensity of cooperative behaviours, then cooperative behaviours between partners prevail. Cooperative competition occurs then (phases V, VI).
4. If intensity of competitive behaviours = intensity of cooperative behaviours, then the state of equilibrium – and hence, balanced competition – occurs (phases IV, VII).

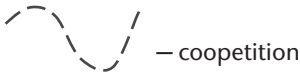
The first relationship is exemplified graphically in Fig. 1., where the highest intensity of cooperative behaviours is shown to have been reached in phases VI–VII, the medium level occurred in phases II, III and V, whereas the lowest intensity level was noted in phases I and IV.



Figure 1. Life phases of a virtual organisation in European project management versus intensity of cooperative behaviours in a project management team



Legend:



Source: own work based on the participant observation in European projects (n=36).

When analysing these results, one may draw some conclusions and make certain observations. The phenomenon of cooperation did not occur between enterprises in phase I. This situation is visible in Fig. 1. and Fig. 2. Lack of cooperation between enterprises in this phase resulted from lack of collaboration between them. These enterprises were exclusively actual or prospective competitors to each other.

The informal birth and further development of cooperation occur in phases II, III and IV of virtual organisation development in European project management. These are the phases where the market game for the customer begins, followed by negotiations and selecting partners for prospective collaboration and configuration of resources for a future project. In phases II and III cooperative behaviours prevail over competitive ones due to the fact that each of the network participants believes that they are able to win a project management contract independently or take the dominant position in the future project management consortium. Such behaviours of the persons representing economic entities are characteristic for the enterprises which traditionally provide project management services independently or constitute a component of the market game aimed at gaining a position that is as beneficial as

possible in negotiations accompanying the establishment of e.g. a consortium. In this phase the attempts to establish cooperation between partners most frequently ended in a failure in comparison to other life phases of a virtual organisation in European project management.

In phase IV, intensity of coepetitive behaviours was low and intensity of cooperation was equal to competition. In this phase a partner for cooperation was sought to jointly compete with other groups or consortia for a prospective contract. The actions taken by the entities interested in creating a team when seeking a partner for collaboration, conducting negotiations and selecting partners were characterised by caution and attempts to build trust between partners and by assessment of their credibility. The major goal in this phase was to establish cooperation with partners, and hence the balance between cooperative and competitive behaviours.

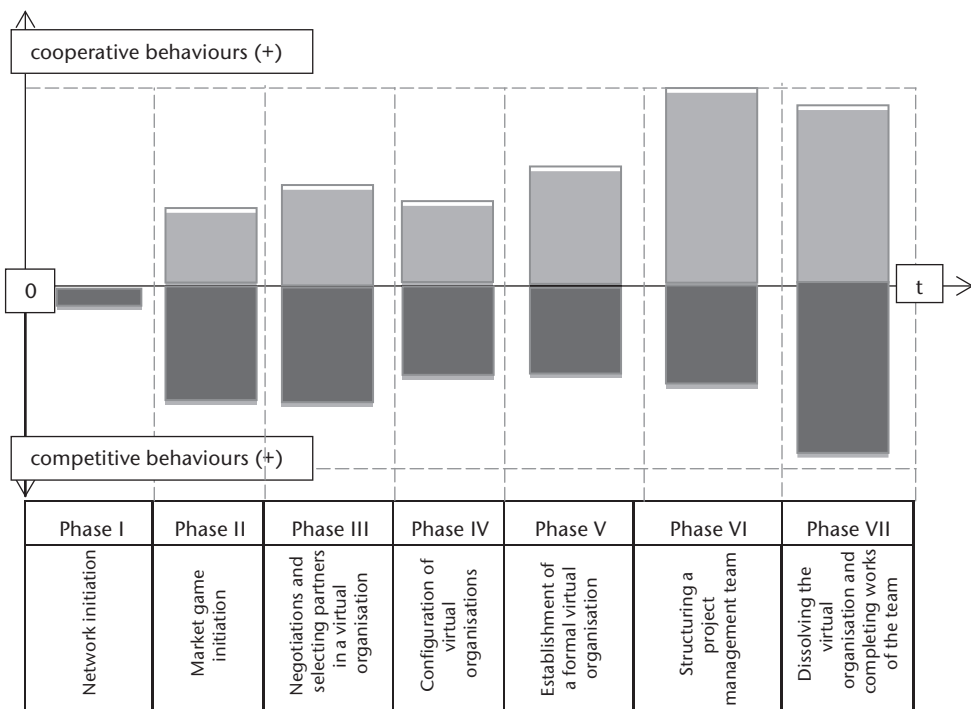
The phenomenon of coepetition is formally born as late as in phase V, that is upon signing a civil agreement, e.g. consortium and a project management services agreement. Signing the documents formally is a commencement of a more structuralised, organised and repetitive collaboration, as a result of which a high number of documents regarding the project is prepared. In this phase cooperative behaviours prevail because competing with each other once the contract has been signed would not be evaluated positively by partners.

Phase VI of the life of a virtual organisation, called the phase of structuring a European project management team, constitutes the coepetition development phase. In this phase activities related to the creation of a team and pursuit of operational objectives arising from the agreements concluded with customers and participants of a virtual organisation occur. In phase VI cooperative behaviours strongly prevail over competitive behaviours, to the extent that partners focus on collaboration to perform the contract as effectively as possible. This behaviour results also from the cyclicity of the executed obligations and from the unwillingness to disturb the rhythm of the entire team's work by any of the partners, which could increase the level of the risk e.g. related to qualified delay and, as a consequence, charging penalties for culpable delay.

In the last, VII, phase, coepetition is intensive and balanced in nature since competitive behaviours are balanced with cooperative ones. The high level of competitive behaviours resulted from the fact of approaching the end of the collaboration between partners and the necessity to seek new customers (commissions), for whom a similar service could be provided, not necessarily by the same team. The actions consisting in seeking new customers and contracts independently, without the collaboration with the current partners, were perceived as competitive behaviours in a consortium. They are characterised by, among others, seeking a contract independently, not informing the current partners of a prospective new customer – contract, refusing collaboration on another project with other partners, proposing a lower price

to the new customer comparative to the current price for a similar scope of project management services, etc. A high level of cooperative behaviour arises from intensive actions performed by the whole team to complete the project correctly and as effectively as possible. These actions result from the provisions included in the agreement with the customer and the project leader, and their correct observance involves the possibility to issue a VAT invoice and reception of payments. At the end of phase VII and upon its completion the entities participating in a virtual organisation need to choose one of three options: competing, collaborating or coopting with each other in the next project. Fig. 2. presents a visualisation of various levels of intensity of both cooperative and competitive behaviours in the individual life phases of a virtual organisation established for the purpose of European project management. Such a graphical representation of both phenomena permits the determination of not only the prevalence type but also the intensity level of individual behaviours.

Figure 2. Life phases of a virtual organisation in European project management versus intensity of competitive and cooperative behaviours in a project management team



Legend:

– cooperating (collaborating)
  – competing

Source: own work based on the participant observation in European projects (n=36).

Coopetition as an interorganisational phenomenon has its own life stages from the moment of its birth until its decline. The six-stage model of successive life stages of coopetition presented in Fig. 3. ought to be characterised by the moment when coopetition is non-existent in this period, when there is no collaboration between entities, and there is only competition (stage I). Initiating cooperation between competitors on any project is deemed an informal birth of coopetition. It is informal because coopetition does not usually create any documents but is based on telephone conversations, personal talks, meetings with prospective business partners, exchange of e-mails (stage II). In the following stage, III, partners sign formal documents in the form of economic agreements and other documents accompanying the contract. Stage III is considered a formal birth of coopetition. At stage IV partners begin structuring the cooperation with each other in compliance with the provisions of the concluded agreements and experience. The main point is to appoint a management team and fill posts in the team, execute objectives by each of the partners and take supervision and control actions by the management staff of the companies being a part of the project management team. At stage V maturity of cooperative behaviours occurs since this is the stage where the project is completed. The closer the end of the project management service provision schedule is, the more frequently partners try to find a new customer and commission independently, at the same time intensifying competitive behaviours equally to cooperative behaviours which are intensive due to the range of the works related to the final part of the contract performance. At stage VI competition declines as a consequence of completing the works arising from the contract. It is worth emphasising here that the decline of coopetition means the end of coopetition only in a given project and contract, whereas at the same time this can constitute its birth in another project. What can be concluded from the project management practice is that in the case of the entities oriented towards working in a network and virtual organisations coopetition will occur in multiple cases simultaneously.

The analysis of the phenomenon of coopetition in project management allowed also the identification of life stages of coopetition, which are presented in Fig. 3.

Figure 3. Life stages of coopetition in European project management

Life cycle of coopetition in European project management					
“Lack of collaboration between partners”	“Initiating collaboration between competitors – informal birth of coopetition”	“Formal birth of coopetition”	“Structuring coopetition”	“Maturity of coopetition”	“Decline of coopetition”
Stage I	Stage II	Stage III	Stage IV	Stage V	Stage VI

Source: own work based on [11, pp. 191–202].

## Conclusion

As has been already mentioned, during the conducted research it was noticed that project management is accompanied by new phenomena that are inter- and intraorganisational in nature.

One of them is the phenomenon of coopetition, the specificity of which includes among others:

- diverse nature and diverse intensity of coopetition in the individual life phases of a virtual organisation in EU project management,
- occurrence of competitive, cooperative and balanced coopetition,
- occurrence of reciprocal and virtual coopetition,
- occurrence of informal coopetition based on informal agreements.

In conclusion, it is worth emphasising that the situation of high demand for and low supply of project management services facilitates the phenomenon of coopetition. The reverse situation, that is high competition and low demand for project management services, also facilitates the phenomenon of coopetition. Hence, it can be concluded that market equilibrium and similar states do not facilitate coopetition in European project management. Most probably, a balanced market “distributes” work and commissions equally, without encouraging managers to establish project alliances and consortia.

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## THE PHENOMENON OF COOPETITION IN EUROPEAN PROJECT MANAGEMENT TEAMS

### Abstract

The paper presents the results of the research carried out in Polish enterprises and public institutions. The aim of the presented paper is to validate that the phenomenon of coopetition could occur in the examined European project management teams and determine the specificity of this phenomenon which accompanies European project management. The findings of the research do confirm the presence of coopetition in interorganisational European project management teams.

**KEY WORDS: EUROPEAN PROJECT MANAGEMENT, COOPETITION, COOPERATION, COMPETITION, VIRTUAL ORGANIZATION, CONSORTIUM**

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## ZJAWISKO KOOPETYCJI W ZARZĄDZANIU PROJEKTAMI EUROPEJSKIMI

### Streszczenie

Celem artykułu jest charakterystyka i identyfikacja zjawiska koopetycji w procesie zarządzania projektem europejskim. Koopetycja występuje w różnych fazach rozwoju organizacji wirtualnej utworzonej na potrzeby zarządzania projektem. Koopetycja posiada również charakter wielofazowy. W artykule przedstawiono wyniki badań wskazujące na występowanie koopetycji w projektach europejskich.

**KLUCZOWE SŁOWA: ZARZĄDZANIE PROJEKTEM EUROPEJSKIM, KOOPETYCJA, KOOPERACJA, KONKURENCJA, ORGANIZACJA WIRTUALNA, KONSORCJUM**

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# KNOWLEDGE MANAGEMENT AT NETWORK ORGANISATIONS

## Introduction

The term "network organisation" is well established in the modern theory and practice of management. One of the triggers to create network organisations is knowledge, which is also an effect of their functioning. As any other resource, knowledge is also subject to management. Skilful knowledge management can considerably increase the effectiveness of a network organisation.

The aim of this article is to show the specific role of knowledge resources at a network organisation and to present a model of managing these resources at the level of one network unit and at the level of an entire network. The article starts with the discussion on the essence, features and typology of network organisations, after which it provides an analysis of knowledge management in a network organisation.

## 1. The essence of a network organisation

A network organisation is a voluntary association of independent organisations cooperating with each other, which, by common use of their complementary resources, reach specific objectives, thereby increasing the effectiveness of their activities. Parameters distinguishing a network organisation from other organisations are:

- a constant transfer of material and non-material resources among the participants (units) of the network;

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- a specific, cooperative type of relations between enterprises, which can occur in various forms: hierarchical (one of the entities is dominating), horizontal, or unconstrained market contacts;
- a limited scope of integration of the entities creating a network organisation, resulting from a constant aspiration of the network organisation participants to implement individual objectives, strategies and values;
- creating common and integrated communication channels enabling a multidirectional communication among network participants;
- geographical dispersion (with the exception of clusters);
- considerable flexibility concerning the configuration and composition of the participants across time.

The basic principle of a network organisation is to reach the effect of synergy. It is only possible when all the network partners apply appropriate coordination mechanisms. Depending on the type of network, it can have one coordinator or it can consist of several equal entities. A network coordinator (or a flagship, broker or network centre) assumes the role of the main controller who organises the flow of material and non-material assets among other independent companies, thereby ensuring that the expectations of final clients are effectively satisfied<sup>1</sup>. The function of the network coordinator can be performed by a reputable organisation of a given region, an entity with appropriate resources or an organisation performing a specific function in the process implemented by the network. For a network organisation, it seems reasonable to talk about the so-called multifarious coordination covering all the three forms of coordination: hierarchical, market-related and social<sup>2</sup>.

Network organisations function with a reduced role of hierarchical structures, preferring informal relations among the specific entities they are composed of. Bilateral contacts can occur not only between the network centre and its other units. Also bilateral contacts between the network entities excluding the centre are possible<sup>3</sup>, whereby the network entities are interdependent, but their relations are unconstrained<sup>4</sup>.

A network organisation is often presented as a transitional form between a hierarchical structure and the so called organisations formed by market features<sup>5</sup>. It is

<sup>1</sup> J.C. Jarillo, *Strategic Networks. Creating the Borderless Organization*, Butterworth-Heinemann, Oxford 1995, p. 6.

<sup>2</sup> W. Czakon, *Koordynacja sieci – wieloraka forma organizacji współdziałania*, „Przegląd Organizacji” 2008, No. 9.

<sup>3</sup> J.B. Quinn, *Intelligent Enterprise. A Knowledge and Service based Paradigm for Industry*, The Free Press, New York 1992, p. 120.

<sup>4</sup> J. Staszewska, *Rozwój przedsiębiorstw sieciowych w Polsce – perspektywy dla klasteringu*, „Przegląd Organizacji” 2007, No. 11.

<sup>5</sup> M. Van Alstyne, *The State of Network Organization: a survey In Three Frameworks*, “Journal of Organizational Computing” 1997, No. 7, after: *Komunikacja wewnętrzna w organizacjach sieciowych*, S. Lachiewicz (ed.), Monografie Politechniki Łódzkiej, Łódź 2008, p. 12.

highlighted that a network organisation is based on trust, engagement and reputation of internal entities, not on hierarchy and vertical relations of a professional nature. Decisions concerning the resources in network organisations are taken not only integrally by the transaction parties, but also collectively by cooperating parties, and the flow of resources between cooperating partners is repetitive, not casual<sup>6</sup>.

In network organisations creating interpersonal networks among the employees of component entities is supported, which enhances the cooperation processes. As a result of weaker hierarchical dependencies and power structures, the level of flexibility and adaptability increases, as well as the support for entrepreneurial responses to new opportunities. Relations between the components of a network structure provide therefore channels for direct communication of task-oriented people, not power-oriented ones. It makes it possible to gain knowledge quickly, and the multilateral and mutual nature of information exchange is the basis of cooperation and network operation<sup>7</sup>.

Other features of network organisations are: the implementation of a common goal with the simultaneous struggle to reach autonomous objectives by individual entities; the tendency of the entities to specialise within the network; a considerable role of internal communication of the so-called information culture ensuring a free flow (vertical and horizontal, formal and informal) of knowledge and information; investing in relations<sup>8</sup>.

Not all networks are established on a voluntary basis<sup>9</sup>. A considerable number of network organisations is established as a result of various kinds of compulsion, where being a member of a network is a condition of survival or reaching a specific success by an enterprise. However even in such situations, a potential member makes a specific analysis of benefits and losses before a joining a network.

The condition of becoming a member of a network organisation is to comply with the criteria set by the network. These are mostly the criteria of complementarity and compatibility applied in relation to units already operating within the network. The image of the network created so far as well as the reputation of the potential candidates is also taken into account in the process of including new entities in an already existing network.

The main benefit resulting from the membership in a network organisation is the optimization of operational costs of its individual members. It can be done by

<sup>6</sup> K. Łobos, *Organizacja sieciowa*, in: *Zarządzanie przedsiębiorstwem przyszłości*, K. Perechuda (ed.), Agencja Wydawnicza „Placet”, Warsaw 2000, p. 97.

<sup>7</sup> B. Mikuła, *Organizacja oparta na wiedzy*, Wydawnictwo Akademii Ekonomicznej w Krakowie, Cracow 2006, p. 78.

<sup>8</sup> J. Staszewska, *Rozwój przedsiębiorstw sieciowych w Polsce – perspektywy dla klasteringu*, op.cit.

<sup>9</sup> It is indicated by, among others: J. Curran, R. Jarvis, R. Blackburn, S. Black, *Networks and Small Firms: Construct, Methodological Strategies and Some Findings*, “International Small Business Journal” 1993, No. 11.

means of a common implementation of some functions and processes, as well as by an elimination of repetitive units of the value chain of produced goods or services.

Additionally, network organisations, using their horizontal relations, can respond to market signals more quickly, by flexible adaptation of the configuration of the common resources to the implementation of individual undertakings and business projects<sup>10</sup>.

The specific character of network organisation features results in their considerable differentiation. This, in turn, translates into the multitude of typologies of network organisations. The most common criteria of classification of network organisations are: the level of members' dominance; the structure of the network; type of activity; the rate of integration and strength of relations of the partners; the stability of relations; the dynamics of the network's reconfiguration; the region of origin; the scope of influence; and the declared type of business model.

In respect of the level of the coordinator's (broker's) dominance and the relations between the system members, the following types can be distinguished: dominated networks (broker having bilateral relations with a range of satellite companies); and networks of equal partners (lack of one broker, all partners develop mutual links in the process of cooperation)<sup>11</sup>.

A similar classification of network organisations is made in respect of the network's structure, and specifically – the number of decision making centres. There can be one-centre (concentrated) networks; multi-centre (equal partners) networks; and dispersed networks (cooperating in an incidental manner).

In respect of activities carried out, there can be demand-related networks (referring to their relations with clients), supply-related networks (referring to cooperative links used in the process of supply of goods and services); and support networks (referring to the support relations in partnership systems)<sup>12</sup>.

On the other hand, a basis network organisations classification can be the nature of the relations among the network members. Such a classification would include: supplier networks, producer networks, client networks, technological cooperation networks and standard coalitions<sup>13</sup>. There can also be a classification covering: "star" networks, Peer to Peer networks and subcontractor networks<sup>14</sup>.

<sup>10</sup> More information in: *Elastyczność organizacji*, R. Krupski (ed.), Uniwersytet Ekonomiczny we Wrocławiu, Wrocław 2008.

<sup>11</sup> J. Child, D. Faulkner, *Strategies of Co-Operation. Managing Alliances, Networks and Joint Ventures*, Oxford University Press, Oxford 1998, p. 120.

<sup>12</sup> J. Bryson, P. Wood, D. Keeble, *Business networks, Small Firm Flexibility and Regional Development in UK Business Service*, "Entrepreneurship and Regional Development" 1993, No. 5.

<sup>13</sup> M. Castells, *Społeczeństwo w sieci*, Wydawnictwo Naukowe PWN, Warsaw 2008, p. 195.

<sup>14</sup> A. Jurga, *Technologia teleinformatyczna w wirtualnej organizacji przedsiębiorstwa*, PhD Thesis, Faculty of Organization and Management of the Łódź University of Technology, Łódź 2007, p. 14, after:

A combination of two criteria: the type of relations among the network members and the type of environment where a network operates, makes it possible to distinguish other categories of network organisations:

- empty networks, within which transaction relations among their members are dominating and the environment is variable;
- variable networks, where the environment variability rate is relatively high and the network members' relations are of a cooperative nature;
- networks with added value, where the environment variability is low, and transaction relations among the members are prevailing;
- virtual networks, where the environment variability rate is relatively low and the network members' relations are of a cooperative nature<sup>15</sup>.

Another criterion of network organisation classification can be the stability and strength of interrelations among the network entities. In this case the following types can be listed: integrated networks (consisting of dispersed units that legally or financially belong to one group); federated networks (consisting of legal entities or physical persons willing to reach their common objectives this way); contract networks (based on concessions or franchise agreements concluded by statutory independent partners); and networks of direct relations (observed in the area of political or religious activities, but also in the area of direct sales)<sup>16</sup>.

The necessity of constant adaptation to the needs of the market environment forces considerable flexibility on a network organisation. In respect of dynamics of a network reconfiguration the following networks can be distinguished: static network organisations (characterised by stable relations among partners and dominance of one of them); dynamic network organisations (characterised by unstable relations among partners and lack of dominance of any of them); temporary network organisations (oriented at a quick use of short-term and specific market opportunities)<sup>17</sup>.

The way network organisations are created and function is considerably influenced by cultural conditions and economic traditions of a given region. The criterion of geographical region is the basis of the classification of far-eastern networks as: Japanese (so-called *Zaibatsu* and *Keiretsu*) Korean (so-called *Chaebol*); and Chinese (*Guanxi*)<sup>18</sup>.

*Komunikacja wewnętrzna w organizacjach sieciowych*, S. Lachiewicz (ed.), Monografie Politechniki Łódzkiej, Łódź 2008, p. 17.

<sup>15</sup> *Zachowania sieciowe w procesie internacjonalizacji*, K. Fonfara (ed.), PWE, Warsaw 2009, p. 40.

<sup>16</sup> P. Boulanger, *Organisel, l'entreprise en réseau*, Nathan, Paris 1995, after: J. Brillman, *Nowoczesne koncepcje i metody zarządzania*, PWE, Warsaw 2002, pp. 426–427.

<sup>17</sup> T. Ortega, *Die Informationstechnologische Unterstützung innovativer Organisationsformen*, after: *Komunikacja wewnętrzna w organizacjach sieciowych*, S. Lachiewicz (ed.), Monografie Politechniki Łódzkiej, Łódź 2008, p. 21.

<sup>18</sup> M. Castells, *Społeczeństwo w sieci*, Wydawnictwo Naukowe PWN, Warsaw 2008, p. 181–185.

In respect of the scope of influence of a network organisation, the following types can be distinguished: local (regional) networks created by enterprises carrying out activities on a given territory; national networks; international networks; and global networks<sup>19</sup>.

The implemented business model can also be a criterion of a network organisations classification. The basis of such an approach is a specific configuration of functions performed by an enterprise as a part of its value chain. Within this classification, network organisations functioning according to the model of operator, integrator or conductor can be distinguished. The operator model consists in focusing on one chosen element of the chain, while the others are implemented by external enterprises selected within necessary processes. This type of activity is carried out by outsourcers, who perfectly perform their business functions and who concentrate their useful resources. The integrator model assumes an extension of the value chain by additional links, in order to enable the control of the entire process of creating the final product or service, starting with the control of obtaining raw materials processes, and ending with, for example, financing the clients obtaining the products. The conductor model covers such a configuration of resources and processes, which allows the enterprise to focus on key processes and resources, and to use a partners' network to implement the entire value chain, thereby creating a network organisation<sup>20</sup>.

## 2. Knowledge resources at a network organisation

Knowledge plays a specific role at a network organisation. On the one hand it is a determinant and main reason for creating network structure, on the other – it is the effect of functioning of these structures.

Knowledge is also a general collection of information and skills used by individuals to solve problems<sup>21</sup>. Knowledge consists of true statements and beliefs, views and ideas, opinions and expectations, methodology and *know-how*<sup>22</sup>. In a broader definition, knowledge is any collection of information, views, beliefs, which is featured by a cognitive and/or practical value, while in a more specific sense – it is a general collection of reliable information on reality, along with the ability to use it<sup>23</sup>.

<sup>19</sup> *Doskonalenie struktur organizacyjnych przedsiębiorstw w gospodarce opartej na wiedzy*, A. Stabryła (scientific editor), C.H. Beck, Warsaw 2009, p. 62.

<sup>20</sup> More in: K. Oblój, *Strategie organizacji*, PWE, Warsaw 2007.

<sup>21</sup> G. Probst, S. Raub, K. Romhardt, *Zarządzanie wiedzą w organizacji*, Oficyna Ekonomiczna, Cracow 2002, p. 27.

<sup>22</sup> K.M. Wiing, *Knowledge Management Fountain*, Schema Press, New York 1993, p. 39.

<sup>23</sup> *Nowa encyklopedia powszechna PWN*, PWN, Warsaw 1996, Vol. 6, p. 733.

Knowledge of a network organisation is not only the sum of knowledge of individual entities (links), but also common knowledge of the entire network, created as a result of the diffusion of knowledge among network elements.

The specific character of knowledge, compared to other resources owned by a network organisation, is reflected by its features<sup>24</sup>. Firstly, knowledge is inexhaustible. The value of knowledge does not decrease with time, as it is the case of other production factors, quite the opposite, it is constantly growing. The bigger the rate of the use of knowledge, the greater the value of knowledge. Secondly, knowledge is simultaneous. Unlike traditional production factors, knowledge is a resource which can be used simultaneously in many places, by many people or organisations. Thirdly, knowledge is non-linear. An equal quantity of knowledge used simultaneously at two organisations can give totally different effects. The effect of economies of scale does not always occur for knowledge. Fourthly, knowledge is undefined in respect of use, effects, "carriage", outlays and the risk of use.

Moreover, knowledge<sup>25</sup>:

- is an intangible resource,
- is constantly renewing and developing,
- is asymmetrical (with reference to particular links, units),
- can be duplicated and transferred in time and space,
- is a non-rival good,
- is very diverse (just as the reality it reflects),
- is characterised by the feature of synergy (combining it results in added value),
- is characterised by a diverse rate of certainty and generality,
- can be objective or subjective.

Additionally, knowledge resources have a unique ability to structuralise in technologies, procedures, organisational documentation, people's competence and data bases, as well as the ability to materialise in products and services. Consequently, knowledge can be a market product, which can be an object of sale transactions between network units, as well as between a network organisation and its environment.

The features mentioned above make knowledge resources difficult to duplicate, restricted in respect of possibility of substitution, and complementary to other resources. That makes knowledge a strategic resource from the perspective of functioning of a network organisation<sup>26</sup>.

<sup>24</sup> A. Sopińska, *Wiedza jako strategiczny zasób przedsiębiorstwa. Analiza i pomiar kapitału intelektualnego przedsiębiorstwa*, 2nd edition, Oficyna Wydawnicza SGH, Warsaw 2010, pp. 89–91.

<sup>25</sup> Based on: B. Stefanowicz, *Wiedza. Wybrane zagadnienia*, Oficyna Wydawnicza SGH, Warsaw 2011, pp. 22–27.

<sup>26</sup> A. Sopińska, *Wiedza – zasób strategiczny współczesnego przedsiębiorstwa*, in: *Przedsiębiorstwo wobec wyzwań globalnych*, A. Herman, K. Poznańska (ed.), Vol. 2, Oficyna Wydawnicza SGH, Warsaw 2008, pp. 67–83, p. 405.

The access to knowledge resources can affect a network structure and its competitiveness. The desire to obtain it or to create it can be the first reason to establish a network, since knowledge enables the development of other resources of a network organisation.

The reference literature provides many typologies of knowledge resources. Not all of them are however important from the point of view of a network organisation functioning. Only those classifications which significantly affect the method of knowledge management at network organisations are presented below.

Depending on the level of abstraction and complexity of knowledge, this resource is divided into concrete knowledge used for specific applications in a specific time and place, and abstract knowledge used in many more situations than the specific knowledge<sup>27</sup>. With reference to a network organisation, knowledge can be divided into knowledge with a specific application in particular network units and knowledge resources broadly applied across the network.

Depending on the source of knowledge, there can be knowledge created inside the organisation by its units or one that comes from outside. Additionally, there can be knowledge derived from scientific examination of the reality; processes of intellectual perception and assessment; conscious use of existing algorithms; and creative solutions of new problems<sup>28</sup>.

Considering the criterion of the form of knowledge presentation, it can be divided into: codified knowledge, knowledge presented in the form of data bases, knowledge maps, reports etc.; individually personalised, owned by individual units, covering individual skills, competencies and behaviour schemes; collectively personalised, created by bases, skills, behaviour habits within a group, derived from common experience in the area of task implementation<sup>29</sup>. For a network organisation, a unit can be both an individual person and an entity being a network member.

Important criteria used to distinguish knowledge resources of a network organisation are: the level of the knowledge innovation and the scope of the use of knowledge by the network. Consideration of both these criteria makes it possible to classify knowledge resources in one of the four categories: unique (niche) knowledge; key knowledge; universal knowledge; and insignificant knowledge (figure 1).

<sup>27</sup> M.H. Boisot, *Knowledge Assets. Securing Competitive Advantage in the Information Economy*, Oxford University Press, New York 1999, pp. 13–14.

<sup>28</sup> A. Glińska-Noweś, *Kulturowe uwarunkowania zarządzania wiedzą w przedsiębiorstwie*, Dom Organizatora TNOiK, Toruń 2007, p. 26.

<sup>29</sup> M.J. Stankiewicz, *Próba modelowania procesów zarządzania konkurencyjnym potencjałem wiedzy w polskich przedsiębiorstwach*, in: *Zarządzanie wiedzą jako kluczowy czynnik międzynarodowej konkurencyjności przedsiębiorstwa*, M.J. Stankiewicz (ed.), Dom Organizatora TNOiK, Toruń 2006, p. 344.

Figure 1. Categories of knowledge resources at a network organisation

Level of knowledge innovation	High	Unique, niche knowledge	Key knowledge
	Low	Insignificant knowledge	Universal knowledge
		Small	Broad
		Scope of knowledge use	

Source: own study.

Niche knowledge is characterised by a high level of innovation, but the possibility of using it by a network is restricted to a small scope of activities or it is used only by a single network unit.

Key knowledge covers innovative knowledge, which can be used by an entire network for many purposes.

Universal knowledge, as its name would suggest, is broadly available knowledge with a low rate of innovation, yet it is broadly applied across the network organisation.

The last category of knowledge resources at a network organisation is knowledge insignificant from the point of view of the entire network, since this type of knowledge is not very innovative and it is applied in a very small scope, for example by one network unit.

From a network organisation perspective, a division of knowledge into tacit (hidden) knowledge and formal (explicit, publicly available) is of key significance<sup>30</sup>. Tacit knowledge is of primary and personal nature. It is difficult to be identified and expressed, because it is activated intuitively. It is impossible to duplicate or imitate it completely. Unlike tacit knowledge, formal knowledge can be easily presented using speech, documents, schemes, symbols etc. It is secondary, non-personal knowledge, easy to be identified and codified.

Network organisations apply also other classifications of knowledge. One example can be

- a typology based on a strategic evaluation in comparison with a company's competitors (innovative knowledge, advanced knowledge, core knowledge)<sup>31</sup>;

<sup>30</sup> M. Polanyi, *Personal Knowledge. Towards a Post-Critical Philosophy*, Harper, New York 1962, p. 4.

<sup>31</sup> M.H. Zack, *Developing a Knowledge Strategy*, "California Management Review" 1999, No. 40.



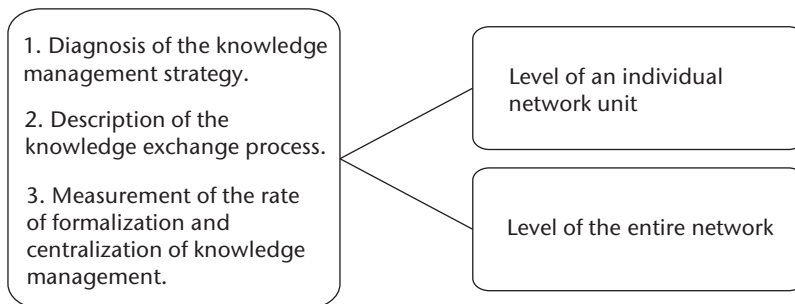
- a typology based on the purpose and method of use ('what' knowledge; 'why' knowledge; 'how' knowledge; 'who' knowledge)<sup>32</sup>;
- typology based on the character of knowledge (common and personal knowledge, physical and mental knowledge; static and dynamic knowledge, verbal and encoded knowledge)<sup>33</sup>.

All the processes enabling creation, dissemination and use of knowledge by a network organisation in order to reach specific targets, are defined as management. Appropriate knowledge resources management can significantly improve the competitiveness of a given network organisation.

### 3. Knowledge resources management at network organisations

Due to the specific character of the network structure, knowledge management at a network organisation is performed at two levels: the level of a single participant (unit) of a network; and the level of the entire network organisation. In both cases the knowledge management model covers: a diagnosis of the applied knowledge management strategy; a description of the knowledge exchange process; and a measurement of the level of formalisation and centralisation of knowledge management (figure 2).

Figure 2. Knowledge management model at network organisations



Source: own study.

Identification of the strategy applied by an individual network participant and by the entire network is the first element allowing for the diagnosis of the knowledge management model.

<sup>32</sup> B.A. Lundvall, B. Johnson, *The Learning Economy*, "Journal of Industry Studies" 1994, Vol. 1. No 2, pp. 23–42.

<sup>33</sup> F. Blackler, *Knowledge, Knowledge Work and Organizations: An Overview and Interpretation*, "Organization Studies" 1995, Vol. 16, No. 6, pp. 16–36.

An individual network participant can implement one of the four knowledge management strategies: the strategy of knowledge absorption, the strategy of knowledge transformation; the strategy of knowledge creation; or the strategy of knowledge accumulation (figure 3).

The knowledge absorption strategy consists in binding and absorbing the knowledge acquired from outside (from other units) for internal use.

The knowledge transformation strategy consists in processing and transferring to other network entities the knowledge acquired by a given unit from the outside.

The knowledge creation strategy consists in creating knowledge for external use by other network units.

The knowledge accumulation strategy consists in collecting the knowledge originated by a given unit for its internal use.

Figure 3. Knowledge management strategies at the level of an individual network participant

Source of knowledge	External	Knowledge absorption strategy	Knowledge transformation strategy
	Internal	Knowledge accumulation strategy	Knowledge creation strategy
		Internal	External
		Use of knowledge	

Source: own study.

It should be highlighted that a network unit can apply several knowledge management strategies simultaneously, since knowledge resources at its disposal are not homogeneous. Reasonable behaviour of a network unit requires the strategy to be adapted to a given category of knowledge resources.

In such a case, identification of knowledge management strategy applied at the level of an individual network participant, should be considered in the context of the knowledge type covered by this procedure. The result is a matrix of applied knowledge management strategies divided into specific categories of knowledge (Table 1).

Table 1. The matrix of knowledge management strategies applied by an individual network unit divided into categories of knowledge resources

Category of knowledge resources	Type of the applied knowledge management strategy				No. strategy
	Absorption strategy	Transformation strategy	Accumulation strategy	Creation strategy	
Concerning R&D					
... production processes					
... suppliers					
... competitors					
... customers					
... trade conditions					
... macro conditions					
Concerning...					

Source: own study.

Knowledge management at the level of an entire network organisation can take various forms. An entire network can implement one of the four knowledge management strategies: the strategy of subcontractor integration; the strategy of diversification; the strategy of transaction exchange; the strategy of experts' cooperation (figure 4).

Figure 4. Knowledge management strategies applied at the level of an entire network organisation

Network type	Dominated	Strategy of subcontractors integration	Strategy of diversification
	Equal partners	Strategy of experts' cooperation	Strategy of transaction exchange
		Specialised	General/universal
		Knowledge type	

Source: own study.

The choice of a specific knowledge management strategy at the level of an entire organisation depends mainly on the type of network (in particular the character of

interrelations and the level of participants' domination) and the type of knowledge subject to management.

Equal partners' networks apply the strategy of experts' cooperation or the strategy of transaction exchange. The strategy of experts' cooperation refers to a small scope of expert knowledge. It is based on mutual trust among those who have it. The strategy of transaction exchange refers to general (universal) exchange owned by individual partners. The basis of knowledge exchange are sale transactions.

At the same time dominated networks apply the strategy of subcontractors' integration or the strategy of diversification. The strategy of subcontractors' integration is applied at networks whose satellite units have expert knowledge and the network broker is willing to absorb it. In the diversification strategy the network broker looks for new applications for the universal knowledge it has.

A matrix of strategies of managing the knowledge obtained as a result of research for the entire network could be as follows (Table 2).

Table 2. The matrix of knowledge management strategies for the entire network unit divided into categories of knowledge resources

Category of knowledge resources	Type of the applied knowledge management strategy				
	Strategy of subcontractors' integration	Strategy of experts' cooperation	Strategy of transaction exchange	Strategy of diversification	No strategy
Concerning R&D					
... production processes					
... suppliers					
... competitors					
... customers					
... trade conditions					
... macro conditions					
Concerning...					

Source: own study.

A second element of identification of the knowledge management model at a network organisation is a description of the very process of knowledge exchange among network participants as well as between the network and its environment. Table 3 presents criteria describing the process of knowledge exchange.

The third and the last element identifying the knowledge management model at a network organisation is an assessment of the centralisation and formalisation process. In this case the analysis should be carried out both at the level of a single network unit and of the entire network.

Table 3. Criteria describing the process of knowledge exchange

Criteria describing the process of knowledge exchange	Possible options
Knowledge area to be exchanged	Knowledge on R&D works
	Knowledge on production processes
	Knowledge on suppliers
	Knowledge on competitors
	Knowledge on clients (customers)
	Knowledge on conditionings of the industry area
	Knowledge on economic macro conditions
	Other...
Payment for knowledge exchange	Exchange of each kind of knowledge is chargeable
	Exchange of unique and key knowledge is chargeable while the exchange of universal and insignificant knowledge is free of charge
	Exchange of each kind of knowledge is free of charge
	Difficult to say
Scope of knowledge exchange	Unlimited exchange of each kind of knowledge
	Limited exchange of selected kinds of knowledge
	No exchange between network participants
	Difficult to say
Character of knowledge exchange	Voluntary (depending on the network participants)
	Forced by the network initiator
	Difficult to say
Direction of knowledge flow between the network and the environment	Outward knowledge flow
	Inward knowledge flow
	Flow of knowledge in both directions
	Difficult to say
Knowledge flow within the network (among the network participants)	Knowledge flow from the network initiator towards other participants
	Knowledge flow from other network participants towards the network initiator
	Peer to peer exchange (any direction of exchange)
	Difficult to say

Source: own study.

## Recapitulation

The analysis presented above highlights the role of knowledge resources in the functioning of network organisations and the complexity of the knowledge management model. Identification of particular elements of this model makes it possible to assess the progress of knowledge management.

For an individual network unit three levels of knowledge management can be distinguished:

- Low – a unit has been appreciating knowledge resources for a short time, but it still does not have a knowledge management strategy or special software for this purpose;
- Medium – a unit is undergoing the process of creating a knowledge management system and collecting the necessary software;
- High – a unit has a fully integrated and complete knowledge management system supported by modern IT solutions making it possible to use knowledge in real time.

For an entire network, these levels refer to, respectively:

- low level – the network as a whole does not have a defined knowledge management strategy; there are no internally standardised IT systems;
- medium level – the network is creating a uniform knowledge management system; the existing IT solutions enable the network participants to access knowledge in deferred time;
- high level – there is a fully integrated knowledge management system in the entire network enabling its participants to access knowledge in real time.

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## KNOWLEDGE MANAGEMENT AT NETWORK ORGANISATIONS

### Abstract

Knowledge resources play a specific role at a network organisation. They are both a trigger to create a network and a result of its functioning. Skilful knowledge management can contribute to the growth of a network's competitiveness. A diagnosis of the knowledge management model covers: an analysis of the applied knowledge management strategy; a description of the knowledge exchange process; and a measurement of the level of knowledge formalisation and centralisation. Identification of the knowledge management model should be carried out separately for the entire network and for each single network unit.

**KEY WORDS: NETWORK ORGANISATION, NETWORK, KNOWLEDGE, KNOWLEDGE RESOURCES, KNOWLEDGE MANAGEMENT, KNOWLEDGE MANAGEMENT STRATEGY, KNOWLEDGE EXCHANGE PROCESS**



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## ZARZĄDZANIE ZASOBAMI WIEDZY W ORGANIZACJACH SIECIOWYCH

### Streszczenie

Zasoby wiedzy pełnią szczególną rolę w organizacji sieciowej. Są zarówno motywem powstania sieci, jak i efektem jej funkcjonowania. Umiejętne zarządzanie zasobami wiedzy może przyczynić się do wzrostu konkurencyjności sieci. Diagnoza modelu zarządzania zasobami wiedzy obejmuje: analizę stosowanej strategii zarządzania wiedzą, opis procesu wymiany wiedzy oraz pomiar poziomu formalizacji i centralizacji zarządzania wiedzą. Identyfikacja modelu zarządzania zasobami wiedzy powinna być prowadzona odrębnie dla całej sieci oraz odrębnie dla pojedynczego ogniwa sieci.

**SŁOWA KLUCZOWE: ORGANIZACJA SIECIOWA, SIEĆ, WIEDZA, ZASOBY WIEDZY, ZARZĄDZANIE ZASOBAMI WIEDZY, STRATEGIA ZARZĄDZANIA WIEDZĄ, PROCES WYMIANY WIEDZY**

# IMPROVING THE QUALITY OF SERVICES AT THE UNIVERSITY OF OVIEDO

## 1. Premises and background of the study

University autonomy is a key instrument for achieving the objectives of quality and progress in higher education. The result of this autonomy is the increasing requirement of accountability to demonstrate that the decisions and actions taken by the university are aimed at **improving quality**.

The evolution of Quality Assurance in Spanish universities can be summarized in the following steps, seen from the standpoint of University Services:

- 1980 s: Disconnected activities, student surveys, etc.;
- 1992–1994: Experimental Quality Assessment Programme of the University System (Spanish acronym, PEXEC). (Tangential inclusion of services);
- 1994–1995: European Pilot Project Programme for Quality Assessment in Higher Education;
- 1995: Start-up of the National Plan for Quality Assessment in Universities (Spanish acronym, PNECU);
- 1996–2000: PNECU Calls for Projects (Including Services).

The University of Oviedo Services did not participate in the PNECU's calls for projects.

2001–2006 (repealed in 2002): II University Quality Plan (Spanish acronym, PCU) (Including Services).

One of the objectives set out in the II University Quality Plan is to:

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\*\*\* **Javier Alonso** – Technical Unit for Quality, University of Oviedo, Spain.  
\*\*\*\* **Ramiro Martís** – Technical Unit for Quality, University of Oviedo, Spain.  
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- Continue to promote institutional assessment and to foster the implementation in universities of comprehensive quality systems for continuous improvement.

The memorandum, reproduced below, from the Spanish Ministry for Universities on the development of the II University Quality Plan once again highlights the assessment of services as a point to take into account as regards the quality of a university: the universities that respond to this call are to submit a multi-annual quality project, including mandatory assessment throughout the duration of the Plan of all the degrees implemented and the review of the results thereof. The assessment and review of results, in the same period, of departments and **general services** may be included in the project on a voluntary basis.

The services assessed at the University of Oviedo in the two PCU II University Quality Plan calls were:

- Scientific/Technical Services (2001),
- Library Services (2001),
- Halls of Residence (2002),
- University Extension (2002),
- Research (2002).

2003/2004–2006/2007: the Institutional Assessment Programme (Spanish acronym, PEI) of the Spanish National Assessment and Accreditation Agency (ANECA) (does not include services as such).

2003/2004: ANECA Accreditation Pilot Programme.

In parallel, ANECA published specific programmes and guidelines for assessing the Quality of University Services; for example, those applicable to Libraries and International Relations Offices:

- 2003/2004–2006/2007: University Library Services Quality Certificate,
- 2006/2007: Assessment of International Relations Offices,
- 2006: Assessment of University Services in accordance with the EFQM model,
- 2003/2004–2008/2009: Quality Distinction in PhD Programmes,
- 2007: AUDIT and VERIFICA Programmes,
- 2009: Campus of International Excellence,
- 2010: Towards Excellence in PhD Programmes at Spanish Universities Distinction (call EDU/3429/2010).

Spanish University Services are currently implementing tools for improvement that allow them to respond to the requirements of the EHEA and have information available to improve their activities, as can be seen in the table below.

From the results shown in the table above, it can be seen that the majority of Spanish Universities (88.89%) took the drafting of Service Charters as their starting point to inform their stakeholders about the activities they undertake.

Similarly, there have been several actions aimed at the systematization, organisation and documentation of the activities carried out by the Services, either by the

Table 1

Actions developed	Number of universities	%
Service Charters	40	88,89
Actions related to EFQM model	15	33,33
Process and procedures	13	28,89
Evaluation and self-evaluation of the Service	12	26,67
Systems of Quality Management	7	15,56
Drawing up of an assessment, quality, improvement, strategy Plan/Programme for Services	5	11,11
Actions related to ISO Standard 9001:2008	4	8,89
Manual/Guidebook for process design/assessment	3	6,67

Note: data from the review of different university websites in May 2012.

Total number of Universities studied: 45

application of self-assessment models (e.g. EFQM) and/or the design and implementation of Quality Management Systems activities by developing processes and/or procedures that provide support for the different activities.

The main objective of this paper is to present the initiatives being developed in Service Quality Management at the University of Oviedo in relation to the actions of other Spanish Universities and the applicable requisites, such as adaptation of studies to the European Higher Education Area, the International Campus of Excellence Programme and the University 2015 Strategy. The paper also analyses, using a simple 1 to 5 points Likert scale questionnaire for the Heads of Service and users, whether the implemented initiatives (process manuals and service charters) have met the objectives established at the beginning of the project regarding the improvement of information about the service, systematization of activities, efficiency of resource management and monitoring of the Quality System by means of indicators.

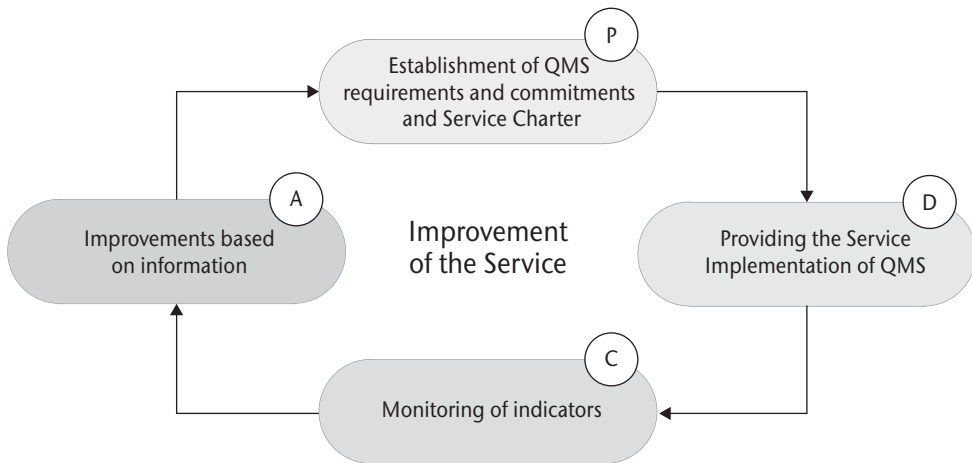
## 2. Methodology followed in the study

The need to establish quality assurance criteria that facilitate assessment, certification and accreditation consider quality assurance as an essential aim of university policy, across the board.

On the basis of these requisites, the University of Oviedo – via its Technical Unit for Quality and in collaboration with its Services – launched the activities of drawing up and implementing process manuals (Quality Management System) and service charters to meet the criteria and guidelines for quality assurance established in the European Higher Education Area, aimed at achieving the following objectives:

1. To raise awareness regarding service quality, with a training plan for Administrative and Services Staff.
2. To analyse the current status of the service in terms of quality, through meetings with the assigned technical staff.
3. To design a process manual and service charter. To establish indicators and quality commitments with users.
4. The way to quality of service is continuous improvement.

Figure A



The Quality Plan for Services was drawn up by the Technical Unit for Quality and approved by the Management Team at the University of Oviedo. It comprises the following three lines of action:

1. **Drawing up of Service Charters** (document which constitutes the instrument through which organisations inform users about the services commissioned, the rights they have and quality commitments in terms of service provision) for the 25 services provided by the university. This line of action is intended to:
  - a. Make **information** available to users about the **services provided**.
  - b. Inform users of the channels for communicating **incidents and suggestions**.
  - c. Act as a starting point for aiming university services towards a **policy of continuous improvement**.
  - d. **Publicize** the **quality commitments** that have been adopted.
  - e. Check the degree of compliance with quality commitments by **monitoring the associated indicators**.

The adopted recommendations are those of Spanish Royal Decree 951/2005 of 29 July, establishing the general framework for improving quality in General State Administration and UNE standard 93.200:2008. Service charters. Requisites.

The following information was chosen to be included in the service charters:

Figure B

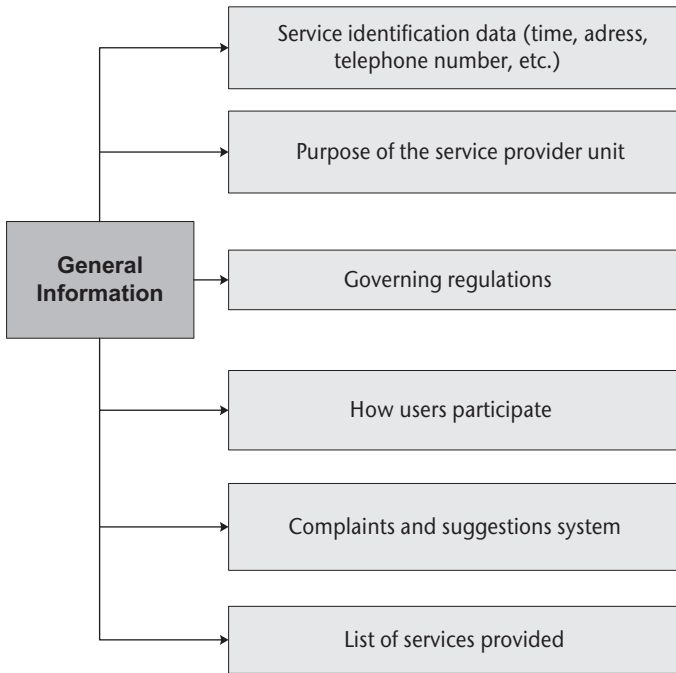
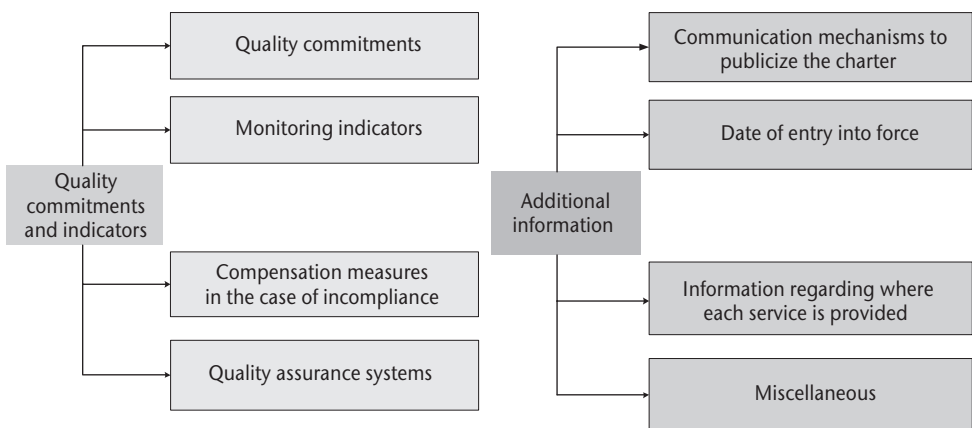
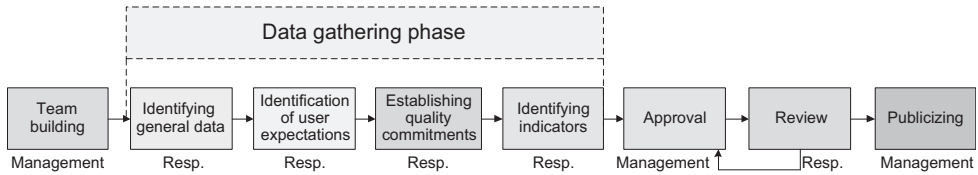


Figure 1. Scheme of the information to include in the service charter



The main steps in the drafting of the charter were:

Figure 2. Major milestones in the drafting and implementation of service charters

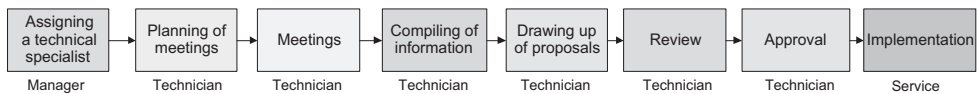


**2. Design and implementation of a Quality Management System** – Work Procedure Manual for each of the 25 services, following the process approach of the Technical Unit for Quality (UTCAL) at the University of Oviedo<sup>1</sup>. The objectives of this line of action are to:

- a. systematize and unify the activities undertaken in the different university departments,
- b. increase the efficiency of resources (time, information, economic, material, etc.),
- c. facilitate the incorporation of new staff to the service,
- d. monitor the activities performed by services via indicators that allow objective decisions to be taken regarding processes.

The systematizing of tasks was carried out through monthly meetings with each service.

Figure 3. Major milestones in the design and implementation of the Quality Management System



ISO standard 9001:2008, adapted to the requirements of university services, was followed in the design of the service.

**3. Obtaining external recognition for the services** most involved. Not yet implemented, this line of action would consist in ISO 9001:2008 certification and/or EFQM recognition.

<sup>1</sup> The methodology employed is registered as University of Oviedo publication *Metodología Innovadora para la Gestión por Procesos: GESTIONNA [Innovative Methodology for Process Management: GESTIONNA]*; legal deposit AS-2689-2011.

Via an anonymous assessment questionnaire, UTCal evaluated the satisfaction of the different services with the activities carried out by UTCal and with each of the lines of action in the Quality Plan. See the appended satisfaction survey:

### 3. Results

The project kicked off with its communication to all the Heads of Service by the Management Team during January and February 2011. The Head of the Technical Unit for Quality, along with the technical specialist assigned to the service, presented the project to each university service, as well as organising the respective awareness-raising seminars.

#### a. Service charters:

The charters for the 25 university services were drawn up during 2011:

Table 2

Recruitment and Heritage	Student and Employment Management
Personnel Management	Research
University Libraries	University Extension
Legal	Internationalisation and Cooperation for Development
Gijón Campus Administration	Infrastructure
Administrative Organisation and General Affairs	Budgetary and Financial Accounting
Mieres Campus Administration	Economic Planning
Computing and Communications (GAE)	Faculty, Departments and Centres
Computing and Communications	Process Control
Cost Accounting	Academic Affairs and New Degrees
Milán Campus Administration	University Services
Llamaquique Campus Administration	Cristo A Campus
Campus of Excellence	

Eighty-four scheduled meetings, 93 visits and 152 calls were made in the drawing up of the service charters, in addition to the 2,340 work hours logged by the Technical Unit for Quality.



Figure 4. Example of the charter for the Research Service

### Laws and Regulations

- Science, Technology and Innovation Law.
- Organic Law of Universities.
- Workers' Statute.
- Statutes of the University of Oviedo.
- Rules Governing the Calls.
- Announcements.
- Subsidiary Law.
- European Community Guidelines.

### Services Provided

- Processing of Actions of R&D since its inception (dissemination of calls, pre-negotiation, fundraising ...) to completion (control of expenditure and justification, external audit, if necessary, control of economic management by Competent Bodies: IGAE, Court of Audit, etc ...).
- Constant updating of specific computer tools for the management of research, both internally (GITC, Portal for Researchers and Research Reports) and externally (Contrat@, Sicalwin ...), providing support for its use.
- Relationships with both internal partners (researchers, departments payers, university services for accounting, staff management, internal control ...) and external (suppliers, financiers, Employment Service, Tax Office, European Commission ...).

### Additional Information

Plan for Science, Technology and Innovation in the Principality of Asturias.

Phone Number: +34 985 10 40 42/41 31  
E-mail: [proyectosregionales@uniovi.es](mailto:proyectosregionales@uniovi.es)

National Plans

Phone Number: +34 985 10 41 30 / 40 19  
E-mail: [proyectosnacionales@uniovi.es](mailto:proyectosnacionales@uniovi.es)

Promotion research Program, groups and research team, teaching exemption and certificates

Phone Number: +34 985 10 40 14  
E-mail: [solicarves@uniovi.es](mailto:solicarves@uniovi.es)

Human resources, billing, revenue control and withdrawal of funds, auditing and public procurement competitions

Phone Number: +34 985 10 40 78



**UNIVERSITY OF OVIEDO**

Service for Research  
Management

**SERVICE CHARTER**







**UNIVERSITY OF OVIEDO**  
Service for Research Management  
Vice-Chancellorship for Research

### Location

Postal Address: Plaza de Riego 4, 1st floor  
Postcode 33003 - Oviedo  
Phone Number: +34 985 10 40 81  
Fax: +34 985 10 40 40  
Website: [www.uniovi.es](http://www.uniovi.es)  
E-mail: [viceinvestigacion@uniovi.es](mailto:viceinvestigacion@uniovi.es)

Public Opening Hours: Monday to Friday 9:00 h to 14:00 h

### How to get:

City Bus Lines: 1 - 2 - 3 - 4 - 5 - 7 - 9 - 10 - 12  
Trains: RENFE - FEVE Train Stations



### Location

Postal Address: Plaza de Riego 4, 1st floor  
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Figure 5. Research Service control board

Inicio
Atención Telefónica
S.G.C.
Tareas de Personal
Configuración
Acerca de

Documentación del sistema
Inventario de equipos
Indicadores de Calidad
Helpdesk

Nuevo
Consultar
Mis indicadores
Nuevo indicador compuesto
Consultar indicador compuesto
Gráficos histórico
Listado

Gestión de Indicadores de Calidad
Seleccione el año: 2012

**Indicadores**

Estado	Tend.	Meta	Unid.	Indicadores	Responsable	Periodicidad	Forma Cálculo	Resultado	Observaciones
<u>Ver</u>		>1101	A	IND-SGI-01 % Of Transmissions And Receptions Of Employment Contracts Realized By The Works Council And Processed On Time.	Carlosc	Annual	Ultimo Mes	150	
<u>Ver</u>		=100	A	IND-SGI-02 % Of Registrations In The Contrat@ Application From The Public Employment Service Of Contract Signed By The Applicant And The Legal Representative Of The University And Processed On Time.	Carlosc	Annual	Ultimo Mes		
<u>Ver</u>		>=2	A	IND-SGI-03 % Of Transmission Of Complete Record To Staff Management Service And Processed On Time.	Carlosc	Annual	Ultimo Mes		
<u>Ver</u>		>=1	A	IND-SGI-04 % Of Calls Analyzed And Disseminated On Time.	Carlosc	Monthly	Acumulado	2	
<u>Ver</u>		>=50	A	IND-SGI-05 % Of Applications For Projects From External Official Calls Reviewed On Time.	Carlosc	Monthly	Acumulado	0	
<u>Ver</u>		=100	A	IND-SGI-06 % Of Applications For The Research Promotion Plan Reviewed On Time.	Carlosc	Monthly	Media	96,67	
<u>Ver</u>		<=35	A	IND-SGI-07 % Of Contracts With Companies And Subsidies Reviewed On Time.	Carlosc	Monthly	Media	6,67	

### Approval of service charters:

Once approved, the service charters were published in the Official Gazette of the Principality of Asturias (BOPA), No. 4 of 7 January 2012.  
[https://sede.asturias.es/bopa/2012/01/07/2011-24\\_446.pdf](https://sede.asturias.es/bopa/2012/01/07/2011-24_446.pdf)

### Publicizing of service charters:

The 32 drafted and approved service charters were publicized via the Technical Unit for Quality website.

<http://calidad.uniovi.es/servicios/cartasservicio>

Since being published, the service charters have received 3,460 visits in all as of June 2012.

### Implementation of service charters:

Once the service charters had been published in the BOPA, their implementation commenced with the monitoring of the fulfilment of quality commitments.

A software application was designed to facilitate the uploading of data and the tracking of the indicators that monitor quality commitments. This application allows real-time monitoring of the implementation in each of the services and the analysis of the data from their indicators.

Quarterly meetings are held to monitor their implementation and analyse the scores of the indicators, the degree of fulfilment of quality commitments, the evolution of the service and any changes produced. These meetings are coming to form part of the routine activities of the service as quarterly service monitoring meetings.

## **b. Design and implementation of Quality Management Systems**

The Quality Management Systems are based on Process Management, which will mean a change in organisational culture in each service, aimed at “understanding the difference between the ‘document what you do’ approach and the ‘process’ approach to system development” (Hoyle, 2000). Previous studies show that process management increases adaptation in stable environments, such as university services, and hence can be considered a good initiative (Ford, 2012). As it entails a profound paradigm shift, it is advisable to raise the awareness of and train everyone in the service facing this change. At the University of Oviedo, the Technical Unit for Quality provides training sessions to the different services upon request aimed at transmitting the concepts, methodology, tools and steps to address the drawing up and implementation of process manuals. They have a highly participatory component that

reproduces the work methodology that should then be addressed in each of the services in the drafting and implementation phases.

As the first line of action drew to a close in the different services, the design and implementation of the Quality Management System commenced following ISO standard 9001:2008 requisites with the help of the process approach of the Technical Unit for Quality. Work began on the core processes.

In 2011, this line of action was started up in 18 of the 25 services, drafting 23 processes and 25 documented procedures.

As of June 2012, 72 processes and 51 documented procedures have been drafted, 94 scheduled meetings and 20 visits to department have been held and 240 calls have been made.

Five technical specialists belonging to the University of Oviedo's Technical Unit for Quality have worked on the development of this line of action. As of June 2012, these technical specialists have logged a total of 5,694 work hours.

Figure 6. Documentary repository of the Quality Management Systems of University of Oviedo Services

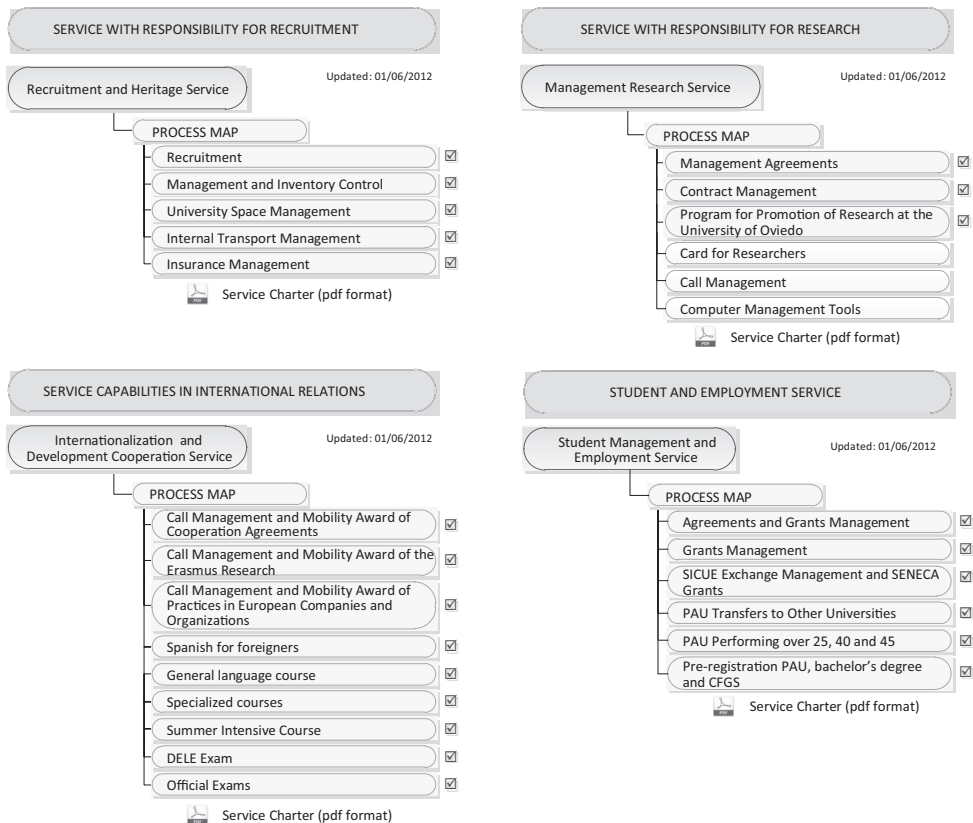
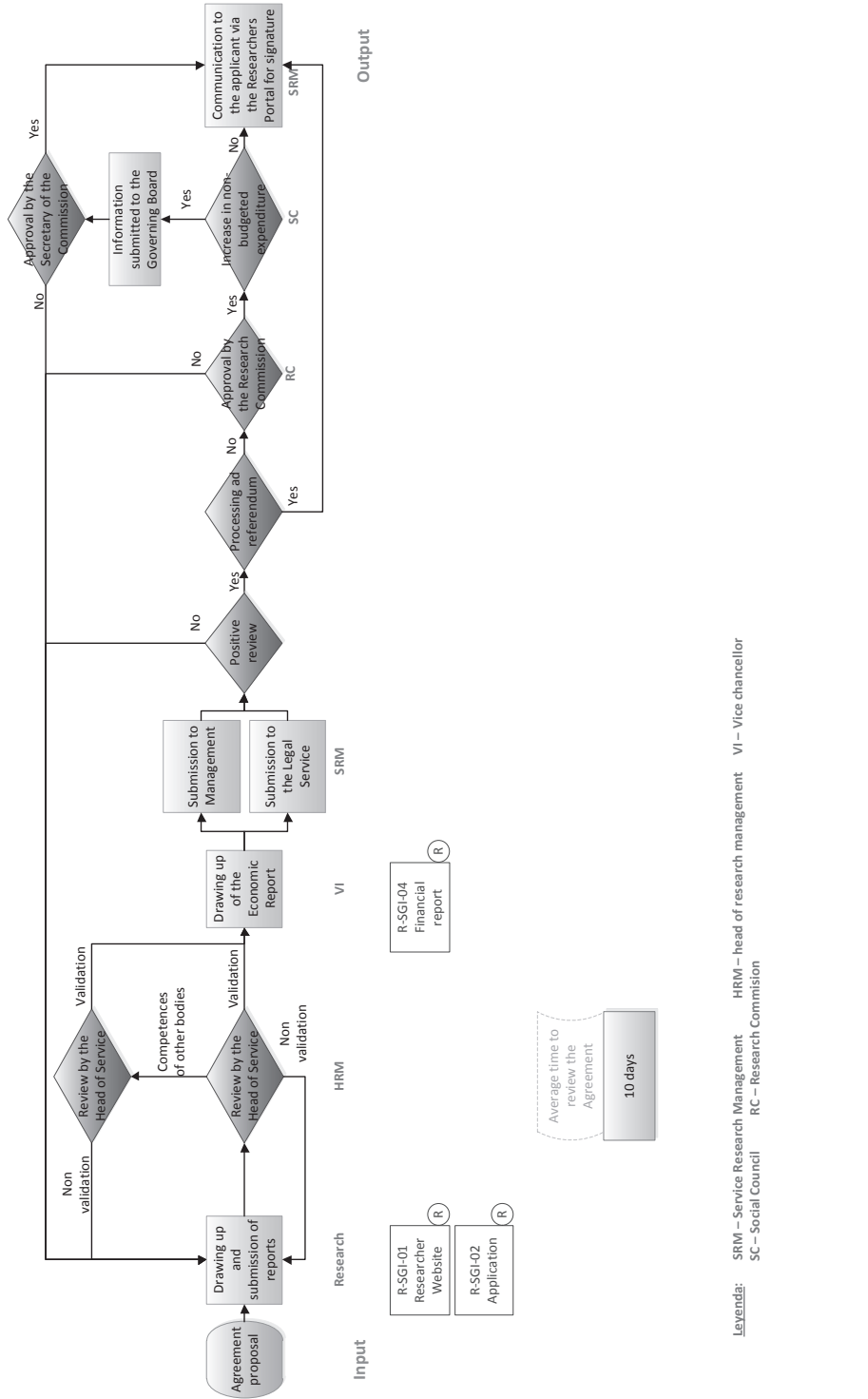


Figure 7. Extract of the process of Managing Agreements in the Research Service



All the documents that make up the Quality Management System are published on the university's intranet and are accessible in read-only mode to the entire staff of the university. This measure is intended to:

- Facilitate the implementation of the Quality Management System.
- Assist new staff in their integration in the workplace.
- Publicize the services provided, how they are carried out and by whom.
- Make all institutional templates accessible in their latest version.

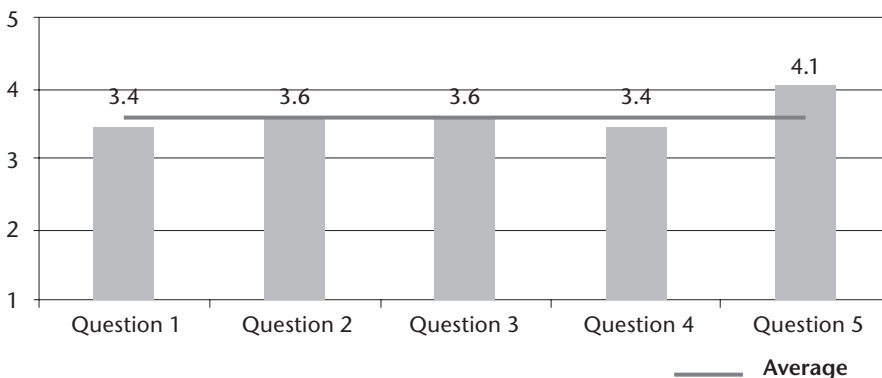
This repository was published on 16 May and receives an average of 67 visits per week. Approximately 30% of viewings are over 5 minutes.

As an example of improvement resulting from the implementation of Quality Management Systems in university services, a pilot project was launched to gather suggestions and/or comments about the teaching support services offered by the Teacher Training Faculty. During the implementation period, there were 52 incidents, of which 32% were responded to and resolved immediately, 28% received an immediate response and 16% received no response. 24% required no response or/or solution. The overall score of the people who took part in the survey regarding the services offered at the centre was 6.08 (scale 0–10).

## 4. Conclusions

The key success factor of the service quality plan is the active involvement of staff. In meetings with the different services, most of the staff has been motivated and become involved. The results of the satisfaction survey of service personnel are considered very satisfactory, as the lowest ranked item has a score of 3.4 on a scale of 1 to 5. The response rate was 50%.

Figure C



See: annex 1.

The quality plan should be multi-annual and highly structured. This entails re-thinking the purpose and design of management systems so as to build enduring services that create value not only for current stakeholders, but also for future generations of stakeholders to come (Latham, 2012). Planning should be tailored to each of the services so as to evolve linearly.

The conclusions drawn from the actions taken are:

- **Service charters** have been the starting point for continuous improvement in services- They have allowed all stakeholders to be informed of the existence of the service, of the services provided and of how to get in contact and communicate incidents and/or suggestions. The drawing up of the service charters has been very well received in services due to:
  - Identifying the services provided and their publicizing.
  - Informing users of contact details, thus reducing the amount of calls to wrong numbers.
  - Encouraging improvements in the service by defining quality commitments and their monitoring through indicators.
- The second line of action of designing and implementing a Quality Management System:
  - Facilitates document management, thus reducing search times, and generating documents and templates of records. Improves the incorporation of new staff, thus reducing the time needed for their integration and increasing the sense of security of new employees.
  - Monitors the development of the service by means of indicators of both service charters and processes.
  - Systematizes and standardizes the activities carried out in different services.
  - Integrates the different services.
  - A crucial factor in the implementation of the plan has been the incorporation of IT tools that:
    - Facilitate the uploading of data and the monitoring of indicators.
    - Document management.

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## Appendix

Figure D

### SURVEY OF HEADS OF SERVICE

This questionnaire is completely anonymous. Your opinion will be especially useful to improve the quality of services provided.

Score the following questions on a scale of 1 to 5, with 1 indicating you strongly disagree or are very dissatisfied and 5 that you strongly agree or are very satisfied.

1. Has the drawing up of **service charters** served to publicize the information on your service?

1	2	3	4	5
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2. Does the design of the **Quality Management System** provide an overview of how your service works and its utility?

1	2	3	4	5
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3. Do you find the **software application** for uploading **indicators** useful to analyse the data on your service?

1	2	3	4	5
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4. Does the documentary repository of available services on the Uniovi **website** provide you with a view of how the rest of the services provided by the University of Oviedo work?

1	2	3	4	5
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5. Rate the **work carried out** by the **Technical Unit for Quality** for your service.

1	2	3	4	5
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6. Comments and/or suggestions for improvement.

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## IMPROVING THE QUALITY OF SERVICES AT THE UNIVERSITY OF OVIEDO

### Abstract

With the purpose of fostering a continuous improvement policy in the 25 services provided by the University of Oviedo aimed at increasing the quality, effectiveness and efficiency, the Technical Quality Unit has drawn up a specific Quality Plan for Services.

The main goals are:

- To foster public information to users on the services provided and on the quality commitments assumed in their provision (Service Charters).
- To improve the quality and efficiency of the services provided to users (Internal Quality Assurance System).
- The obtaining of external accreditations.

The Project started with the drawing up of 31 Service Charters and their subsequent publication in the Official Gazette of the Principality of Asturias. This means that all the services have been accordingly defined and that their quality commitments have been communicated to society at large.

The monitoring of these quality commitments is carried out by means of 273 indicators. A software application has been designed to facilitate the uploading of data by users, the exploitation of results and the subsequent decision-making process.

A pilot-test has been jointly carried out with the Research Service in the design of its Internal Quality Assurance System. Support is currently being provided to different services in the day-to-day job of adopting the aforementioned continuous improvement policy.

**KEY WORDS: UNIVERSITY SERVICES, SERVICE CHARTER, QUALITY MANAGEMENT SYSTEMS, EFQM, QUALITY PLAN**

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## PODNOSZENIE JAKOŚCI USŁUG NA UNIWERSYTECIE OVIEDO

### Streszczenie

W celu podnoszenia jakości, efektywności i sprawności 25 usług oferowanych przez Uniwersytet Oviedo Jednostka Jakości Technicznej przygotowała Plan Jakościowy dla Usług.

Jego główne cele to:

- przygotowywanie informacji publicznej dla użytkowników dotyczącej oferowanych usług oraz zobowiązań jakościowych przyjętych w jego postanowieniach (Karta Usług);
- podnoszenie jakości i efektywności usług oferowanych użytkownikom (System Zapewniania Jakości Wewnętrznej);
- uzyskanie zewnętrznych akredytacji.

Projekt rozpoczął się przygotowaniem 31 Kart Usług i ich kolejną publikacją w Oficjalnej Gazecie Księstwa Asturii (*The Official Gazette of the Principality of Asturias*). Oznacza to właściwe zdefiniowanie usług oraz zakomunikowanie zobowiązań jakościowych społeczeństwu w dużej skali.

Monitoring zobowiązań jakościowych jest prowadzony z wykorzystaniem 273 wskaźników. Aplikacja komputerowa została zaprojektowana w celu umożliwienia przesyłania danych przez użytkowników, obróbki wyników oraz dalszego procesu podejmowania decyzji.

Test pilotażowy dotyczył usług badawczych w zakresie projektowania Systemu Wewnętrznego Zapewniania Jakości. Codzienne wsparcie jest zapewniane dla różnych usług wspomnianej polityki ciągłego podnoszenia jakości.

**SŁOWA KLUCZOWE: USŁUGI UNIWERSYTECKIE, KARTA USŁUG, SYSTEMY ZARZĄDZANIA JAKOŚCIĄ, EFQM, PLAN JAKOŚCIOWY**

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# THE PROCESS OF SOCIAL REPORTING – AN ORIGINAL MODEL

## Introduction

Preparing a good social report is a complex and difficult process to be carried out by an enterprise. It takes a lot of time and requires financial expenses. It is however a very profitable undertaking, as it is a basic instrument for communicating the enterprise's corporate social responsibility. In order to maximise the advantages resulting from social reporting, the process should be comprehensively considered and integrated with the strategy of an enterprise. As a result of an incorrectly prepared social report, an enterprise can lose its credibility perceived by its stakeholders. The enterprise's activity in CSR-related areas can also be unsuitably presented. This can also have a negative impact on one of the basic factors conditioning the enterprise's competitiveness, which is the image of the enterprise. This article presents an author's process of social reporting, which would enable an enterprise to prepare and issue a professional social report presenting, in a tangible, credible and clear way, the activities of an enterprise in the area of corporate social responsibility.

## 1. Key success factors in the asocial reporting

In an attempt to design a social reporting process, factors conditioning success in the period under consideration should be analysed in the first instance. Research carried out by AccountAbility and KPMG company have proved that the reporting process covers the following five particularly important factors: selection of issues for the report, showing the impact of CSR activities on the enterprise governance, considering critical opinions of the stakeholders, the scope of the social report and balanced presentation of good and bad results, as well as the method of

communication<sup>1</sup>. Identification and selection of issues which are most significant from the stakeholders' point of view is one of the most important tasks to be carried out by the team preparing the report. What is important is not only the process of identification and selection of issues to be described, but also clarifying in the report the way the process have proceeded. The readers expect to learn what groups of stakeholders have been invited for consultation and the reasons of selecting particular issues. The report should highlight the relation between the results achieved by an enterprise in the area of social responsibility and its assumed strategy and objectives. Taking the critical opinions of the stakeholders into consideration proves the significance of an enterprise's dialogue with them and its effects. In the case of receiving negative information, it is necessary to define actions to be undertaken by the enterprise to change the adverse results. A social report should be published systematically to enable current analyses of the enterprise's activities in the area under consideration. The way of providing the report to the stakeholders is also important, as they should not have any problems accessing it.

P. Roszkowska however lists five basic features determining the quality of a social report. In her view it is very important to choose contents matching the profile of the enterprise and to maintain the quality features of the published information. This can be achieved by applying reporting standards and impartiality of the published information, reflected by a balance between strengths and weaknesses of the enterprise and its activity. Reporting should be consistent with the enterprise's strategy. Actions carried out for the benefit of society and the environment should be integrated within the strategy. The report should cover the description of objectives and opportunities related to the social responsibility set out by the enterprise. The report should also include actions of the entire chain of supply, clients and related entities. Stakeholders should be included in the reporting process. The last feature listed by Roszkowska is the external verification of the report<sup>2</sup>.

According to the author hereof, several key factors of success should be considered in the process of preparing a social report, which would not let the enterprise's time and outlays invested in its preparation be wasted. First of all, a social report should meet the expectations of its stakeholders. It should therefore include information on the enterprise's activity in the economic, social and environmental areas. Secondly, it should be accurate, which means that it has to present, in an impartial way, the activity of an enterprise in the listed areas, focusing on its positive and negative aspects, objectives which have and have not been attained, so that it is possible to make an appropriate assessment of its operation. Thirdly, the social report

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<sup>1</sup> *Count Me In – The readers' take on sustainability reporting*, SustainAbility, KPMG, 2008.

<sup>2</sup> P. Roszkowska, *Rewolucja w raportowaniu biznesowym. Interesariusze, konkurencyjność, społeczna odpowiedzialność*, Difin, Warszawa 2011, p. 168.

should be reliable. The information provided should be able to be confirmed by reality. That is why the process of its internal and external verification is so important. Fourthly, the report should be complete. It cannot disregard any information that could influence the stakeholders' decisions or that could be the basis for their evaluation, or that reflects significant economic and social impacts or influences the environment. Fifthly, the stakeholders should be able to compare the enterprise's results with previous ones and with the results of other enterprises. In other words, it has to ensure comparability. Finally, the report should be published at a proper time, so that information it provides is up-to-date. To ensure the comparability of information, it should be published at regular time intervals.

## 2. Models of the social reporting process

The process of drawing up a social report should be systematised. That is why model social reporting processes have been created to streamline the preparation of social reports. They were established as result of cooperation of theoreticians working on the issue of corporate social responsibility and the representatives of economic practice<sup>3</sup>. One of these models is a model consisting of five stages: drawing up the concept, planning the reporting process, preparation of the contents, distribution of the report and, finally, a summary and an analysis of the feedback<sup>4</sup>. At each stage of a social report preparation the questions provided in table 1 should be answered.

While preparing the concept the objective of the report should be clearly defined and advantages connected with its publication should be considered. Identifying the stakeholder groups and establishing standards and guidelines to be applied in the reporting process is also very important. An enterprise also has to establish the way of publishing the report. This method recommends also an analysis of its competitors' reports in respect of their strengths and weaknesses. At the stage of planning the reporting process, the key issues related to the report preparation should be established. They include appointing a person responsible for preparing the report, the method of obtaining the data to be used in the report and the method of verification of the data and external verification of the report. The next stage involves the preparation of the structure of the report and description of the gathered information concerning the key issues that should be included in the report. This stage involves

<sup>3</sup> The description of the social reporting process can be found, among others, in the following publications: *Sustainable development reporting – Striking the balance*, World Business Council for Sustainable Development; *Directions in Environmental and CSR Reporting 2000/01*, Salterbaxter and Environmental Context; *Sustainability: a guide to triple bottom line reporting*, Business Council of Australia.

<sup>4</sup> CSR Consulting based on: *Sustainable development reporting – Striking the balance*, World Business Council for Sustainable Development, in: M. Greszata, *Raportowanie społeczne: niedoceniony element zarządzania CSR*, Harvard Business Review Polska, dodatek "Odpowiedzialny Biznes" 2009, p. 37.

also an external verification of the report. The fourth stage covers the distribution of the report. The recipients of the report should be determined, as well as the form of publication and the distribution channels. The most important task of the last stage is to determine the method of obtaining feedback from the stakeholders and the way it should be used to improve the reporting method in the future.

Table 1. Reporting process – areas of interest

Stages of the social reporting process	Questions
Preparation of the concept	<ul style="list-style-type: none"> <li>What is the objective of the social report?</li> <li>What results are to be achieved by the enterprise by preparing the social report?</li> <li>What stakeholder groups will be the recipients of the report?</li> <li>What will be the best way of publishing the report?</li> <li>What standards and guidelines will be used by the enterprise?</li> <li>What stakeholder groups does the enterprise intend to engage in the reporting process and how?</li> <li>What do the reports of the competitors look like? What are their strengths and weaknesses?</li> </ul>
Planning the reporting process	<ul style="list-style-type: none"> <li>Who will be responsible for the report preparation process?</li> <li>Will the enterprise use external services? If yes – to what extent?</li> <li>What is the key message of the report?</li> <li>What data will be obtained for the report and in what way?</li> <li>How will the data verification process be carried out?</li> <li>How will the process of external verification of the report be carried out?</li> </ul>
Drawing up the contents	<ul style="list-style-type: none"> <li>What should the structure of the report look like?</li> <li>What do the enterprise's stakeholders expect?</li> <li>What are the key issues?</li> <li>How to describe and present the collected information?</li> <li>What are the results of external verification of the report?</li> </ul>
Distribution of the report	<ul style="list-style-type: none"> <li>Who should the report be directed to?</li> <li>How should the publication of the report be announced?</li> <li>How should the process of distribution among the key stakeholders be organised?</li> </ul>
Summary and analysis of feedback	<ul style="list-style-type: none"> <li>What will be the method of gathering feedback on the report?</li> <li>How should the feedback be used to improve the reporting process in the future?</li> </ul>

Source: Own study based on: M. Greszata, *Raportowanie...*, op.cit., p. 39.

Some authors distinguish four steps of the social reporting process: planning, targeting the reporting process, implementation of the reporting strategy and the report publication<sup>5</sup>. The planning process covers obtaining knowledge on the habits

<sup>5</sup> Based on: *Sustainability: A guide to Triple Bottom Line Reporting*, Group of 100 Inc. 2004, pp. 23–24; *Overview of Business and Corporate Accountability*, Business for Social Responsibility, www.bsr.org, 08.10.2011.

and trends of social reporting applied in a given sector at an industry, national and international level. The presumptions and objectives of an extended reporting policy should also be established, taking into account the fact that they can evolve along with changes taking place at an enterprise. The most important internal and external stakeholders should be identified, as well as key economic, social and environmental factors by which the enterprise affects its surrounding. It is also important to define the financial needs and the necessary input related to the reporting process, and to win the support of the management staff. Targeting the reporting process covers involving the representatives of the most important stakeholder groups and a common identification of mutual expectations by including the stakeholders in the report preparation process, as well as an assessment of current possibilities of reaching the report objectives. The existing disadvantages and barriers limiting the possibilities to prepare the report should also be determined. At this stage it is important to draw up a reporting strategy and to establish key indicators for the evaluation and presentation of the enterprise's activities in the scope of corporate social responsibility. The next task is to determine the form and contents of the report. An application of the reporting strategy covers the implementation of the strategy and the establishment of dependencies between the social and financial reporting. The report publication stage involves the following tasks: preparing the draft report, internal control of the report form and contents, internal report verification, providing the report to the stakeholders using various communication techniques in order to ensure its broad accessibility, gathering and an analysis of the feedback from the stakeholders, and finally continuous improvement of reporting and communication methods, taking into account the stakeholders' comments and opinions.

According to P. Roszkowska, the social reporting process consists of ten steps described in the table below.

Table 2. Steps in the preparation of a corporate social responsibility report

Before publication	After publication
<ol style="list-style-type: none"> <li>1. Considering the reasons for preparing social reports.</li> <li>2. Identification of key stakeholder groups.</li> <li>3. Identification of key subjects and issues.</li> <li>4. Planning and developing objectives and actions of corporate social responsibility.</li> <li>5. Selection and development of key measurement indicators.</li> <li>6. Measurement and evaluation of the results.</li> <li>7. Improvement of the effectiveness and usefulness of communication.</li> </ol>	<ol style="list-style-type: none"> <li>8. Ensuring feedback from particular stakeholder groups.</li> <li>9. Managing the obtained feedback and formulating recommendations on its basis.</li> <li>10. Implementation of the system of monitoring and control of actions carried out in the area of corporate social responsibility.</li> </ol>

Source: P. Roszkowska, *Rewolucja...*, op.cit., p. 161.



The element that distinguishes the social reporting process proposed by P. Roszkowska from other processes is the division into two phases. The first one covers stages of the report preparation. The second one covers the stages that should be implemented after the report publication. At the first stage, Roszkowska suggests defining the objective of the social report preparation and publication and analysing the potential opportunities and risks connected with its publication, and subsequently confronting the advantages with the costs of reporting. This analysis should confirm the arguments for or against the preparation and publication of the social report. At the second stage, basic stakeholder groups should be identified and their information needs should be defined. It is important to establish which groups are the most affected by the enterprise. The stakeholders should be mapped and systematised. At the third stage the enterprise should analyse which aspects of its activities are important from the perspective of the enterprise itself and that of its stakeholders. Issues of key importance for the implementation of the corporate social responsibility idea should be selected and it should be indicated how they affect the enterprise's activity. Subsequently the scope of the report should be considered, i.e. what fields of activity, entities and organisational units should be covered by it. Roszkowska also recommends carrying out a review of the competitors' reports and analysing the trends and the profile of the industry. The fourth stage consists of planning the objectives and actions of the enterprise in the area of corporate social responsibility that should be closely integrated with its strategy. The social report should show the long-term involvement of the enterprise in the social and environmental activities. At the fifth stage, relevant indicators describing the enterprise's activities in the economic, social and environmental spheres should be established. The sixth stage involves the development of the system of gathering information helpful in preparing the social report, a measurement of the current situation of the enterprise's activity in the area of social responsibility and finally, an evaluation of the measurement results. The seventh stage covers a verification of the social report by an independent internal entity and a publication of the report in the form and in the moment most appropriate for the enterprise and the stakeholders' requirements. At this stage the report should also be distributed among the stakeholders. Obtaining feedback on the report, an evaluation of the actions undertaken by the enterprise as well as suggestions of changes should be the next stage of social reporting. The ninth stage covers an analysis of the feedback obtained from stakeholders and formulating relevant recommendations on its basis, concerning the implementation of corporate social responsibility. The last stage is the consequence of the sixth stage. It consists in controlling the implementation of sustainable development tasks, monitoring and publishing the results in the next reports<sup>6</sup>.

<sup>6</sup> P. Roszkowska, *Rewolucja...*, op.cit., pp. 161–167.

Pursuant to the AA1000 standard, a model process should lead to the preparation, publication and verification of the enterprise's social report. It consists of twelve following stages: establishing an audit commitment and governance procedures, an identification of stakeholders significant for particular tasks, defining and verifying the mission and values of the organisation, identifying material issues in the dialogue with the stakeholders, determining the scope of the report, identifying indicators and methods of measurement, collecting information, the data and evaluations provided by the stakeholders, analysing this information and setting methods for the improvement of the results, preparing the method of presentation and preparing the report, providing the report and audit, obtaining feedback, establishing procedures for embedding the results and their improvement system<sup>7</sup>. The process described above is based on the cooperation with the enterprise's stakeholders at each stage. As a matter of fact, it is the only international standard focusing on the need to involve the stakeholders in the social reporting process. It provides for mutual communication between the enterprise and its stakeholders. That is why it is so important to determine stakeholder groups with whom material issues should be agreed, which should further be published in the report. On the basis of dialogue with the stakeholders the scope and method of preparing the report should be determined, as well as indicators and their measurement methods that will be applied in the report. Collecting information, data and evaluations provided by the stakeholders is the key step of this process. The collected information should be analysed and the ways of improvement of the results should be considered. From the stakeholders' perspective, an independent audit of the prepared report is an important step. The AA 1000AS standard specifies the process of verification of the social report by an independent auditor. Overarching principles to be followed by the auditors are the principles of Materiality, Completeness and Responsiveness<sup>8</sup>. The principle of completeness makes sure that the report covers information concerning all actions of a given enterprise and their implications. Pursuant to the principle of materiality, the auditor is obliged to evaluate whether an enterprise has included sufficient and up-to-date information on its activities in the report, which would enable the stakeholders to understand and assess the enterprise. The principle of responsiveness obligates the auditor to provide an opinion, whether the enterprise had considered and responded to the expectations of its stakeholders, and whether it included its response to the stakeholders in the report using relevant indicators or declarations. The AA1000AS standard recommends preparing a report on the social report verification. The next important stage of the discussed process is ensuring access to the

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<sup>7</sup> P. Wallage, *Assurance on sustainability reporting: An auditor's view*, „Auditing: A Journal of Practice & Theory” 2000, Vol. 19, Supplement, p. 56.

<sup>8</sup> N. Dando, T. Swift, *Transparency and assurance: Minding the credibility gap*, „Journal of Business Ethics” 2003, No. 44, p. 199.

social report and audit for the stakeholders and obtaining feedback from them. The social report preparation process should be improved on the basis of this information. Establishing procedures for embedding the results and their improvement system is the last step of the social reporting process described in the AA1000 standard.

The analysis of social reporting processes described above indicates that certain steps repeat in each process. One of the repeating steps is the step related to the identification of the stakeholders. It is very important because stakeholders are the main recipients of social reports and their expectations should be met. Another step, being a part of all the social reporting processes, is the planning of the reporting process, i.e. establishing who is to be responsible for the preparation of the report and what it should contain, as well as what should be the way of obtaining and presenting information. The next step is about preparing the contents of the report. It is connected with obtaining and processing information, agreeing on the structure of the report and preparing it for publication. Another important step is providing the report for external verification, as a result of which the information it contains become more reliable for the stakeholders. The last of the steps common for the processes referred to above is the report publication and obtaining feedback from the stakeholders, on the basis of which the reporting process should be constantly improved. The presented social reporting processes often cover steps not related to preparation and publication of social reports. Such a step is, for example, the stage of planning and developing the enterprise's social responsibility actions or implementing the system of monitoring and controlling social responsibility actions, proposed by P. Roszkowska.

### 3. Author's model of the social reporting process

On the basis of the reference literature, the author hereof has developed his own social reporting process. According to him, the reporting process should consist of the following steps: initiating the reporting process, preparation of the reporting process, developing the social report, evaluation of the social report, publication of the social report, completion of the social reporting process. The author matched the listed steps with specific tasks presented in table 3.

The first step is the analysis of social reporting needs carried out by the enterprise management and subsequently a formulation of objectives related to the preparation of the social report. A specific definition of the objectives allows for drawing up a good quality report and an analysis of benefits and losses connected with social reporting. As a result, an enterprise can make conscious decisions on the preparation and publication of the reports. That is why formulating the initiative of preparing a social report should focus mainly on the substantiation of the need to undertake this process. If objectives are to be the starting point for preparing the social report,

they have to be precisely described and achievable for people preparing the report, they have to be related to the enterprise's social responsibility objectives and measurable, so that the evaluation of their achievement rate is possible. When establishing the objectives related to the social reporting process, a technique of objective tree can be applied which shows the dependency between the general objective of the process and specific objectives and individual tasks.

Table 3. Author's model of the social reporting process

Steps of the social reporting process	Tasks
Initiation	<ol style="list-style-type: none"> <li>1. Determining the objectives of the social report</li> <li>2. Winning the employees' support for the preparation and publication of the social report.</li> <li>3. Appointing a person responsible for the preparation and publication of the social report.</li> <li>4. Identification of key stakeholder groups.</li> <li>5. Planning the dialogue with the key stakeholder groups.</li> </ol>
Preparation	<ol style="list-style-type: none"> <li>1. Analysis of the social reports prepared by competitors.</li> <li>2. Establishing expectations of key stakeholder groups.</li> <li>3. Selection of standards and guidelines according to which the social report will be prepared.</li> <li>4. Establishing issues to be presented in the social report.</li> <li>5. Establishing the way of obtaining data for the social report.</li> <li>6. Establishing the form of the social report.</li> <li>7. Establishing the procedure of internal and external verification of the social report.</li> <li>8. Establishing the recipients of the social report.</li> <li>9. Establishing the distribution method of the social report.</li> <li>10. Establishing the way of obtaining feedback from the stakeholders.</li> <li>11. Establishing necessary input connected with the preparation and distribution of the social report.</li> </ol>
Development	<ol style="list-style-type: none"> <li>1. Development of the structure of the social report.</li> <li>2. Collecting information necessary for the report development.</li> <li>3. Description of issues related to the social responsibility.</li> </ol>
Evaluation	<ol style="list-style-type: none"> <li>1. Internal verification of the social report.</li> <li>2. Making possible changes in the social report.</li> <li>3. External verification of the social report.</li> <li>4. Making possible changes in the social report.</li> </ol>
Publication	<ol style="list-style-type: none"> <li>1. Publication of the social report.</li> <li>2. Distribution of the social report among stakeholders.</li> </ol>
Completion	<ol style="list-style-type: none"> <li>1. Obtaining feedback from the stakeholders concerning the social report.</li> <li>2. Stakeholders' feedback analysis.</li> <li>3. Formulating conclusions on the preparation and publication of social reports in the future.</li> </ol>

Source: own study.

Another important task of this step is winning the employees' support for social reporting. Preparing a social report requires considerable involvement of the employees. A particularly important factor conditioning successful implementation of social reporting at an enterprise is absolute involvement and support of the management staff for this idea<sup>9</sup>. The management staff should promote the concept of social reporting among other employees. Without the involvement of the other employees in the discussed process, preparing a good report requiring information from various fields of the enterprise's operation is not possible. It is very important to ensure open communication with the employees, who should receive an unbiased presentation of advantages and risks of social reporting. It is obvious that this will require extra work from them. The success depends on whether the employees are determined to understand and accept the social reporting process actions, whether they are listened to and their views are taken into account to the greatest possible extent. The employees' support for the idea of social reporting is closely connected with their knowledge on this issue. That is why it is worth including training on Corporate Social Responsibility and social reporting in the enterprise's training system.

The preparation and publication of the social report should be the responsibility of one person appointed by the enterprise management. Appointing such a person is the next important task within the step of social reporting process initiation. Considering the need to obtain information from various fields of the enterprise's activity, the position of such a person in the organisational hierarchy should be strategic. A situation where the employee is directly subordinate to the chief manager of the enterprise or his/her deputy and is responsible for comprehensive implementation of tasks related to the corporate social responsibility, is the best solution. Today many enterprises employ CSR managers, whose task, among others, is to prepare, in cooperation with other employees, a social report.

Another important task is to identify key stakeholder groups that can affect the operation of the enterprise and are interested in its activities. While identifying their stakeholders, enterprises should apply basic social reporting standards. For example, the ISO 26000 standard not only includes stakeholders in the definition of social responsibility, but also considers taking their requirements into account as one of the seven basic principles of social responsibility. ISO 26000 therefore highlights the significance of identification and engagement of stakeholders and presents it as one of the two fundamental practices of social responsibility. Reporting in accordance with the GRI standard requires an appropriately documented process of engaging stakeholders in the reporting process. An analysis of stakeholder groups should be carried out, which should cover their identification, determining their significance

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<sup>9</sup> P. Hoyte, *Beyond GAAP: Corporate Sustainability Reporting (CSR) and the Triple Bottom Line*, [www.climatechangeinstitute.com](http://www.climatechangeinstitute.com), [26.04.2012].

and impact on the enterprise as well as their open and hidden objectives. Among all the stakeholder groups, the most important would be those with the greatest significance and impact on the enterprise.

The last task of this step of the social reporting process is to plan the method of dialogue with the stakeholders. Stakeholder engagement implies certain forms and methods of building relations with the stakeholders as a result of which the enterprise is able to identify their expectations and simultaneously involve them in its processes<sup>10</sup>. The most common ways of communication with the stakeholders are electronic means such as the Internet, Intranet, the enterprise's website and more active tools of dialogue with stakeholders such as: meetings with particular stakeholder groups or stakeholder panels, the significance of which is growing. They match the functions of an experts' panel with the stakeholders' dialogue. They can be attended by representatives of the key stakeholder groups and experts allowing the enterprise to evaluate its decisions and to embed their activities in a broader social and economic context. Their advantage is a short time of response and low cost, compared to a broad process of dialogue with stakeholders. Such a form requires an appropriate selection of the panel participants, ensuring its independence and a high level of trust between the enterprise and the panel. This way of carrying out a dialogue with stakeholders should not replace other methods. It is a complementary means to the broad dialogue with stakeholders<sup>11</sup>. Planning a dialogue with stakeholders should start from an analysis of the forms of dialogue applied so far and their effectiveness, as well as an analysis of best practices in stakeholder dialogue. Next, particular stakeholder groups should be associated with certain forms of communication. Each enterprise has to establish what dialogue tools would be most effective for particular stakeholders.

The step of preparation of the social reporting process starts with an analysis of social reports made by competitors. It is worth knowing what information they include in their reports, what their structure is, what their reporting process looks like. This information is very useful in implementing further tasks related to this process. It allows for improvement of the social reporting process in an enterprise.

The next task within this step is to establish the expectations of key stakeholder groups. Stakeholder engagement should be carried out in accordance with the AA1000ES standard which precisely defines the way this process should proceed. The starting point is to regard the inclusivity principle as the basis of action. Next, an enterprise should define the objective of stakeholder engagement and subsequently prepare an action plan that should cover defining the profile of particular stakeholders

<sup>10</sup> L. Anam, *Zaangażowanie interesariuszy fundamentalną praktyką CSR, Standardy AA 1000. Narzędzie społecznej odpowiedzialności organizacji*, pp. 7–9, [www.odpowiedzialnybiznes.pl](http://www.odpowiedzialnybiznes.pl), [15.07.2011].

<sup>11</sup> L. Anam, *Zaangażowanie...*, op.cit., pp. 9–10.

and assigning them relevant priorities, as well as a choice of the way of engagement and a schedule of actions<sup>12</sup>. The stakeholders' expectations are established during a four-part dialogue with them: planning the dialogue, preparing a meeting, holding the meeting and formulating conclusions from the meeting, i.e. specifying the stakeholders' expectations. The way the process is carried out conditions the results of the dialogue. The enterprise's openness to conclusions stemming from the dialogue is significant. The person responsible for the dialogue with the stakeholders is also important. It should be a person who is well fixed in the enterprise's organisational hierarchy. Various standards are helpful in preparing social reports. An enterprise has to choose the standards to be applied for preparing the report. In my opinion, three standards should be used as guidelines: ISO 26000, AA1000, GRI<sup>13</sup>. These are international standards. They are universal. Applying these three standards will allow for a preparation of a report of a very good quality and high reliability, containing all the necessary information for the stakeholders. The possibility to compare a report prepared according to these standards with reports of other enterprises is an advantage.

The next task is to determine what elements of the corporate social responsibility strategy should be presented in the social report. A social report should not be a document containing all the available data concerning economic, social and environmental issues. Consequently, it should be ensured that the information presented there is reliable and transparent. When selecting information to be included in the report, four following GRI principles should be complied with: Materiality, Stakeholder Inclusiveness, Sustainability Context, and Completeness<sup>14</sup>. The document should contain information important from the point of view of the enterprise's influence on the economy, society and environment, as well as information providing a basis for the stakeholders' decisions. Under the process of identification of material issues in the reporting process, a materiality matrix can be applied. First, a list of issues material from the enterprise's and its stakeholders' perspective should be created. Next, each issue is evaluated according to two criteria: significance for the stakeholders and significance for the enterprise, expressed on a 1-to-10 scale<sup>15</sup>.

When determining the influence of social responsibility actions on the management processes, the influence of each described issue on business activity should be indicated and subsequently the enterprise's policy in this scope should be specified as well as how the enterprise manages and includes specific social responsibility

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<sup>12</sup> AA1000 Stakeholder Engagement Standard Revision Process, AccountAbility, [www.accountabilityaa1000wki.net](http://www.accountabilityaa1000wki.net), 21.05.2012.

<sup>13</sup> ISO/WD 26000 Guidance on Social Responsibility, Standard AA 1000, [www.AA100.pl](http://www.AA100.pl), [11.09.2011]; Sustainability Reporting Guidelines (GRI), [www.globalreporting.org](http://www.globalreporting.org), [11.09.2011].

<sup>14</sup> Sustainability Guidelines. The Global Reporting Initiative, Amsterdam 2006, [www.globalreporting.org](http://www.globalreporting.org), [11.09.2011].

<sup>15</sup> BT's 2007 Sustainability Report, in: M. Greszata, *Raportowanie...*, op.cit., p. 41.

issues in business practice. Each issue should be described in a relevant way according to the following model: we promised, we did it and we will do it in the future. Such a way of presenting the undertaken actions gives the possibility to track real progress of results achieved by the enterprise in all the fields defined by it as key areas<sup>16</sup>. It is important for the reports to provide up-to-date data and objectives, plans and obligations of the enterprise for the next years. Social reports have to present critical attitude to the enterprise's actions. The reports should also identify the enterprise's weaknesses within its activities and possible solutions. The best way is to present in a consistent way the progress in achieving the set objectives and to explain why some objectives have not been achieved, as well as what is planned to be done in the future to achieve them. In order to increase the level of the report's reliability, it should contain statements of the stakeholders on the presented issues.

Information used in the social report comes from various organisational units of the enterprise. It is therefore advisable to build a system for obtaining this information, which could be called the System of Social Responsibility Information. Such a system consists of the following elements: obtaining information, processing information, storing information, providing information and protecting information. The first element of the system is to establish information needs for the purposes of social reporting. Each issue to be presented in the report should be linked with information necessary for its description. Next, the source from which the information would be obtained should be established. Information processing consists in assessing whether it is reliable and useful from the point of view of social reporting. Subsequently, the information is analysed and relevant conclusions are formulated. It is also important to provide them in an appropriate form, so that they can be used directly for preparing a social report. The processed information should be stored in a way preventing its loss. It is often collected in the form of data bases that will be further used for report preparation. When the report is prepared, the problem of providing information in due time becomes important. That is why information provision is a significant part of the System of Social Responsibility Information. A well organised exchange of information is the condition of smooth provision of information within the enterprise. Information stored under the System has to be properly protected so that it cannot become a source of knowledge about the enterprise for its competitors. The information should be protected, but it should be done in a reasonable way, so that its protection does not require considerable costs from the budget designated to the social reporting process.

The next task is to choose an appropriate form of providing information on the enterprise's CSR activity. The most common form of providing the discussed information is an annual report for shareholders or an independent publication. Quite

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<sup>16</sup> M. Greszata, *Raportowanie...*, op.cit, p. 41.



often the way of providing this information is not formal. The information is neither presented in an annual report nor in a social report. Enterprises can also choose another channel of communicating the information, for example by their websites, where certain data on social responsibility are placed. One advantage of an annual report is presenting the image of the enterprise's activities in a comprehensive way. Not all stakeholders are however interested in financial matters of the enterprise broadly discussed in an annual report, which is mainly focused on this type of issues. Too much financial information can often result in a sketchy way of presentation of other information. These are the most important disadvantages of publishing social responsibility issues in an annual report. Informal channels of communication of the discussed information do not present the enterprise's social responsibility activities in a comprehensive way, and consequently the image of the enterprise's activities can be deformed. Information from the three areas: economic, social and environmental, should not be analysed independently of each other. Unfortunately, it is often intentionally done by enterprises. Stakeholders can also have difficulties in finding useful information. The author hereof claims that the best solution is to prepare separate social reports. As a result, stakeholders receive useful information which is a good basis for the desired analyses. Well prepared social reports meet in 100% the expectations of each group of stakeholders, who are not forced to look for useful information in other sources. Such a method of publication is advantageous from the point of view of an enterprise, which presents a comprehensive image of its activities in one document and controls the way of providing this information.

The next step is to establish the procedure of internal and external verification of the social report. A person or an organisational unit should be appointed to carry out internal verification of information covered by the social report. To reduce the costs of social reporting it is reasonable to assign the task of internal verification to an internal control unit. Information covered by the social report should also be verified by an external entity. An external auditor should have relevant competences. It is confirmed by the 2008 report by KPMG and SustainAbility entitled *Count Me In – The readers' take on sustainability reporting* which proves that what is important is not only the verification of the social report, but also the fact that it is done by a professional consulting company. The report indicates also that the experts' opinions are highly valued, while the opinions of stakeholders are slightly less appreciated by the respondents. The respondents covered by the survey declared that in the audit process the verification procedures were of key significance. The image of the auditing company is also a very important factor<sup>17</sup>. The form of the external audit should also be established.

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<sup>17</sup> *Count Me In – The readers' take on sustainability reporting*, op.cit.

The next tasks to be performed within the preparation step is to decide who should receive the social report and how it should be distributed. All the stakeholder groups should receive the social report. Consequently, it should be commonly available. The best solution is to print the social report, provide it to key stakeholder groups and place it in a noticeable place on the enterprise's website, which makes it available for the remaining stakeholder groups. Another solution can also be applied, i.e. printing a summary of the report and placing its full version on the enterprise's website.

It is important to establish the way of obtaining feedback from the stakeholders. It would be advisable to launch an application on the enterprise's website that would allow for providing information by the stakeholders. Setting up a panel discussion for the representatives of key stakeholder groups after the publication of the social report is a good solution.

The last task of this step is to draw up a budget for the preparation and publication of the social report.

The next step of the social reporting process is the development of the structure of the social report. According to the GRI standard, the social report should consist of the following parts:

1. Vision and strategy – description of the enterprise in relation to social responsibility.
2. Profile – presenting the profile of activities and the description of the published report (information on the methodology of the report preparation).
3. Structure and governance – presenting the organisational structure and governance in relation to social responsibility, presenting specific objectives to be reached and stating which employee is responsible for their attainment.
4. Indicator of compliance of the contents with GRI guidelines – a table presenting where the information required by GRI can be found in the report.
5. Results indicators – evaluation of the results of activities of the reporting enterprise carried out in several respects:
  - a) economic (EC – direct economic impact),
  - b) environmental (EN – environmental impact),
  - c) social.

A good social report presents a compacted image of the enterprise governance and provides results of a responsible business activity. It should also define the reporting period, include statements on the policy, objectives, strategy and results reviews, allowing for their comparison in the coming years.

The next two tasks are to collect information necessary to prepare the report and to describe issues to be presented therein. The information should be taken from the System of Social Responsibility Information. The issues should be described in a transparent and comprehensive way. Indicators should be interpreted. Numerical data should be presented in charts. To illustrate the presented issues in a better

way it is advisable to use an appropriate number of pictures. However, the social report cannot consist only of illustrations.

The next step covers internal and external verification of the social report and an introduction of possible changes. It is advisable to carry out an external audit in accordance with the AA1000AS standard. The external audit process compliant with this standard includes planning the verification measures, the performance of the verification measures, reporting to an assurance provider<sup>18</sup>. The organisation verifying the social report should plan the verification measure in a way that enables its effective performance. Planning requires a transparent strategy of collecting evidence and its evaluation within an agreed scope. Proper planning ensures a comprehensive, complete and balanced verification process. During the verification activities, the verifying organisation should evaluate and present its findings and conclusions about the nature and compliance of the enterprise's activities with the AA1000 AccountAbility Principles Standard. It should refer to criteria provided for by the AA1000PS Standard. As a result of the verification, the organisation responsible for the internal audit is obliged to publish a statement on the performed verification, containing its findings, conclusions and recommendations. All the restrictions of the scope of the disclosed data or the very verification measures should be included in the statement. The internal verification organisation should also prepare a report for the enterprise management staff, if it has been agreed between the parties. This report should not include findings that would considerably differ from those included in the public statement. Principles defined in the AA1000AS standard can be successfully applied by internal auditors.

When the information included in the social report is verified, it should be published. The next important step is the completion of the social reporting process, which covers obtaining feedback from the stakeholders, an analysis of this information and formulating conclusions concerning this process in the future.

## Recapitulation

The process of social reporting should be carried out in accordance with the described procedure. As a result, the prepared social report will meet the challenges connected with the development of such a document. The stakeholders will have an easy access to information on the enterprise's activities in the area of social responsibility. Implementation of all the tasks connected with all the steps of the social reporting process guarantees a good quality of the social report. An important element of the social reporting process is defining the objective of the report preparation and the

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<sup>18</sup> *Standard AA 1000. Weryfikacja 2008*, AccountAbility, 2008 (English edition: *AA1000 Assurance-Standard 2008*).

expected effects. Their realisation will make it possible to prepare a reliable social report. A clear specification of the objectives will also contribute to greater involvement of employees in the process, without which the development of the report is not possible as it requires cooperation of employees working in various organisational units. Dialogue with stakeholders plays a key role in the social reporting process, because it allows for the exchange of material information between them and the enterprise, and for building mutual trust and growth of consciousness of its participants. By means of dialogue with stakeholders the enterprise can learn more about their expectations which should be a basis for the social report development. Determining the standards according to which the report will be prepared and what issues it will address is one of the priority tasks of the social reporting process. The author hereof recommends social reporting in accordance with the three basic standards: ISO 26000, AA1000 and GRI, which allow for a comprehensive and impartial presentation of the enterprise as a socially responsible company. It should be thoroughly thought over what issues concerning the economic, social and environmental area should be included in the report so as not to make it too detailed and thus not clear enough, or too general and thus not useful for the stakeholders. When selecting issues and information the following principles should be followed: materiality, stakeholder inclusiveness, sustainability context and completeness. The information included in the report should be systematically collected in the System of Social Responsibility Information. An integral part of the reporting process is obtaining feedback from the stakeholders and its analysis. It allows the enterprise to continuously improve the process. The social reporting process should be well structured, which will guarantee that it is performed in an efficient way and that it ends with a desirable result, i.e. the development and publication of a social report in a proper time and within the allocated budget. This process should be a responsibility of one appointed employee who would be comprehensively responsible for the company's social responsibility policy.

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## THE PROCESS OF SOCIAL REPORTING – AN ORIGINAL MODEL

### Abstract

For a business to prepare social report well is a complex and difficult process. It takes a lot of time and requires considerable financial outlays. Nonetheless is rewarding because it is the basic tool to communicate with an environment and present its social responsibility. To fully maximize benefits from social reporting this process has to have well-thought-out strategy and to be integrated with business strategy. If social report process is well structuralized, it guarantees that the process will run smoothly and bring desired results. This article presents original model of social reporting ensuring effective communication of the enterprise with environment regarding corporate social responsibility. Accomplishment of all tasks according to each stage of social reporting process presented in original model guarantee that the social report will be useful for their stakeholders.

**KEY WORDS: CORPORATE SOCIAL RESPONSIBILITY, SOCIAL REPORT, SOCIAL REPORTING, STAKEHOLDERS, REPORTING STANDARDS**

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## PROCES RAPORTOWANIA SPOŁECZNEGO – MODEL AUTORSKI

### Streszczenie

Przygotowanie dobrego raportu społecznego jest złożonym i trudnym procesem. Pochłania dużo czasu i wymaga poniesienia nakładów finansowych. Mimo to jest przedsięwzięciem bardzo opłacalnym, ponieważ raport ten jest podstawowym narzędziem komunikowania otoczeniu przez przedsiębiorstwo jego społecznej odpowiedzialności. Chcąc maksymalizować korzyści wynikające z raportowania społecznego, proces ten powinien być w pełni przemyślany i zintegrowany ze strategią przedsiębiorstwa. Proces raportowania społecznego powinien być procesem dobrze ustrukturyzowanym, co zagwarantuje, że będzie on przebiegał sprawnie i zakończy się pożądanym rezultatem. W artykule przedstawiono autorski model procesu raportowania społecznego, który zapewnia skuteczną komunikację przedsiębiorstwa z otoczeniem dotyczącą społecznej odpowiedzialności biznesu. Realizacja wszystkich zadań zgodnie z poszczególnymi etapami procesu raportowania społecznego wymienionymi w modelu autorskim zagwarantuje, że raport ten będzie przydatny dla jego interesariuszy.

**SŁOWA KLUCZOWE: SPOŁECZNA ODPOWIEDZIALNOŚĆ BIZNESU, RAPORT SPOŁECZNY, RAPORTOWANIE SPOŁECZNE, INTERESARIUSZE, STANDARDY RAPORTOWANIA**



# UTILITARIAN AND COGNITIVE VALUES OF THE INTER-ORGANIZATIONAL SYNERGISTIC EFFECT. CASE STUDY<sup>1</sup>

## Introduction

It is commonly stated in the literature on strategic management that the increase of effectiveness is an important, though not the only prerequisite for creating inter-organizational relationships<sup>2</sup>. Determining whether an inter-organizational relationship actually contributes to increased effectiveness, requires periodic assessment of interaction. The results obtained form the basis for any adjustment of its terms. One of the criteria for assessing the effectiveness of inter-organizational relationships<sup>3</sup> of an enterprise may be the surplus of benefits – measured in units of cost or outcome – attributable to the company as part of mutual exchange. Such surplus could not be achieved if the company operated separately and independently, since it can be achieved only through co-operation. In light of the literature, positive assessment of the inter-organizational relationship of a company provides a basis for strengthening

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<sup>2</sup> W. Czakon, *Wzrost efektywności jako przesłanka tworzenia więzi międzyorganizacyjnych*, in: H. Jagoda, J. Lichtarski (ed.), *Nowe kierunki w zarządzaniu przedsiębiorstwem – celowość, skuteczność, efektywność*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2006, p. 244.

<sup>3</sup> Inter-organizational relationships mean such interaction between enterprises, in which there is exchange of material, energy and information, plus, the parties manifest their commitment of the exchange, and this attitude is mutual. These relationships are a specific phenomenon, defined in terms of time, place and two-way flow of material, energy and information. See W. Czakon, *Istota relacji sieciowych przedsiębiorstwa*, „Przegląd Organizacji” 2005, No. 9, pp. 10–13.



the current trajectory of its development<sup>4</sup>. Negative assessment, though, usually leads to modification or degradation of this relationship<sup>5</sup>.

The main objective of this paper is an attempt to identify the differential effect of inter-organizational synergy<sup>6</sup> as a synthetic measure of the effectiveness of non-market and non-hierarchical business relationships. Apart from that, we try to indicate types of relationships of the enterprise with its main supplier and the main customer<sup>7</sup>. Due to the dichotomy of non-hierarchical and non-market business relationships, in the case study there has been used the set of features proposed by W. Czakon to establish the type of relationships of an enterprise with its external partners<sup>8</sup>.

Therefore, the article contributes to the current search for answers to the question whether the inter-organizational relationships of a company, perceived as more stable and secure, remain a more effective form of exchange management as compared to normal market relations (arm's-length market relationships). Inter-organizational relationships are inherent to contribute to increasing a company's effectiveness or to improving its competitive position<sup>9</sup>. Thus, the issue discussed here is part of the relational approach to building a competitive advantage<sup>10</sup>, since the object of this approach are all relationships of the company with the business environment<sup>11</sup>.

The case study is an attempt to confirm the usefulness of the differential effect of inter-organizational synergy as a measure of assessment of non-market and non-hierarchical business relationships. Attention has been paid to identifying types and assessing effects of relationships of the presented manufacturing company with its main supplier and the main customer. The studied manufacturing company has been consciously chosen, provided the possibility to gain the insight which other organizations do not allow<sup>12</sup>.

<sup>4</sup> D. Levinthal, J. Myatt, *Co-Evolution of Capabilities and Industry: The Evolution of Mutual Fund Processing*, „Strategic Management Journal” 1994, Vol. 15, Special Issue, pp. 45–62.

<sup>5</sup> R. Kumar, K. Nti, *Differential Learning and Interaction in Alliances Dynamics: A Process and Outcome Discrepancy Model*, „Organization Science” 1998, Vol. 9, No. 3, pp. 356–367.

<sup>6</sup> The differential effect of inter-organizational synergy is synonymous with the inter-organizational synergistic effect.

<sup>7</sup> The term “customer” used in the paper is the antonym of the term “supplier”. See R. Baran, *Sila przetargowa przedsiębiorstwa a efektywność jego działalności marketingowej*, Oficyna Wydawnicza SGH, Warszawa 2009, pp. 86.

<sup>8</sup> W. Czakon, *Istota...*, op.cit., pp. 11–13; idem, *Więzi sieciowe a więzi rekurencyjne przedsiębiorstwa*, in: J. Pyka (ed.), *Współczesne koncepcje i metody zarządzania przedsiębiorstwami*, TNOiK, Katowice 2005, pp. 429–437.

<sup>9</sup> W. Czakon, *Wzrost...*, op.cit., pp. 244.

<sup>10</sup> J.H. Dyer, H. Singh, *The Relational View: Cooperative Strategy and Sources of Interorganizational Competitive Advantage*, „Academy of Management Review” 1998, Vol. 23, No. 4, pp. 660–679.

<sup>11</sup> W. Czakon, *Ku systemowej teorii przewagi konkurencyjnej przedsiębiorstwa*, „Przegląd Organizacji” 2005, No. 5, pp. 5–8.

<sup>12</sup> M. Bratnicki, *Rozważania o stosowaniu studium przypadków w badaniach przedsiębiorczości*, „Przegląd Organizacji” 2007, No. 9, pp. 8–10.

This study is focused on the diagnostic procedure and has been written from the synergist position.

## 1. Types of exchange management of a company with the environment

The characteristics of two polar forms for governing transactions, i.e. market-based discrete contracts and hierarchy, have been the focus of intense scholarly interest by strategic management and organizational theorists<sup>13</sup>. A very brief review of these characteristics is instructive because they provide the basis for exploring alternative frameworks for governing transactions.

Markets have three main functions: matching buyers and sellers; facilitating effective exchange of information, goods, services and payments associated with market transactions; providing an institutional infrastructure, such as a legal and regulatory framework that enables the market to function effectively<sup>14</sup>. Operational effectiveness means that market participants are able to carry out transactions at a competitive cost, while informational effectiveness means that all available information is incorporated into the price. The degree of informational and operational effectiveness determines the extent to which markets are allocation ally effective<sup>15</sup>.

From the viewpoint of mechanisms governing transactional processes, P.S. Ring and A.H. van de Ven proved the existence of four types of exchange management (transactions): the market, hierarchical, recursive and relational ones (see Table 1).

Market-based transactions can be simply characterized as discrete contracts: relatively short-term, bargaining relationships between highly autonomous buyers and sellers designed to facilitate an economically effective transfer of property rights<sup>16</sup>. In a situation where short-term contracting, based on market mechanism, proves relatively more expensive, the company can expand the internal coordination mechanisms (hierarchies as management mechanisms)<sup>17</sup>, or select one of the intermediate types of exchange management. Where transactions have highly uncertain outcomes, recur frequently and require unique or transaction-specific investments, they can be

<sup>13</sup> P.S. Ring, A.H. Van de Ven, *Structuring Cooperative Relationships between Organizations*, "Strategic Management Journal" 1992, Vol. 13, No. 7, pp. 483–498.

<sup>14</sup> J.Y. Bakos, *Reducing Buyer Search Costs: Implications for Electronic Marketplaces*, "Management Science" 1997, Vol. 43, No. 12, pp. 1676–1692.

<sup>15</sup> A.R. Montazemi, J.J. Siam, A. Esfahanipour, *Effect of Network Relations on the Adoption of Electronic Trading Systems*, "Journal of Management Information Systems" 2008, Vol. 25, No. 1, pp. 233–266.

<sup>16</sup> P.S. Ring, A. H. van de Ven, *Structuring...*, op.cit., pp. 483–498.

<sup>17</sup> J. Niemczyk, *Struktury układu outsourcingowego*, in: R. Krupski (ed.), *Zarządzanie strategiczne. koncepcje – metody*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2007, p. 390.

Table 1. Distinguishing characteristics of transaction types

Distinguishing characteristics	Forms				
	1	2	3	4	5
Nature of exchange	On-going production and rationing of wealth subordinate obeys or quits the employment relationship	Hierarchical managerial transactions	Discrete market transactions	Recurrent contracting transactions	Relational contracting transactions
Terms of exchange	Authority structure superior hires	Clear, complete and monetized, sharp in by agreement, sharp out by pay and performance	Certain, complete contingent on prior performance; plans for experimentation on safeguards	Uncertain, open and incomplete; plans for bilateral learning safeguards and conflict resolution	
Transaction-specific investment	Idiosyncratic	Nonspecific	Mixed	Mixed and idiosyncratic	
Temporal duration of the transaction	Indefinite	Simultaneous Exchange	Short to moderate term	Moderate to long term	
Status of the parties	Structural functional command-obedience role relationship between legally unequal parties	Limited, nonunique relation between legally equal and free parties	Unlimited, unique relation between legally free and equal parties	Extensive, unique social-embedded relation between legally equal, and free parties	
Mechanisms for dispute resolution	Internal conflict resolution by fiat and authority	External market norms and societal legal system	Norms of equity and of reciprocity and societal legal systems	Endogenous designed by the parties and based on trust	
Relevant contract law and management structure	Employment contract unified management	Classical contract market management	Neoclassical contract market management	Relational contracts bilateral management	

Source: P.S. Ring, A.H. van de Ven, *Structuring Cooperative Relationships between Organizations*, "Strategic Management Journal" 1992, Vol. 13, No. 7, pp. 483–498.

performed most effectively within hierarchies. When a conflict arises, it is resolved by resort to the authority or fiat that is embedded in the asymmetrical command and obedience roles relationships that are characteristic of hierarchy. In these unified management structures, the employment contract is the relevant legal form of management.

Intermediate solutions, i.e. those located between the use of the market as a source of resources and the internalization of everything inside the company<sup>18</sup>, refer to the recursive and relational types of exchange management.

Neoclassical contracting is associated with the tripartite manner of exchange management, and applies to both mixed and idiosyncratic assets exchanged occasionally. This type of contracting refers to medium and long term transactions. Relational contracting, though, is related to a bilateral or unified manner of exchange management<sup>19</sup>.

It is worth noting that recursive and relational contracting is incomplete. First of all, not all events that require adaptation can be foreseen in advance. Secondly, the actual effects of adaptation in relation to many unexpected events will not be evident until they materialize. However, in contrast to the neoclassical system, in which the reference point of adaptation is the original agreement, the reference point in the truly relational approach is the “whole relationship in its development over time. This may or may not include the original agreement”<sup>20</sup>.

Recurrent exchanges by their very nature are different from discrete market based exchanges. While discrete exchanges are characterized by very limited communication and narrow content where the identity of the parties to a transaction is ignored, recurrent exchanges transpire over time with each transaction viewed in terms of its history and its anticipated future<sup>21</sup>. Recurrent contracting enables the parties to build trust, by demonstrating norms of equity and reciprocity<sup>22</sup>. Recurrent contracts involve repeated exchanges of assets that have moderate degrees of transaction specificity. The terms of these exchanges tend to be certain, but some contingencies may be left to future resolution. Temporally, the duration of these contracts is relatively short-term. The parties see themselves as autonomous, legally equal, but contemplating a more embedded relationship. They use the recurrent contracting

<sup>18</sup> J. Niemczyk, *Wyróżniki, budowa i zachowania strategiczne układów outsourcingowych*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2007, p. 40.

<sup>19</sup> J. Lichtarski (ed.), *Podstawy nauki o przedsiębiorstwie*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 2007, p. 47.

<sup>20</sup> O.E. Williamson, *Ekonomiczne instytucje kapitalizmu*, Wydawnictwo Naukowe PWN, Warszawa 1998, p. 83.

<sup>21</sup> P.S. Aulakh, F.E. Gençtürk, *Contract Formalization and Governance of Exporter – Importer Relationships*, “Journal of Management Studies” 2008, Vol. 45, No. 3, pp. 457–479.

<sup>22</sup> B.C. Bichescu, M.J. Fry, G.G. Polak, *Workload Balancing Through Recurrent Subcontracting*, “Production and Operations Management” 2009, Vol. 18, No. 1, pp. 33–47.

to explore outcomes driven by motives other than effectiveness, to experiment with safeguards, and with alternative methods for resolving conflict<sup>23</sup>. In contrast, relational contracts tend to involve long-term investments that stem from groundwork laid by recurrent bargaining on the production and transfer of property rights among these legally equal and autonomous parties<sup>24</sup>.

Thus, while analysing a single relationship of an inter-organizational exchange, one needs to take into account that the company can take one of two non-market and non-hierarchical forms, i.e. recursive or relational relationships. According to W. Czakon, the characteristics allowing to distinguish between these types of relationships can be divided into three groups (see Table 2).

Table 2. Elements of the assessment of relational and recursive relationships of the company

Characteristics of inter-organizational relationships of the company	Description of attributes (characteristics) of recursive and relational relationships
Exchange	It refers to the object of a relationship, taking into account the material, energy <sup>25</sup> , information flows. Given this attribute (characteristic), relational relationships are a structure of the business relationships through which information, material and energy exchange takes place. Relational relationships do not differ from recursive relationships in terms of relation content. The content relates to the relationship object, including exchange of goods and information, agreeing actions and its scope and duration (including frequency). Frequency can be measured by the number of contacts or the amount of time spent on these contacts. The typology of exchange focuses on material and energy flows. In this reflection, there is no reference to the exchange of information, yet there is broad literature on the information dimension of network flows. It states, inter alia, that companies have different access to information depending on their social network, yet the cost of access to information is not an important factor. The structure of information relationships is essential in business. Doing business and non-work activities are linked through the spread of opinions on persons engaged in business. Hence, the network of social information flows determines the success of the company on the market.

<sup>23</sup> P.S. Ring, A. H. van de Ven, *Structuring...*, op.cit., pp. 483–498.

<sup>24</sup> Ibidem.

<sup>25</sup> Energetism prefers the principle of the maximum use of every form of energy. The overall incidence of various forms of energy (e.g. physical and psychological) causes the qualitative hierarchy of beings. See H. Piekarczyk, *Efekt organizacyjny jako kryterium oceny systemu wytwórczego*, „Zeszyty Naukowe Akademii Ekonomicznej w Krakowie” 1991, No. 102, p. 15.

Commitment	It involves deepening and widening of existing exchange relationships. It refers to bearing expenditures which are not necessary for the transaction of market exchange and its enrichment. Multidimensionality of commitment makes it easier to distinguish the relational relationship from the recursive one. Both types are manifested in operational engagement, i.e. repetitive transactions in a relatively long time. The difference between both types of relationships is based mainly on the account of social embedding in relational relationships. Social embedding does not exist practically in recursive relationships. In addition, the investment commitment in a relationship is an exclusive feature of relational relationships. These are among others: location of production facilities in the vicinity of the customer's plant, implementation of the same quality standards and systems of information, joint training of staff. Thus, multidimensional commitment distinguishes recursive relationships from relational ones. Commitment is a measurable, gradual and relative characteristic.
Reciprocity	It takes into account the importance of reciprocate commitment and exchange, but also is associated with the community of goals. Reciprocity goes beyond unilateral action, symmetrical to partner's behaviour. Thus, it goes far beyond sale/purchase transactions. It includes exchanging information and joint, coordinated decision making. It is not enough, for example, that the supplier made some investments in order to adapt the production line to meet specific requirements of key co-operator. Co-operator should reciprocate the investments recurred by the supplier, devoting part of their resources (tangible or intangible) for the development of relations with the supplier.

Source: W. Czakon, *Istota relacji sieciowych przedsiębiorstwa*, „Przegląd Organizacji” 2005, No. 9, pp. 11–13; idem, *Więzi sieciowe a więzi rekurencyjne przedsiębiorstwa*, in: J. Pyka (ed.), *Współczesne koncepcje i metody zarządzania przedsiębiorstwami*, TNOiK, Katowice 2005, pp. 433–434; R.G. Eccles, D.B. Crane, *Managing Through Networks*, „California Management Review” 1987, Vol. 30, No. 1, pp. 176–195; S.P. Borgatti, R. Cross, *A Relational View of Information Seeking and Learning in Social Networks*, „Management Science” 2003, Vol. 49, No. 4, pp. 432–445; W. Czakon, *Dynamika więzi międzyorganizacyjnych przedsiębiorstwa*, Wydawnictwo Akademii Ekonomicznej im. Karola Adamieckiego w Katowicach, Katowice 2007, pp. 45; M. Mitrega, *Zdolność sieciowa jako czynnik przewagi konkurencyjnej na rynku przedsiębiorstw*, Wydawnictwo Akademii Ekonomicznej im. Karola Adamieckiego w Katowicach, Katowice 2010, p. 54.

The characteristics indicated in Table 1 and the values of these relationships can be used for a dichotomous division of non-hierarchical and non-market relationships of a company, i.e.:

- *relational relationships* – interactions that occur between companies in which there is exchange of information, materials or energy, parties manifest their commitment and this attitude is mutual,
- *recursive relationships* – interactions that occur between companies in which reciprocity does not occur or takes very low values despite operational commitment, which means asymmetric information, social and investment engagement<sup>26</sup>.

<sup>26</sup> See W. Czakon, *Więzi...*, op.cit., p. 434; P.S. Ring, A.H. van de Ven, op.cit., pp. 483–498.

The specified characteristics will be later used to identify the type of inter-organizational relationship in practice (the empirical part).

By building non-market and non-hierarchical relationships, companies seek to reduce costs of recurrent transactions<sup>27</sup>. In this case, the benefits for the company result from the reduction of costs of exchange with external partners and thus may be the measure of effects of recursive and relational relationships.

## 2. The concept and assessment measure of effectiveness of a company's relationships with external partners

As pointed out by E. Gummesson, relationships of a company with the environment due to the subjective criterion<sup>28</sup> can be divided into classic market relationships, i.e. bilateral ones: supplier – customer, which are examined in this study. Since the supplier and customer are participants of the exchange relationship, we shall use the term “external partners”.

Effectiveness belongs to the category of ambiguous terms. The concept is constituted by performance criteria and evaluation ranges, i.e. the range of consequences of the actions taken<sup>29</sup>.

Efficiency is thus also a feature of the actions resulting in the positively assessed outcome regardless of whether it was intentional. Performance can be assessed as effective, even if the results gained are inconsistent with the planned ones, if only it will bring positive effects due to the needs of the moment<sup>30</sup>. The criteria for assessing the effectiveness are such features of the objects subjected to these actions, characterizing their structure, functioning, inputs and outputs, which are influenced by actions, i.e. which are effects, and due to which these activities are assessed<sup>31</sup>.

Effectiveness can be reduced to activities related to cost reduction<sup>32</sup>. Hence, the assessment of effectiveness of business relationships with external partners (in this paper: suppliers and customers) may be made by measuring the reduction

<sup>27</sup> W. Czakon, *Dynamika więzi międzyorganizacyjnych przedsiębiorstwa*, Wydawnictwo Akademii Ekonomicznej im. Karola Adamieckiego w Katowicach, Katowice 2007, p. 113.

<sup>28</sup> E. Gummesson, *Total Relationship Marketing. Rethinking Marketing Management: From 4Ps to 30Rs*, Butterworth-Heinemann, Oxford 2000, pp. 19–23, based on: M. Mitrega, *Marketing relacji*, Wydawnictwa Fachowe CeDeWu.pl, Warszawa 2005, p. 83.

<sup>29</sup> J. Lichtarski, *Kryteria i metody oceny efektywności przedsięwzięć organizatorskich w przedsiębiorstwie*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 1982, p. 26.

<sup>30</sup> S. Nowosielski, *Skuteczność i efektywność realizacji procesów gospodarczych*, in: T. Dudycz (ed.), *Mikroekonomiczne aspekty funkcjonowania przedsiębiorstw*, Wydawnictwo Politechniki Wrocławskiej, Wrocław 2008, p. 40.

<sup>31</sup> J. Lichtarski, *Kryteria...*, op.cit., p. 26.

<sup>32</sup> S. Nowosielski, *Skuteczność...*, op.cit., p. 41.

of preparation costs, execution and settlement of exchange<sup>33</sup>. Expected benefits from the reduction in exchange costs are one of the reasons for creating and developing inter-organizational relationships. The anticipated increase in costs of exchange with external partners, compared with those borne by the company making the exchange on the basis of purely market conditions, will usually cause refraining from establishing relationships or modifying them, and ultimately – leaving such a system.

The concept of the inter-organizational effect refers in its fundamental meaning to non-market and non-hierarchical types of the exchange management between at least two companies. It is also used to single-subject actions, i.e. in a situation where a company carries out the exchange of products or services outside the cooperative systems (market type of management). These types of management allow therefore to identify:

- *the effect of the inter-organizational collective action,*
- *the effect of the inter-organizational individual action.*

*The effect of the inter-organizational collective action (e.i.c.a.)* refers to total benefits, measured in the units of cost or outcome, attributable to the company as a participant of the exchange, which it could not achieve, if it operated separately and independently, and which are achievable only through the relationship of co-operation. The measure of this form of *e.i.c.a.* are:

- for customers – the cost of a complete set of activities related to a specific customer within the cooperative system,
- for suppliers – the cost of a complete set of activities related to a specific supplier in the cooperative system plus the value of the purchased products/services according to the purchase prices used within the relationship with the supplier.

The identification of effects of the assessed company-supplier/customer relationship meets the condition of selection criteria objectification.

*The effect of the inter-organizational individual action (e.i.i.a.)* refers to total benefits measured in the units of cost or outcome, attributable to the company as a participant of the mutual exchange, which it could not achieve, if it operated separately and independently, i.e. outside the cooperative systems. The measures of this form of *e.i.i.a.* are:

- for customers – the cost of a complete set of activities related to a specific customer, if the company operated outside the cooperative system,
- for suppliers – the cost of a complete set of activities related to a specific supplier plus the value of products/services according to the purchase prices used within the relationship with the supplier.

<sup>33</sup> W. Czakon, *Dynamika...*, op.cit., p. 115.



Presented measures, as in the case of *e.i.c.a.*, meet the condition of selection criteria objectification and thus provide a complete, reliable and systematic picture of the business relationships with external partners.

For the exchange on preferential terms and for the reference system, i.e. the exchange based on purely market conditions, we calculate the value of exchange costs. Then, we calculate the difference between *the effect of the inter-organizational collective action* and *the effect of the inter-organizational individual action*, expressed in the form of costs. In practice, the result of such a comparison gives an answer to the question what is the differential effect expressed in amount or percentage, indicating the existence of synergy, asynergy or dis-synergy.

*The differential effect of inter-organizational synergy (d.e.i.s.)* refers to the surplus of benefits measured in the units of costs or outcome, attributable to the company as a participant in the mutual exchange, which it could not achieve, if it operated separately and independently, and which is achievable only through relations of cooperation. The measure of *d.e.i.s.* is the reduction of the exchange cost fixed for the relationship with the diagnosed external partner (in this paper: main supplier and main customer).

The notion of *the differential effect of inter-organizational synergy* is always valued positively. It is opposed to dis-synergy, meaning the state of dysfunction of interaction.

Obtaining the differential effect of inter-organizational synergy requires the development of the relationship from the purely market level to the level of inter-organizational relationship.

The synergy effect is dual: firstly, it is determined in the field of system solutions, secondly, it is the differential effect of synergy, which is calculated according to the adopted reference system<sup>34</sup>. The reference system for non-market and non-hierarchical types of the economic exchange management is the community of unrelated companies. It is therefore a whole which consists of companies independent in organizational and legal terms, or which have no formal inter-organizational relationships.

It is worth noting that the choice of the reference system determines the result of synergetic comparisons. This means that they are relativized to a reference system, since the synergistic “difference” depends on what system is adopted<sup>35</sup> as the basis of comparison for non-market and non-hierarchical types of exchange management.

Inter-organizational relationships are always two-way, i.e. they take place in pairs (diads) of companies. This means that these relationships apply to both the specific

<sup>34</sup> H. Piekarczyk, *Efekt organizacyjny jako kryterium oceny systemu wytwórczego*, Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków 1991, pp. 23–25.

<sup>35</sup> Ibidem, pp. 25–26.

actions taken by two companies relatively to each other as well as opinions, knowledge and emotions that employees of one company relate to the second one – and vice versa.

Parties in the relationship must seek to exchange information, material or energy. This does not mean that this exchange must always be formalized as sale/purchase transactions in legal and accounting sense. It can also take the form of a barter exchange of services<sup>36</sup>.

### 3. Case study – identification of types of exchange management characteristics and a sample application of the differential synergy effect as a synthetic measure of assessment of business relationships with specific external partners

The empirical material used in this part of the paper has been obtained as a result of two interviews with a manager of a manufacturing company. The first one was informal, similar to a natural conversation and aimed at obtaining information initially identifying the company's exchange management with external partners. During this interview, it was found that there are no capital relationships between the manufacturing company and its counterparts.

Empirical confirmation of the existence of non-hierarchical and non-capital<sup>37</sup> relationship with the main supplier and the main customer was the basis for another interview – this time using a questionnaire – aimed at identifying the type of exchange management and assessing the effectiveness of these two specific inter-organizational relationships. Both interviews were conducted in June 2011.

The research subject are two specific relationships of the manufacturing company operating in the manufacturing industry – manufacture of products for construction (in particular: PVC windows and doors, aluminium joinery, external and internal windowsills): with *the supplier of window and door profiles* and with *the customer of windows and doors*. The content of these relationships was the exchange of products or services supported by formal purchase/sale transactions in the legal and accounting sense.

The manufacturing company has been consciously chosen, based on the possibility to gain insight, which other organizations do not give. This company is organized in the form of general partnership and was founded in 1999. In the first years of

<sup>36</sup> M. Mitreęa, *Zdolność sieciowa jako czynnik przewagi konkurencyjnej na rynku przedsiębiorstw*, Wydawnictwo Akademii Ekonomicznej im. Karola Adamieckiego w Katowicach, Katowice 2010, pp. 69–70.

<sup>37</sup> Where there are capital relationships, there is also the hierarchy of command. See more in: M. Trocki, *Outsourcing*, PWE, Warszawa 2001, pp. 28–32.

activity, it employed only a few people. Currently, it employs about 50 people. The development of the company consists in systematically implemented product and process innovations. In principal, these were largely adaptations of existing technologies (technical innovation) concerning the design of the products and technologies for their production. Process innovations are focused on the customer's service results and the efforts to provide comprehensive service to retail and institutional customers.

In 2010, the company obtained the Certificate of Stability 2009, awarded by an international business intelligence company Dun & Bradstreet Poland, which assesses the credibility and stability of the company based on the analysis of payment morality as well as the analysis of financial indicators in the latest available financial statements<sup>38</sup>.

### 3.1. Identification of the type of relationship with specific external partners

An identification of the characteristics of business relationships with the main supplier and the main customer which allowed us to extract actual types of exchange management is shown in Table 3.

Table 3. Scope of material, energy and information flows within specific relationships

Characteristics		Relationship with the supplier	Relationship with the customer
exchange	material	Yes	yes
	energetic	Yes	yes
	information	Yes	yes

Source: the author's own work.

The object of the study were actual material, energy and information flows that could be observed between the company and its external partners.

The subject of relationships with the supplier was primarily the purchase of window profiles of the highest technical parameters commercially available. Between these companies, there is an exchange of information relating to price, quantity and quality of the object of exchange, as well as the timing and terms of delivery, confirmation of orders, transportation, cargo insurance, place of delivery unloading, the individuals responsible for receiving deliveries, terms of trade credit, handling returns and shortages, clearing settlements with the supplier. In addition, the supplier

<sup>38</sup> On the basis of the certificate of business assurance by Dun & Bradstreet Poland, acquired by the analysed company.

informed the company in advance about new products. Extensive exchange of information concerned the information considered useful in business.

The object of the relationship between the analysed company and its main customer was the sale of PVC windows and doors, aluminium joinery and external and internal windowsills. The exchange of information focused mainly on technical parameters of products subject to sale and purchase transactions as well as on conditions of this exchange, namely: storage, transportation, assembly, handling returns and shortages, security against the risk of recipient's insolvency, confirmation of charges, monitoring payments by customers, invoice correction.

In terms of exchange value, the main customer of the analysed manufacturing company is a large company performing works related to construction of residential and non-residential buildings on Polish territory. The object of this relationship is the supply of windows manufactured in accordance with the specifications given by the partner – sometimes along with their installation. Information flows within this relationship allow the partners to reduce the time necessary to match their offers to the needs in terms of price and turnaround. Furthermore, there is no need to make additional measurements of window and door openings. The frequency of exchange depends on the number of orders from the customer. The relationship maintained with the construction company allows the customer to set a unit price of windows as a vital element of the close bid.

The construction company co-operates with this manufacturer of windows, because it meets the investors' requirements, even those atypical, in terms of size, shape and parameters of thermal transmittance of windows.

The customer provides the company with the information on the expected increase/decrease in demand for their products in connection with the planned execution of works. An important consequence of relationships with the customer is also joint exhibition. The customer does not only buy products manufactured by the analysed company, but also has the possibility of their transportation and installation. The solution addressed to corporate customers is the coordination of works related to the installation of windows, doors and other complementary products at the customer's place. As part of comprehensive investment service, it is important to ensure the preparation of openings (gateways, interior doors) as far as the width and height of frames are concerned. In order to eliminate errors after finishing the work, the company offers, under the contract, the oversight of correct preparation of openings and installation performed by specialized groups, certified by such producers as Porta, Gerda, Brüggmann or Reynaers. Thus, the customer does not have to waste time to coordinate such an order with various companies.

Both relationships of the company, i.e. the one with the supplier and the one with the customer, are characterized by stable cooperation, lasting for nearly ten years. The volume of transactions with these external partners is very significant

in comparison to other contractors. This implies a high degree of operational commitment of these entities.

The relationships between the partners are secured by formal contracts protecting them against opportunistic behaviour of any partner. This applies to situations in which one of them would like to increase their profits at the expense of the other. The results of empirical studies show that long-lasting relationships do not exempt from formal contracts<sup>39</sup>.

The diagnosis of the degree of the companies' commitment in the relationship and of its reciprocity as successive values of the characteristics determining the type of relationship with the supplier and with the customer are shown in Table 4. By examining the intensity of the occurrence of factors leading the company to strengthen its inter-organizational relationships, we can identify four dimensions of the company's commitment in the relationship, as well as verify the degree of reciprocation of its partner's efforts. Reciprocity is the key element of the assessment made by its parties<sup>40</sup>. Such an assessment is part of building, verifying, modifying or quitting the relationship.

The scales of measuring the degree of effort reciprocation (reciprocity) of external partners within the relationship have been constructed based on the concept of relative perceptual performance<sup>41</sup>. It is based on the respondents' subjective assessment of the efforts put into the relationship by external partners.

In light of the results of measuring the characteristics of the relationship with the supplier, we have established that this was a recursive relationship. The following elements speak for this: high operational commitment, average level of information commitment, low social commitment and lack of any investment on the part of the analysed production company.

In the case of co-operation with the customer, the recorded high level of operational commitment and slightly higher than before level of information commitment with minimal social commitment and total lack of investment commitment on both sides also speak for recognizing this relationship as a recursive one.

It is worth noting that the partners' commitment within the relationship affects the effectiveness of coordination of the company's activities with external partners, thus, making it an important source of competitive advantage<sup>42</sup>. That is why one can observe a lot of interest on the part of business practice in the criteria for assessing the effectiveness of inter-organizational business relationships.

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<sup>39</sup> R.F. Lusch, J.R. Brown, *Interdependency, Contracting, and Relational Behaviour in Marketing Channels*, "Journal of Marketing" 1996, Vol. 60, No. 4, pp. 19–38.

<sup>40</sup> P.S. Ring, A. H. van de Ven, *Developmental Process of Cooperative Interorganizational Relationships*, "Academy of Management Review" 1994, Vol. 19, No. 1, pp. 90–118.

<sup>41</sup> K. Fonfara, *Rynkowa orientacja polskich przedsiębiorstw*, „Marketing i Rynek” 2001, No. 12, pp. 19–26.

<sup>42</sup> J.H. Dyer, H. Singh, *op.cit.*, pp. 660–679.

Table 4. Degree of partners' commitment and reciprocity within the inter-organizational relationship

Characteristics*		The measuring tool used <sup>43</sup>	Value of characteristics of relationship with supplier	Value of characteristics of relationship with customer
commitment	operational	scale and scope of discharging by the analysed company with formal and informal terms of the contract	4	4
	information	intensity of sharing information about goals and means of achieving these goals with the specific external partner	3	4
	Social	intensity of direct meetings with the specific external partner initiated by the company at a specified date	1	1
	investment	investment in co-specialized resources made by the analysed company	0	0
reciprocity	operational	scale and scope of discharging by the specific external partner with formal and informal terms of the contract	2	3
	information	intensity of sharing information about goals and means of achieving these goals with the analysed company	3	4
	Social	intensity of direct meetings initiated by external partners at a specified date	1	1
	investment	investment in co-specialized resources made by external partners	0	0

\* The point of reference in the assessment of commitment and reciprocity of non-market and non-hierarchical inter-organizational business relationships are the values of specified characteristics in the situation where the exchange would take place in purely market conditions.

Weighting scale: 1 – very small, 5 – very large, 0 – does not exist.

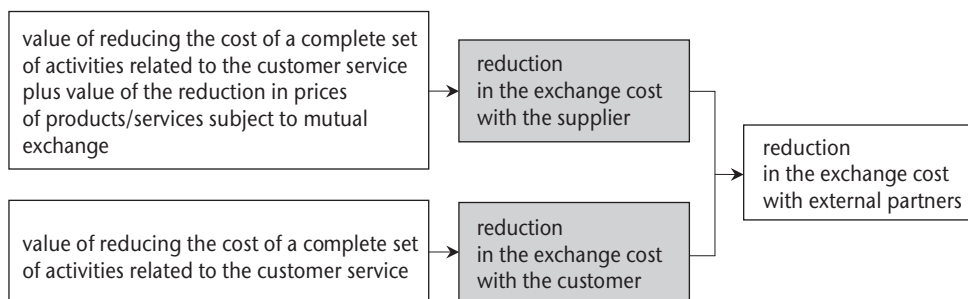
Source: see Table 1<sup>43</sup>.

<sup>43</sup> The content of indicators used in the paper to assess the characteristics of relationships is based on: J.H. Dyer, *Effective Interfirm Cooperation: How Firms Minimize Transaction Costs and Maximize Transaction Value*, „Strategic Management Journal” 1997, Vol. 18, No. 7, pp. 535–556.

### 3.2. Application of the differential synergy effect as a synthetic measure of the assessment of inter-organizational business relationships

The graphical presentation of the concept of measuring the effectiveness of inter-organizational business relationships, judged by the reduction in the exchange cost with the specific external partner, has been given in Figure 1.

Figure 1. The concept of measuring the effectiveness of inter-organizational business relationships due to the type of market relationships



Source: author's own work.

Co-operation with external partners reduces the exchange cost for each party. It is known that in terms of partners' reciprocity and commitment the costs of coordination and protection against uncertainty and opportunistic behaviour of partners are reduced<sup>44</sup>. The synergistic effect is sought not only inside the company<sup>45</sup>, but also in the inter-organizational area. All inter-organizational business relationships form a space of interaction of relatively independent companies<sup>46</sup>.

In this part of the study *the differential effect of inter-organizational synergy* (or in other words, *inter-organizational synergistic effect*) is expressed in terms of benefits from the reduction of costs of exchange with specific external partners. In practice, after having determined the differential effect of the inter-organizational synergy, expressed in amount or percentage, respondents made a transformation of this value

<sup>44</sup> J. Child, D. Faulkner, *Strategies of Co-Operation. Managing Alliances, Networks, and Joint Ventures*, Oxford University Press, Oxford 1998, pp. 21, based on: W. Czakon, *Dynamika...*, op.cit., p. 98.

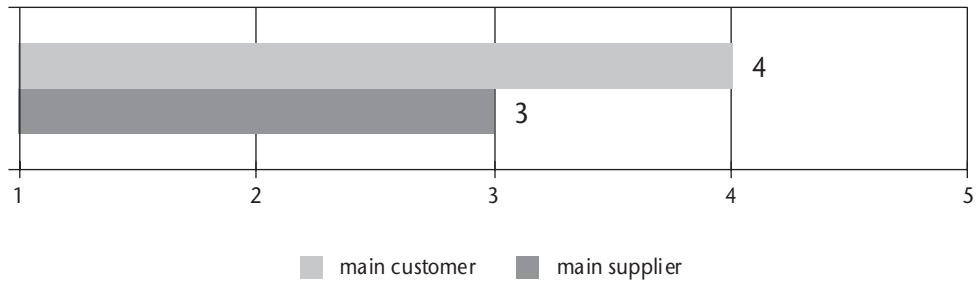
<sup>45</sup> See among others: H. Piekarczyk, *Efekt złożony jako podstawa pomiaru stopnia zorganizowania*, „Zeszyty Naukowe Akademii Ekonomicznej w Krakowie – Prace z zakresu organizacji i zarządzania” 1988, No. 278, pp. 5–28; C. Suszyński, *Synergia w działalności rynkowej przedsiębiorstwa*, Oficyna Wydawnicza SGH, Warszawa 1992.

<sup>46</sup> W. Czakon, *Dynamika...*, op.cit., pp. 38, 92.

into points, indicating the level of benefits from the reduction of costs of exchange with the main supplier and main customer.

Figure 2 shows the *differential effect of inter-organizational synergy (d.e.i.s.)* calculated for these partners, measured in terms of reduction of exchange costs.

Figure 2. Assessment of the effectiveness of recursive relationships of the company



Scale of weights: 1 – very small benefits from the reduction of exchange costs, 5 – very large benefits from the reduction of exchange costs.

Source: see Figure 1.

Recursive relationships with the main customer and the main supplier proved to be a more effective (additional benefits) tool for the exchange of products or services than in the case of relatively independent activities.

The results (see Figure 2) indicate that in the case of the relationship with the supplier, the *inter-organizational synergistic effect of collective action* has been evaluated more than moderately higher than the base effect. In the case of the relationship with the customer, the *inter-organizational synergistic effect* has been evaluated much higher than the base effect.

On the one hand, the *differential effect of inter-organizational synergy* fulfilled its role of a synthetic measure or assessment of the inter-organizational relationships of the company aggregating subcriteria and can be a useful tool for measuring the effectiveness of non-hierarchical and non-market relationships used in the research. On the other hand, the company participating in the variety of cooperative agreements should not underestimate the knowledge of the structure of the positive differential effect, i.e. partial effects. They make it possible to assess which of the partial effects is more or less involved in the *differential effect of inter-organizational synergy*.

The results showed that, thanks to relationships with its main customers, the manufacturing company achieved a higher exchange effectiveness than in the case of relatively independent activity. This explains the decisions on co-operation and allows us to treat inter-organizational relationships as a means (tool) for increasing the effectiveness of exchange of products or services.



The use of the differential effect of inter-organizational synergy in the case study as a synthetic measure for assessing the effectiveness of recursive relationships of a company with the supplier and the customer indicates its utilitarian value.

## Conclusions

The differential effect of inter-organizational synergy is a tool of high usefulness for business decision making. In practice, it can be used as a selection criterion in the decision-making process if it is considered in terms of improving the system, verifying variants and seeking the optimum solution<sup>47</sup>.

The study shows that the dependence of the growth of effectiveness of the manufacturing company on the external partners, i.e. the main supplier and the main customer, indicates, on the one hand, the utilitarian use of the synthetic indicator of assessing inter-organizational business relationships; on the other hand, it reveals the need for quantitative studies aimed at identifying the dependence of growth of effectiveness of small and medium companies on their external partners (cognitive importance). One cannot ignore the fact that the strong relationships reflecting total commitment leave little room for freedom of action and may greatly reduce creative work, which in turn will block the organization's co-evolution with its environment<sup>48</sup>.

The results of the study enriched the current state of knowledge of effectiveness premises for the co-operation of small and medium enterprises. Although case studies confronted with the literature have their cognitive value, they are not exempt from verification using a representative sample.

The proposed criterion for assessing the effectiveness of business co-operation with external partners is tailored to theoretical statements and to practical needs and conditions arising from the use of the results and conditions for obtaining the information and its features.

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<sup>47</sup> H. Piekarczyk, *Efekt organizacyjny...*, op.cit., pp. 7–8.

<sup>48</sup> M. Bratnicki, K. Bratnicka, *Strategiczny wybór oparty na twórczości*, in: E. Urbanowska-Sojkin (ed.), *Wybory strategiczne w przedsiębiorstwach: uwarunkowania*, Wydawnictwo Uniwersytetu Ekonomicznego w Poznaniu, Poznań 2011, p. 36.

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## UTILITARIAN AND COGNITIVE VALUES OF THE INTER-ORGANIZATIONAL SYNERGISTIC EFFECT. CASE STUDY

### Abstract

The paper points out the usefulness of the differential effect of inter-organizational synergy as a synthetic measure for assessing non-market and non-hierarchical business relationships. For this purpose, the author elaborates on a tool for measuring the differential effect of inter-organizational synergy, treated here as a means (assessment criterion) of the research of the relationship between the company and its specific supplier or customer. Additionally, due to the dichotomy of non-hierarchical and non-market business relationships, the author used in the case study a set of characteristics proposed by W. Czakon to determine the type of inter-organizational relationship. The identification of inter-organizational relationships of this company has been conducted on the basis of estimating the values of characteristics (attributes) of relationships, including one relating to the main supplier, and the other relating to the main customer. Furthermore, the author diagnosed one of the most important motifs for interacting with the main customer and the main supplier, i.e. an increase in the efficiency of mutual exchange.

**KEY WORDS: COOPERATION, INTER-ORGANIZATION RELATIONSHIPS, INTER-ORGANIZATIONAL SYNERGETIC EFFECT**

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## UTYLITARNE I POZNAWCZE WALORY MIĘDZYORGANIZACYJNEGO EFEKTU SYNERGICZNEGO. STUDIUM PRZYPADKU

### Streszczenie

W publikacji wskazano na użyteczność efektu różnicowego synergii międzyorganizacyjnej jako syntetycznego miernika oceny nierynkowych i niehierarchicznych więzi przedsiębiorstwa. Na rzecz realizacji celu opracowano narzędzie pomiaru efektu różnicowego synergii międzyorganizacyjnej traktowanego tu jako środek badania (kryterium oceny) efektywności więzi przedsiębiorstwa z konkretnym dostawcą i konkretnym odbiorcą. Dodatkowo ze względu na dychotomiczność niehierarchicznych i nierynkowych więzi przedsiębiorstwa w studium przypadku wykorzystano zestaw cech zaproponowanych przez W. Czakona do ustalenia typu więzi międzyorganizacyjnej. Rozpoznanie typu więzi międzyorganizacyjnych

tego przedsiębiorstwa zostało przeprowadzone na podstawie oszacowania wartości cech (atrybutów) więzi, w tym jednej odnoszącej się do najważniejszego dostawcy, a drugiej odnoszącej się do najważniejszego odbiorcy. Ponadto rozpoznano jeden z motywów współdziałania z najważniejszym odbiorcą i najważniejszym dostawcą, a jest nim wzrost efektywności wzajemnej wymiany.

**SŁOWA KLUCZOWE: WSPÓŁDZIAŁANIE, RELACJE MIĘDZYORGANIZACYJNE,  
MIĘDZYORGANIZACYJNY EFEKT SYNERGICZNY**



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