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The Impact of R&D Expenditures and Investments on the Effects of Innovation in the MHT and HT Industry in Poland

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Abstract: This article analyzes the relation between innovation activities and the effects of technological innovations related to products and processes in the medium-high and high technology industry in Poland between 2008-2013. The scope of this survey relates to innovation at the firm level and takes into account the diffusion of that which is “new to the company”. Innovation activities include R&D expenditures and investments in fixed assets, including buildings, premises and land, machinery and equipment, and computer software. The effects of innovation concern three areas: (1) competition, demand and market; (2) production & delivery; and (3) regulatory, health and safety matters. The survey covers 1,355 enterprises. It is assumed that innovation activity facilitates the effects. The methodological part of the analysis is based on a probit modeling. The highest level of positive influence relates to investments in buildings and grounds related to an increase in production capacity or service provision, reductions in environmental impacts, improvements in health and safety, and entering new markets.

Keywords: innovation activity, medium-high technology, high technology, innovation, effects of innovation

I. INTRODUCTION

Innovation literature has focused on the role of internal research and development related to firm innovation and productivity (Griliches, 1979; Klette & Kortum, 2004). Research and expenditures play a key role in determining the differences in productivity across firms and the evolution of firm-level productivity over time (Doraszelski & Jaumandreu, 2013). However, R&D investment is not the sole source of productivity gains; technological change embodied in gross investment is of comparable importance on aggregate (Ortega&Argilés, Piva, Potters, & Vivarelli, 2010). Moreover, productivity growth in low-tech firms is still heavily dependent on investment in physical capital (embodied technological change), whereas high-tech sectors not only invest more in R&D, but also achieve more in terms of efficiency gains

connected with research activities (Ortega-Argilés, Potters, & Vivarelli, 2011).

Innovation processes differ greatly from sector to sector in terms of development, rate of technological change, linkages and access to knowledge, as well as in terms of organizational structures and institutional factors (Malerba, 2005). In high-technology sectors, R&D plays a central role in innovation activities, while other sectors rely to a greater degree on the adoption of knowledge and technology. Scholars recognize that the ability to exploit external knowledge is critical to firm innovation (Teece, Pisano & Shuen, 1997). Technological innovations related to products and processes are now unavoidable for companies that want to develop and maintain a competitive advantage and/or gain entry into new markets (Stock, Greis & Fischer, 2002).

The Polish economy has attained impressive growth since the late 1990s. One of the most apparent features of this growth is the spillover of technology and knowledge from foreign investment enterprises (FIEs). Drawing on an original survey of Polish manufacturing establishments in medium-high and high technology industry, this paper investigates the relationship between internal R&D expenditures, investments in fixed assets including buildings and grounds, technical equipment and machinery, computer software, and the effects of innovation. The main hypothesis is an assumption that innovation activities facilitate the effects of innovation.

Section 2 briefly surveys the literature linking R&D expenditures and investments to the effects of innovation. Section 3 describes the methodology and research sample. Section 4 presents the results, and Section 5 is the conclusion.

2. INNOVATION - LITERATURE REVIEW

Innovation is a multi-faceted phenomenon which includes factors that enable inventions to become innovations (Chandy, Hopstaken, Narasimhan, & Prabhu, 2006), and determinants of innovation (Love & Roper, 1999) and consumer responses to innovation (Hauser, Tellis, & Griffin, 2006). Innovation can be a process or a result of its implementation. Following the Oslo Manual's lead, innovation is defined as 'the implementation of a new or significantly improved product or process (OECD, 2005, p. 49). Innovation occurs if a firm has the capability to innovate (Laforet, 2011). An innovative firm is one that has implemented an innovation during the period under review (OECD, 2005, p. 49). Both the structure and organization of innovative companies facilitate the process of innovation (Lawson & Samson, 2001). Every innovative enterprise has got the ability to generate permanent innovation, creativity, and is able to maintain a high competitive position based on the following: core competencies, the competence to anticipate the future, the ability to effectively explore the needs of customers, innovation teams to ensure a high level of innovation in the company, and the flexibility to adapt to changing conditions (Sosnowska, Kłopotek, & Łobejko, 2000).

Enterprises engage in various scientific, technological, organizational, financial and commercial steps to implement innovation and allow them to sustain their innovativeness. Innovation activity involves investment in: (a) research and development; (b) technology assets; (c) the purchase of advanced machinery, equipment, computer hardware or software, as well as land and

buildings (including upgrades and repairs); (d) training of staff and marketing of new and improved products; and (e) other activities including design work, planning and testing of new products and services (production processes and methods of delivery). Innovativeness depends on the firm structure and its relationship with the various sources of information, knowledge, technology, as well as work practices and both human and financial resources (Okoń-Horodyńska & Zaharowska-Mazurkiewicz, 2007).

While any innovative action is the result of the relationship between the enterprise and the different sources of information, knowledge and technology, firms should individually decide which sources, external or internal, are the most profitable (Chesbrough, Vanhaverbeke, & West, 2006).

Firms may engage in innovation activities for a number of reasons (Wieser, 2005). Their objectives may relate to products, markets, efficiency, quality, or the ability to learn and to implement change. While objectives concern an enterprise's motives for innovation, effects relate to the actual observed outcomes of innovation. The main incentives for product innovation are competition, demand and markets. Other factors include short product life spans that necessitate the development of new products; the need to diversify product portfolios; or efforts to increase or avoid a decline in market share. In addition, a number of factors aim to identify the main motives for change in production and delivery, i.e. whether their main intent is to improve quality, flexibility, or efficiency/cost reduction. In particular, factors relating to cost reduction are made specific to enable better interpretation of results (OECD, 2005, p. 108-109). Other factors include environmental regulations, and improvement in health and safety (Kneller & Manderson, 2012).

3. METHODOLOGY AND RESEARCH SAMPLE

The scope of this study concerns the effects of innovation in medium-high and high technology industry at the level of firm, and the innovation that is new to the firm. The survey is based on a questionnaire sent by email or conducted during a telephone interview with a manager or a company founder. All data were gathered between 2008-2013 in Poland. Information, based on commercial and non-commercial sources of information such as Teledreson, PKT and others, was collected from every Polish region and stored in one database. The final number of firms surveyed was 7,800. The success rate was about 15%. Afterwards,

all enterprises representing medium-high and high technology (Hatzichronoglou, 1997) were retrieved. The final dataset includes 1,355 firms, which is about 17.4% of the companies gathered in the database, and relates to the real share of medium-high and high technology firms in the MHT and HT Polish industry (GUS, 2015, p. 485-486). Furthermore, the final data set includes 981 (72.4%) firms from the medium-high technology industry, and 374 (27.6%) enterprises representing the high technology industry.

Table 1 shows the structure of enterprises by technology and firm size.

National capital represents 1,105 enterprises (81.55%), whereas foreign capital firms include 142 companies (10.48%), and 108 firms (7.97%) have mixed capital. The highest number of companies is in the manufacture of machinery and equipment group (see Table 2).

Table 1. Enterprises by technology and firm size

Technology	Micro (<10)		Small (10-49)		Medium (50-249)		Large (>249)		Total	
	Firms	Share (%)	Firms	Share (%)	Firms	Share (%)	Firms	Share (%)	Firms	Share (%)
Medium-high	252	25.69%	350	35.68%	275	28.03%	104	10.60%	981	72.4%
High	172	45.99%	103	27.54%	66	17.65%	33	8.82%	374	27.6%
Total	424	31.29%	453	33.43%	341	25.17%	137	10.11%	1,355	100%

Source: Author's own study

Table 2. Enterprises by industry

Industry type	Share (%)
Manufacture of machinery and equipment	35.42
Manufacture of electrical equipment	16.75
Manufacture of instruments and appliances for measuring, testing and navigation; watches and clocks	13.80
Manufacture of chemicals and chemical products	11.51
Manufacture of motor vehicles, trailers and semi-trailers	6.05
Manufacture of basic pharmaceutical products and pharmaceutical preparation	5.17
Manufacture of communication equipment	4.43
Manufacture of computers and peripheral equipment	3.84
Manufacture of other transport equipment	1.55
Manufacture of railway locomotives and rolling stock	1.11
Manufacture of air and spacecraft and related machinery	0.37

Source: Author's own study.

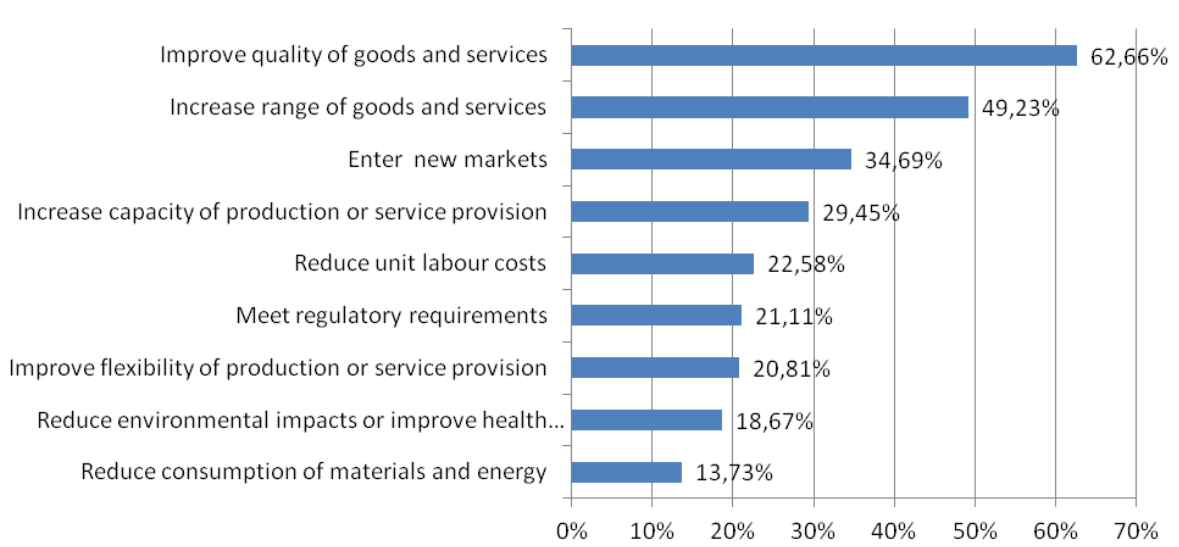
The most demanding effects include quality improvements of goods and services, increases in the range of goods and services, and entering new markets (see Figure 1).

Investments in new fix assets are the most common innovation activity (see Figure 2).

The analysis is based on probit modeling (Aldrich & Nelson, 1984; Liao, 1994). It is assumed that all relations are linear equations, because both effects (dependent variables) and R&D expenditures and invest-

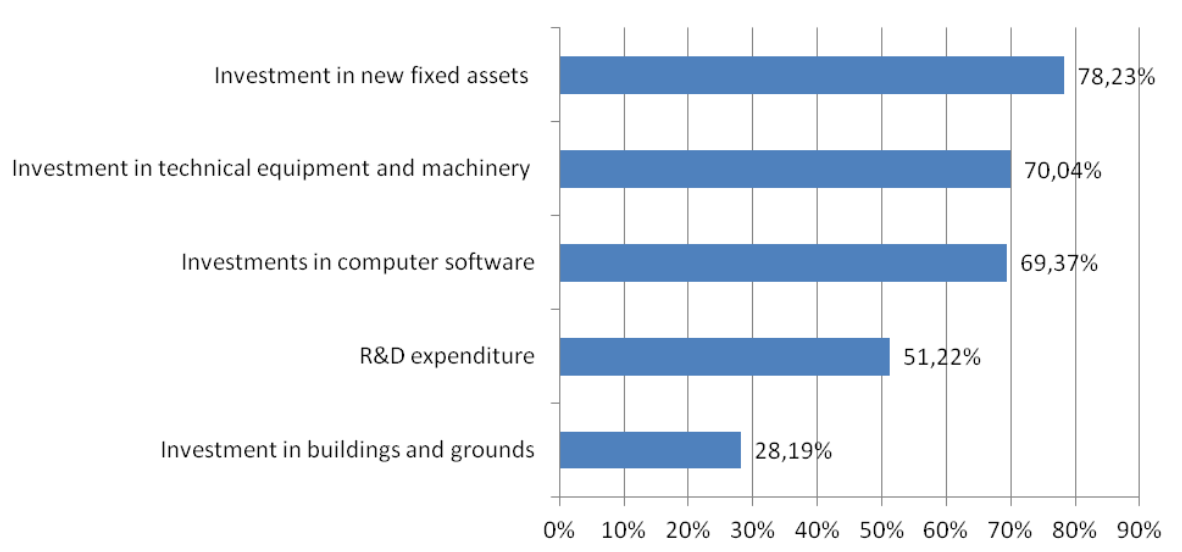
ments (independent variables) are binary. Every model is described by two probabilities. P1 determines the probability of occurrence of the effect related to a given innovation activity, and P2 determines the probability of occurrence of this effect from the perspective of all other innovation activities. If the function parameter is positive ($a > 0$), then P1 takes a higher value for a given investment. Moreover, all statistically significant models are described by standard error (Std), t-Student statistic (T), Chi-square test of independence (Chi2), and confidence level (P).

Figure 1. Structure of innovation effects



Source: Author's own study.

Figure 2. Structure of innovation activities (a firm can feature more than one activity)



Source: Author's own study.

4. EFFECTS OF INNOVATION ACTIVITIES

All calculated models were found to be statistically significant with a confidence level better than $p \leq 0.05$ (5%). By dividing the probability P1 by the probability P2, the intensity of influence for a given innovation activity is featured. The numbers in parenthesis indicate the probability of performing a given innovative action.

In the case of R&D expenditure, all probit models were found to be statistically significant (see Table 3). Thus, R&D expenditure has a significant impact on achieving effects. All models are positive, hence the more companies invest in R&D the more effects they achieve. The highest influence oscillates around a 30% increment and concerns entering new markets (0.66), increase in the range of goods and services (0.61), and reduction in environmental impact or improvement of health and safety (0.66).

The impact of R&D expenditures lower than a 20% increment is related to reduction in unit labour costs (0.58), meeting regulatory requirements (0.59), and improvements in the flexibility of production or service provision.

All models were found to be statistically significant for investment in new fixed assets (see Table 4). Moreover, models take a positive parameter so the relation between investment and effects is positive. The influence is rather moderate and is at about a 17% increment and concerns entering new markets (0.88), increased capacity of production or service provision (0.89), and improvement in the quality of foods and services (0.83). The lowest impact was related to a reduction in the consumption of materials and energy (0.77).

Table 3. The effects of R&D expenditures

Innovation effect	Parameter	S	T	Chi2	P1	P2	P	P1/P2 (%)
Enter new markets	+0.56	0.07	7.67	59.78	0.66	0.44	0.00	33.33
Increase range of goods and services	+0.47	0.07	6.88	47.75	0.61	0.42	0.00	31.15
Reduce environmental impacts or improve health and safety	+0.45	0.09	5.07	26.20	0.66	0.48	0.00	27.27
Increase production capacity or service provision	+0.40	0.08	5.32	28.58	0.63	0.47	0.00	25.40
Reduce consumption of materials and energy	+0.41	0.10	4.05	16.77	0.65	0.49	0.00	24.62
Improve quality of foods and services	+0.31	0.07	4.40	19.40	0.56	0.44	0.00	21.43
Improve flexibility of production or service provision	+0.30	0.09	3.55	12.74	0.61	0.49	0.00	19.67
Meet regulatory requirements	+0.24	0.08	2.86	8.25	0.59	0.49	0.00	16.95
Reduce unit labour costs	+0.22	0.08	2.65	6.97	0.58	0.49	0.01	15.52

Legend:

S – standard error,

T – t- Student statistic

Chi2 - Chi-square test of independence

P1 – the probability of effect

P2 – the probability of effect for all other innovation activities

P – confidence level

Source: Author's own study.

Table 4. The effects of investment on new fixed assets

Innovation effect	Parameter	S	T	Chi2	P1	P2	P	P1/P2 (%)
Enter new markets	+0.54	0.09	6.19	40.33	0.88	0.73	0.00	17.05
Increase production capacity or service provision	+0.62	0.09	6.56	46.64	0.89	0.74	0.00	16.85
Improve quality of foods and services	+0.42	0.08	5.35	28.70	0.83	0.70	0.00	15.66
Increase range of goods and services	+0.46	0.08	5.95	35.99	0.85	0.72	0.00	15.29
Reduce environmental impacts or improve health and safety	+0.48	0.11	4.32	20.03	0.88	0.76	0.00	13.64
Improve flexibility of production or service provision	+0.44	0.10	4.19	18.62	0.87	0.76	0.00	12.64
Meet regulatory requirements	+0.37	0.10	3.65	13.94	0.86	0.76	0.00	11.63
Reduce unit labour costs	+0.30	0.10	3.13	10.13	0.85	0.76	0.00	10.59
Reduce consumption of materials and energy	+0.26	0.12	2.23	5.17	0.84	0.77	0.03	8.33

Source: Author's own study.

Investment in buildings and grounds was found to be statistically significant (see Table 5). All models are positive. The impact is quite strong: more than 40% for an increase in production capacity or service provision (0.41); for reduction of environmental impacts or improvement of health and safety (0.43); and for entering new markets (0.39).

All models occurred to be statistically significant for investment in technical equipment and machinery (see Table 6). Furthermore, models take positive parameters so the relations are positive.

The impact is about 20% and includes an increase in production capacity or service provision (0.82), an increase in the range of goods and services (0.78), and improved quality of foods and services (0.75).

Table 5. The effects of investment on buildings and grounds (1Ba)

Innovation effect	Parameter	S	T	Chi2	P1	P2	P	P1/P2 (%)
Increase production capacity or service provision	+0.5	0.08	6.70	44.83	0.41	0.23	0.00	43.90
Reduce environmental impacts or improve health and safety	+0.51	0.09	5.68	32.05	0.43	0.25	0.00	41.86
Enter new markets	+0.46	0.08	6.08	36.96	0.39	0.23	0.00	41.03
Improve flexibility of production or service provision	+0.37	0.09	4.31	18.41	0.39	0.25	0.00	35.90
Reduce consumption of materials and energy	+0.29	0.10	2.85	8.07	0.37	0.27	0.00	27.03
Reduce unit labour costs	+0.24	0.09	2.82	7.89	0.35	0.26	0.00	25.71
Increase range of goods and services	+0.22	0.07	3.01	9.10	0.32	0.25	0.00	21.88
Meet regulatory requirements	+0.21	0.09	2.40	5.10	0.34	0.27	0.02	20.59
Improve quality of foods and services	+0.17	0.80	2.21	4.92	0.30	0.25	0.03	16.67

Source: Author's own study.

Table 6. The effects of investment on technical equipment and machinery

Innovation effect	Parameter	S	T	Chi2	P1	P2	P	P1/P2 (%)
Increase production capacity or service provision	+0.53	0.08	6.24	40.70	0.82	0.65	0.00	20.73
Increase range of goods and services	+0.46	0.07	6.26	39.71	0.78	0.62	0.00	20.51
Improve quality of foods and services	+0.38	0.07	5.16	26.61	0.75	0.62	0.00	17.33
Enter new markets	+0.39	0.08	4.99	25.46	0.79	0.66	0.00	16.46
Reduce environmental impacts or improve health and safety	+0.39	0.10	3.98	16.42	0.80	0.68	0.00	15.00
Improve flexibility of production or service provision	+0.35	0.09	3.76	16.61	0.79	0.68	0.00	13.92
Meet regulatory requirements	+0.26	0.09	2.89	8.50	0.77	0.68	0.00	11.64
Reduce consumption of materials and energy	+0.28	0.11	2.57	6.78	0.78	0.69	0.01	11.54
Reduce unit labour costs	+0.22	0.09	2.52	6.48	0.76	0.68	0.01	10.53

Source: Author's own study.

All models were found to be statistically significant for investment in computer software (see Table 7). Models take also positive parameters in computer software support. The influence is rather moderate and

variable at about 22% increment related to an increase in the range of goods and services (0.78), entering new markets (0.88), and increased production capacity or service provision (0.80).

Table 7. The effects of investment in computer software

Innovation effect	Parameter	S	T	Chi2	P1	P2	P	P1/P2 (%)
Increase range of goods and services	+0.47	0.07	6.51	42.93	0.78	0.61	0.00	21.79
Enter new markets	+0.43	0.08	5.48	30.70	0.79	0.64	0.00	18.99
Increase production capacity or service provision	+0.44	0.08	5.37	29.79	0.80	0.65	0.00	18.75
Reduce consumption of materials and energy	+0.37	0.11	3.29	11.26	0.80	0.68	0.00	15.00
Reduce environmental impacts or improve health and safety	+0.32	0.10	3.29	11.08	0.78	0.67	0.00	14.10
Improve quality of foods and services	+0.25	0.07	3.40	11.54	0.73	0.64	0.00	12.33
Improve flexibility of production or service provision	+0.24	0.09	2.69	7.35	0.76	0.68	0.01	10.53
Meet regulatory requirements	+0.25	0.10	2.70	7.45	0.76	0.68	0.01	10.53
Reduce unit labour costs	+0.18	0.09	2.09	4.40	0.74	0.68	0.04	8.11

Source: Author's own study.

5. CONCLUSION

The effects of innovation are greatly facilitated by R&D expenditures and investments in new fixed assets, including buildings and grounds, technical equipment, machinery, and computer software. The most significant effects include quality improvements of goods and services (63%), increased range of goods and services (49%), and entering new markets (35%). Firms invest the most in new fixed assets (78%), but at the same time, only 28% of companies invest in buildings and grounds. The analysis sheds the light on the nature of relations between investments and the effects of those investments. The intensity of this influence depends on innovation activity. The highest values of influence concern investments in buildings and grounds (more than 40% increase), which may suggest that firms essentially invest to increase production capacity or service provision, as well as entering new markets. Furthermore, enterprises invest in research and development to increase the range of their goods and services. Important effects include the reduction environmental impacts or improvements in health and safety. The effects with the least influence include reductions in unit labour costs, consumption of materials and energy, and meeting regulatory requirements. Hence, costs and reductions in costs are not primary goals for firms.

The analysis has some limitations. It only includes nine effects of firms' investments. Such an approach considerably limits the interpretation of results and does little to help us gain a better understanding of the phenomenon. So as to reduce this gap, it is recommended that future research not only consider more effects of innovation, but also examine those innovation activities that concern implementations of innovation and innovation cooperation.

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The Impact of Information and Communication Technologies on E-culture.

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Abstract: Management through culture is an important aspect of conducting an enterprise. Culture in modern organisations has undergone transformations as a result of constant changes. Nowadays, a virtual organisation is among some of the most popular forms of organisations that adapt to current changes. Information and communication technologies (ICT) constitute a key determinant of the very existence of virtual organisations. E-culture is a type of organisational culture specific to virtual organisations. The aim of this paper is to evaluate assumptions concerning the impact of ICT on the organisational culture. Tests were performed on a sample of 92 information technology (IT) companies operating in Poland to evaluate a research hypothesis. Based on a statistical analysis, partial hypotheses, and consequently the main hypothesis, were evaluated to be true. The paper describes those aspects of e-culture that are affected by ICT to the greatest extent.

Keywords: e-culture, virtual organization, management, IT technologies

INTRODUCTION

Economic changes result in transformation within the organisations themselves which have to adapt to become competitive on a quickly changing global market. Those changes include: globalization, ICT development and economic crisis (M. Castells, 2009, pp. 335-336.). Changes in technology create a platform for possible global cooperation, communication and implementation of new solutions (K. Fujiwara, K. Shimomura, K. Wong, 2008, pp. 130-148). ICT induces the following modifications in the current economy:

- technology orientated towards information processing,
- omnipresence of new technologies,
- a network of economic and social systems,

- flexibility of organisational relationships;
- the combination of existing technologies in mutually related and integrated systems (M. Castells, 2008, pp.78-84).

ICT has resulted in an increased significance of organisational non-material resources (J. Low, P.C. Kalafut, 2004, pp.14). This particularly refers to knowledge as the fundamental resource in the modern enterprise (A. Sopińska, 2008, p. 104).

Transformation of economy into e-economy has changed patterns of organisational management (W. Grudzewski, I. Hejduk, A. Sankowska, M. Wańtuchowicz, 2010, pp. 19). It is vital to know the patterns of this alterations in order to adjust management of modern organization to contemporary challenges. Understanding the way technology influ-

ences the human side of an organization allows one to increase the control of it and furthermore improve its functioning.

VIRTUAL ORGANISATION

A virtual organisation is an innovative organisational form aimed at its adaptation to new challenges (A. Mowshowitz, 1986, pp.335-404). In recent decades, the popularity of this type of organisation has been observed.

The virtual organisation is defined as a network of collaborating organisations which take advantage of market opportunities by combining their key competencies based on ICT (R. Bauer, S.T. Koeszegi, 2003, pp. 26-46). Collaboration and mutual relationship of geographically dispersed partners are joined by ICT (M. Farkas, L. Török, 2011, pp. 74.).

Two perspectives on understanding the virtual organisation as part of management science can be distinguished: institutional trend (structural approach) and functional one (process approach). The institutional trend emphasizes the structure of the organisation, methods of its planning, configuration and its properties. On the other hand, the functional trend focuses on behaviours and processes related to virtualisation (W. Grudzewski, I. Hejduk, A. Sankowska, M. Wańtuchowicz, 2011, pp.177).

Virtualisation is connected with ICT, spatial dispersion and limited by the duration of existence/collaboration. With the technology, a short-term collaboration and geographical dispersion of partners are feasible. To sum it up, ICT is a basis for the virtual organisation (J. F. Coates, pp. 7-8 W.M. Grudzewski, I. K. Hejduk, 2002, pp. 39.). Electronic communication and collaboration via electronic tools are key aspects of the virtual organisation (H. Jagers, W. Jansen, W. Steenbakkers, 1998, pp.74.). The aspects of distributing information via electronic tools constitute key elements in that type of organisation (C. Lo, Y. Chang, K. Chung, 2012, p. 353). Technology is also used to execute a business strategy (Ch. Scholz, 2000, pp. 371; D. Tapscott, 1996, pp.10.).

The virtual organisation life cycle model demonstrates that it is just information technology that serves as a common platform for all participants in the organisation (W. Saabeel, T.M. Verduijn, L. Hagdom, K. Kumar, 2002, pp.14).

Innovative solutions provide the application of ICT tools (R. Perkowski, 2009, pp. 52). The research on modern enterprises confirms the impact of technology on innovation (A. Sankowska, 2009).

In conclusion, ICT is considered as one of the fundamental determinants of the functioning of virtual organisations. It is just the application of technological tools and the Internet for communication and resource planning within the virtual organisation that provide the existence of such a specific form of collaboration. For that reason, ICT technology is often pointed out as a factor determining the formation of virtual organisations.

E-CULTURE

Management through culture is a significant trend in current management science (R.M. Griffin, 2004, pp. 178). The traditional concept of an organisational culture, following E. Schein's definition, is a pattern of shared basic assumptions (E. H. Schein, 2004, pp. 17). The cultural organisation is interpreted with regard to management science as values and beliefs significant for a particular organisation (F. Luthans, J. P. Doh, 2012, pp.169). It is the platform determining activities within the organisation (J. Freiling, H. Fichtner, 2010, pp. 158). Defined as the organisational concept, it describes the appropriate behaviour in the organisation (D. Holland, S. M. Shemwell, 2014, pp. 72). Culture can be assumed as social cement in the organisation which holds its elements together.

The organisational culture is often understood in terms of metaphors interpreting culture as an emotional controller, social glue or a compass (M. Alvesson, 2011, pp. 17-40.).

Culture is extremely important for an effective organisation (K. S. Cameron, R. E. Quinn, 2003, pp. 72). As culture plays a crucial role in the organisation, it is important to understand changes observed in the organisation and the factors affecting it.

E-culture is a specific form of culture in the virtual organisation. Its distinctive features are variability, flexibility and innovation. E-culture is connected with the virtual organisation. R.M. Kanter, the e-culture researcher, described it with the following features:

- Creative,
- Transparent,
- Communication and cooperation oriented,
- Focus on objectives allows one to avoid conflicts,
- Spontaneous,
- Paradoxical,
- Attractive for key talent (R.M. Kanter, 2001, pp.7).

In summary, e-culture is such a type of organisational culture whose functions relating to targeting and integrating the organisations have been adequately adjusted to the requirements of the virtual organisation. This is also based on e-culture using, to a large extent, ICT. This paper describes e-culture in terms of its adaptive function to provide collaboration of scattered and temporary cooperating elements of the virtual organisation. It attempted to understand the link between technology and e-culture.

THE IMPACT OF INFORMATION AND COMMUNICATION TECHNOLOGIES ON E-CULTURE

The aim of this paper is to evaluate the assumption that ICT is changing culture in the virtual organisation. E-culture has been conceptualized by means of seven principles:

1. **Sense of community** – related to trust to the organisation, identification with it, and readiness to share information with other workers;
2. **Strategic orientation** – refers to the vision of the future, achieving targets of the organization, strategy understood and accepted by workers in the organisation;
3. **Leadership** – describes a creative and open-minded leadership relating to leaders' innovation and creativity;
4. **Collaborative teamwork**– means cooperation in teams, common attitude of personnel towards collaboration, engagement and participation in performing tasks;
5. **Communication** – refers to methods and forms of communication in the organisation, highlights

a direct and non-formal type of communication; confirms the appropriateness of communication;

6. **Adaptable structure of teams** – determines flexibility and adaptive features of working groups and variability of job tasks;
7. **Direct relationships** – refer to non-formal relationships among workers, and mutual contacts in the organisation (H. Bulinska-Stangrecka, 2015).

The aforementioned measurements are the base for analysing such a phenomenon in the observed enterprises.

The application of ICT in the enterprises was conceptualised in two ways: as a tool for electronic communication, and a common platform for collaboration in the form of systems for resource planning in the enterprise. Communication via ICT is mostly based on media communication whose participants, instead of direct interactions, are connected by means of technological tools e.g.: phones, e-mail, and messaging (Z. Necki 2005, pp. 20).

ICT used within the virtual organisation for communication purposes was operationalised as: frequency of use of ICT at work, where the surveyed enterprises were divided into a group with a low level of technology use (few times a month or less), and with a high level of technology use (once a month or more often). Collaboration supported by technology and ICT systems includes a sequence of professional activities (A.H. Anderson, R. Mcewan, J. Bal, J. Carletta, 2007, pp. 2558-2580).

The research hypothesis was made for the purpose of evaluating the assumption of this paper, and answering the research question: *How does ICT shape e-culture?* The research hypothesis was developed.

Table 1. Description of variables in the test.

	Variable	Operationalisation
Dependent variable	e-culture	Measurements: 1. community, 2. strategic orientation, 3. creative leadership, 4. collaborative teamwork 5. communication, 6. adaptable structures, 7. direct relationships
Independent variable 1	electronic communication	1. low level of ICT use for communication 2. high level of ICT use for communication
Independent variable 2	ERP systems	1. use of ERP systems in organisation 2. lack of use of ERP systems in organisation

Source: own elaboration.

The research hypothesis subject to evaluation is:

H1: ICT affects culture in the organisation.

Partial hypotheses were put forward as well:

H1a: ICT used for communication influences culture in the virtual organisation

H1b: ICT used for enterprise resource planning (ERP) influences culture in the virtual organisation

E-culture is a dependent variable, whereas ICT is an independent one.

LOGIC OF SAMPLING.

The performed test covered 92 IT companies operating in Poland in 2014. Selecting units for study was based on test results obtained by R.M. Kanter (R.M. Kanter, 2001) indicating that e-culture was most often observed in just IT enterprises.

The tests were conducted in the form of a survey questionnaire.

EVALUATION OF H1A PARTIAL HYPOTHESIS

For the purpose of evaluating hypothesis H1a: **ICT used for communication influences culture in the virtual organisation**, the analysis with Student's t-test was conducted during which the effect of used technology on individual e-culture measurements was evaluated: 1. community, 2. strategic orientation, 3. creative leadership, 4. collaborative teamwork 5. communication, 6. adaptable structures, 7. direct relationships.

The Student's t-test for independent samples confirmed the impact of technology on the sense of community - $t(80) = 2.83$; $p < 0.01$. It turned out that organisations with a higher level of technology use for communication had a stronger sense of community ($M = 0.31$; $SD = 1.13$) than those with a lower level of electronic communication ($M = -0.29$, $SD = 0.77$).

A series of the Student's t-tests for independent samples demonstrated that organisations with a lower level of technology use, i.e. using various tools for their work less often than few times a week, had a higher level of collaborated team work ($M = 0.20$; $SD = 1.06$) than those with a higher level of technology use ($M = -0.21$; $SD = 0.90$).

Diagram 1. Sense of community depending on technology level.

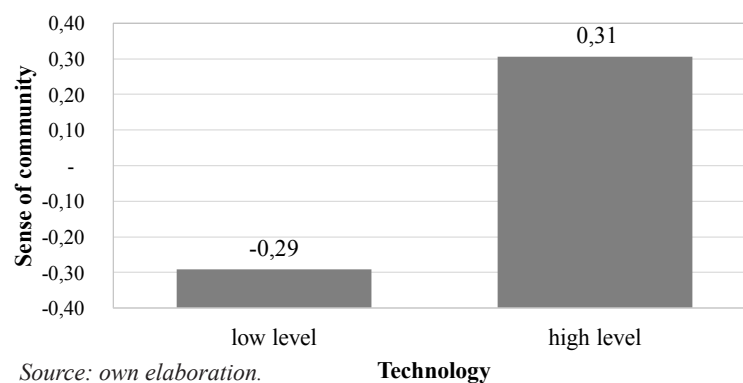


Diagram 2. Collaborative teamwork depending on technology level.

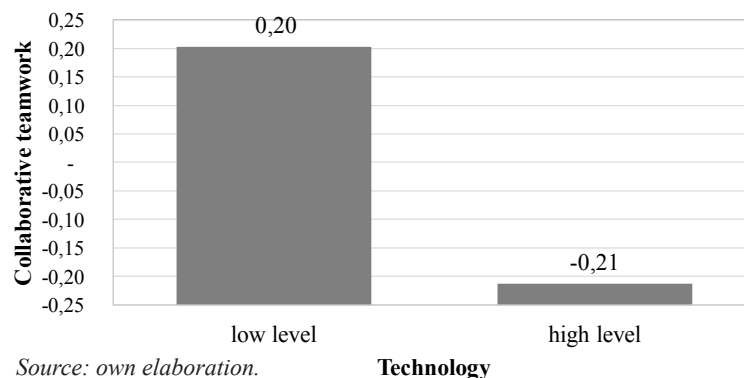
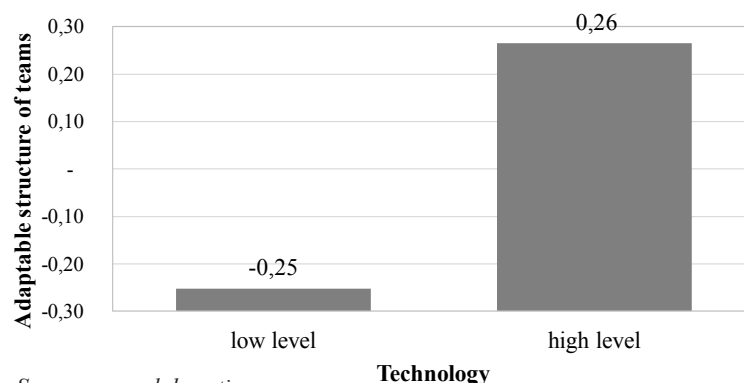


Diagram 3. Adaptable structure of teams depending on technology level.

Source: own elaboration.

Another analysis conducted by the Student's t-test for independent samples showed that the organisations with a lower level of technology use, i.e. using various tools for their work at least once a week had a higher level of adaptable structure of teams ($M = -0.25$; $SD = 0.94$) than those with a lower level of technology use ($M = 0.26$; $SD = 1.00$).

To sum it up, ICT used for communication had a significant impact on the following measurements of e-culture: sense of community, collaborative teamwork, and adaptable structures.

EVALUATION OF H1B PARTIAL HYPOTHESIS

For the purpose of determining the effect of using ERP systems on e-culture, a series of comparisons was made regarding various aspects of e-culture among enterprises using such systems or not. The analysis demonstrated that taking into account ERP use, the enterprises differed in terms of three e-culture areas – creativity and open-mindedness, teamwork and open communication. Each time, ERP use was related to a lower level of a particular e-culture aspect.

Table 4. Average level of rates for various aspects of e-culture among enterprises using ERP or not.

Aspects of e-culture	Does your organization work with ERP systems?	Average	Standard deviation
Sense of community	yes	-0.03	1.04
	no	0.20	1.01
Strategic orientation	yes	0.12	0.97
	no	-0.12	0.86
Leadership	yes	-0.08	1.09
	no	0.33	0.84
Collaborative teamwork	yes	-0.17	1.06
	no	0.23	0.80
Communication	yes	-0.33	0.81
	no	0.84	0.87
Adaptable structure of teams	yes	0.12	1.03
	no	0.00	0.95
Direct relationships	yes	-0.02	0.98
	no	0.09	1.12

Source: own elaboration.

Table 5. Summary of comparison test results for enterprises using ERP or not.

Aspects of e-culture	F	Istotność	t	df	Istotność
Sense of community	0.01	0.93	-0.87	71	0.39
Strategic orientation	0.89	0.35	0.99	71	0.33
Leadership	0.446	0.506	-1.56	71	0.12
Collaborative teamwork	3.293	0.074	-1.59	71	0.12
Communication	0.062	0.805	-5.52	71	0.00
Adaptable structure of teams	0.746	0.391	0.44	71	0.66
Direct relationships	0.25	0.619	-0.40	71	0.69

Source: own elaboration.

EVALUATION OF MAIN HYPOTHESIS

On the basis of analysing the partial hypotheses, ICT was assumed to have an impact on culture. Technology had a statistically significant impact on the collaborative teamwork, sense of community and adaptable structures. Technology use for enterprise resource planning also affected e-culture. Therefore, the research hypothesis presented in this paper has been regarded as confirmed.

CONCLUSION

The obtained results confirm the assumption that ICT shapes the culture. They present a wide scope of consequences from implementing technological solutions of communication and enterprise resource planning for functioning of the organisation. In terms of planning, awareness of consequences resulting from technology implementation is extremely crucial. The conducted tests have shown which measurements of e-culture are the most vulnerable to the impact of technology. Knowing that we can be more conscious while planning the implementation of ICT, particularly in the discussed areas. Additional tests indicate that e-culture is determined by technology.

Prospects for further tests include effects of technology on culture in enterprises from other sectors. It also seems appropriate to study the impact of other virtual aspects on e-culture.

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Chinese Innovation Policy After 1978 in a Cultural Context

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Abstract: The Chinese emphasize the importance of their innovation policy as a way of becoming a more powerful country. Generally, monetary resources and state policies were thought to be the leading factors that have contributed to China's growing number of patents and innovative projects. This paper discusses the role of cultural traits related to the China's innovation policy since the country started reforming its economy after 1978. A question arises whether culture has any impact on the achievements in the field of innovation, and whether those cultural attributes are positive or negative. Conclusions related to the question are derived from a process of deductive and reductive reasoning. The author finds that culture may both foster and stunt the creation of new ideas, and that culture does not play a crucial role, just an auxiliary one. Nonetheless, attention to cultural traits are important in understanding the driving forces of economic development of the People's Republic of China. Specific aspects of Chinese culture that are identified as having a positive influence on innovation are copying and modernizing, long-term orientation, the sociological concept of "face", the influence of the Chinese diaspora, and Chinese nationalism. All of these elements are intertwined to a degree, but are discussed separately. This work includes some fresh perspectives on a relatively narrow body of scholarly literature on the relationship between innovation in China and the nation's cultural traits. This relationship has just gained more attention recently.

Keywords: China, culture, national innovation system, Chinese economy

I. INTRODUCTION

China is currently the second largest economy in the world and it is only a matter of time when it will surpass the United States of America. One of the most significant factors of its economic growth is the innovation policy highly promoted by the government. This topic has been present in scholarly literature for a long time. However, the cultural roots of Chinese innovation have not been broadly discussed. The author of this paper finds this problem worth further study. It should be assumed that cultural aspects in innovation cannot explain all of the mechanisms of the Chinese economic policy. As a matter of fact, understanding these aspects would provide more clarity in understanding those mechanisms.

The thesis of this article is that culture has been a significant factor in Chinese innovation policy after 1978. The author underlines some chosen aspects in order to demonstrate this assertion. The importance of technological and scientific progress in driving economic growth cannot be understated. The country has increased its expenditures on research & development (R&D) in order to reach the strategic goal of creating a system of innovation designed to foster rapid results in modernizing the economy.

There are numerous sources covering the topic of the Chinese national innovation system, which is referred to as the NIS. The idea for the system was developed by the Chinese Academy of Sciences in 1998. From that moment the NIS has received the central

government's support and attention, and the system's results have reverberated around the world (Lu, 2001). According to Sun (2002), the Beijing government's focus on China's NIS has been characterized by the following points. First, there has been a much greater role of the government in terms of sponsored laboratories in the Middle Kingdom in comparison to those in the West. Second, again in comparison to Western countries, Chinese universities are quite less important in almost all activities concerning R&D. Third, the government plays a central role in creating and controlling the innovation system.

The problem of cultural aspects in China's innovation policy is not very vast in the literature. In the author's view the topic is underestimated but it is of great importance in China's case. In order to understand the relationship between this state's culture and the innovation system, several cultural aspects were studied. It should be noted, however, that there has always been a problem with combining such aspects with economic theory. Economists cannot incorporate them into their theories easily but further attempts are worth trying. The subject is important and it may be helpful in dealing with cultural relativism. This, in turn, could be useful, at least in theory, in transplanting some foreign cultural values that can support economic growth and innovation on to a familiar ground of any other country in need. It could also provoke discussion on this subject because a question may be raised whether culture plays any role in China's economic development through innovation.

2. LITERATURE REVIEW

The first researcher who used the term "national innovation system" was Lundvall (1992). However, there are also other authors who have addressed the concept, such as Freeman (1987) and Nelson and Rosenberg (1993). The topics of many studies since then that have focused on Chinese innovation include Chinese strategies for catching-up (Tang & Hussler, 2011), science and technology programs (Chen, 2003; Bao, Zhang, & Li, 2002; Huang et al., 2004), patent laws (Yueh, 2009; Hu & Jefferson, 2009), and clean technology (Tan, 2010; Kim & Lim, 1988).

As a matter of fact, it was Liu and White (2001), among others, who first observed the institutional and organizational changes of the NIS in China. Their perspective is close to the one covered in this paper. However, there have recently appeared some works in which authors have attempted to correlate the Chinese approach to innovation with Chinese cultural traits.

Kash (2010) asserted the importance of culture on the innovation of technological products and processes. He conducted interviews as part of case studies of innovation of 13 technology processes and products in China and five other countries. His findings seem to indicate the impact of different national cultures on innovation success in the various technology sectors, although further scientific research is needed as he suggests. Van Someren (2013) tried a different approach: looking at long-term strategic thinking that has caused China to "outgrow" mere imitation toward strategic innovation. According to Van Someren, one needs to know basic Chinese philosophy to understand where the country came from and where it is heading to. Therefore, he focuses on Confucianism and strategic thinking based on Sun Tzu's *The Art of War*. Van Someren's approach also considers national tradition, language, social customs, fairy tales, religion beliefs, literature, and modes of thinking, implying that the Chinese cultural context for innovation is completely different from one in other countries. This paper is therefore another attempt to cover this topic from a perspective including other aspects of cultural differences in the following paragraph.

3. CULTURAL ASPECTS OF THE CHINESE INNOVATION POLICY

3.1. Copying and Modernizing

It is obvious by now that the Chinese ability to innovate has been increased through government funding and state policy. Imitations are very common in the Chinese culture and although it has been stated in the literature many times that it is better to be an innovator, or pioneer, than an imitator. Shenkar's research (2010) appears to confirm that imitators manage at least as well as innovators and sometimes even better, arguing that 97.8 percent of the value generated by innovations goes to imitators. In certain conditions they look for interesting ideas, copy them and make them even better in terms of quality and price. This is the way the Chinese behave nowadays. They understand the advantages of such an approach. Those who follow have lower costs of research and development but also are not exposed to a high market risk of insufficient demand because the product already exists in the market.

It has been stated that imitation may be a more common strategy than innovation, but also a more profitable one (Golder & Tellis, 1993; Schnaars, 1994). It takes place in several degrees from sheer copying to modernizing, which is a kind of creativity. This very example is the main focus of the Chinese. It was not only Shenkar (2010) who has observed the advantages

of the imitation strategy. Cho et al. (1998) and Shankar et al. (1998) acknowledged the advantages of imitation strategies based on historical analysis and case studies. It turned out that latecomer strategies allow the imitators to grow faster, slow diffusion of the original innovators, and allow the imitators to finally overtake the innovators. However, those who just copy and are not creative enough meet a smaller market, lower repeat rates and their marketing is not so effective in comparison to innovators.

Imitation is a Chinese cultural characteristic. According to Confucius, one could become a noble man mostly by imitating the *xué* of the ancient sages. Later on this term *xué* became synonymous with learning. From ancient times learning did not lead to creating new things, but rather to imitating things and ideas that had already existed. This has had a profound effect on Chinese culture. On the other hand, innovators enjoyed a high profile in the society. Such a dichotomy does not have to be contradictory according to the Chinese.

This Confucian spirit is shared by countries that have been influenced by the civilization of the Middle Kingdom in their history. This is why Japan, Singapore and South Korea rank very high in the global innovation index. As a matter of fact, for a very long time the Chinese civilization was one of the leading innovators in the world. According to the British Sinologist Dennis Twitchett, total technological inventions of China between 221 BC to 1644 accounted for approximately two-thirds of the world total (Shao, 2011). It was a set of internal and external factors that ended this period of innovative capacity (e.g. political unrest, the Opium Wars, the Taiping Rebellion).

Another reason why China got behind the Western countries, although it was at the same level of scientific development, could be that it felt superior over other cultures and it was such ethnocentrism that turned out to be harmful to its scientific development. The Chinese just did not pay attention to the science in the West. Moreover, the Qianlong Emperor (1711 - 1799) stated in a message to Britain's George III: "*We possess all things. There is therefore no need to import the manufactures of outside barbarians in exchange for our own produce*" (Micklethwait, Wooldridge, 2005: 7). On the other hand, Hsu (1981) links Chinese stereotypical thinking, uncreative behaviors and uncritical fatalism to collectivism.

3.2. Long-term Orientation

According to Hofstede and Hofstede (2007) China takes first place among 39 countries and regions in the

world in terms of long-term orientation (LTO). Michael Bond called this feature Confucian dynamism (Chinese Culture Connection, 1987). This kind of orientation emphasizes developing virtues that may be viable or profitable in the future. It has already been proved that there is a positive correlation between LTO and economic growth and particular values instrumental in that were also specified. These are especially frugality, prudence and perseverance (Hofstede, 2007).

Long-term orientation, present in Chinese innovation policy, has proven to be beneficial as part of China's incremental attempts to regain a position as a great power in international politics. This process has been taking place since 1978. The Chinese make use of great amounts of low-cost labor and capital in many innovation opportunities. A premise very characteristic of Chinese innovation policy, which is also found in India and Brazil, is that valuable discoveries can be found among so many ideas from a huge number of talented members of the society. Companies therefore very often establish long-lasting relationships with institutions that can provide such a pool of human resources; institutions such as universities, trade associations, or venture incubators. Chinese state policy is fundamental in triggering and propping up LTO behaviors. There have been already five National Science and Technology conferences since 1978 which have been instrumental in developing China's national innovation system (Table 1).

Eloquent of long-term orientation in Chinese culture, is China's drive for clean technology, which began approximately 14 years ago. It became obvious then that the traditional way of economic development and becoming the world's factory, would bring disastrous effects of pollution on the natural environment. Increasing energy consumption has also been a substantial factor in making the country the world's largest gross emitter of greenhouse gases.

With the long-term orientation the Beijing government treats investment in clean technology especially renewable energy, as an effective way of dealing with the air pollution as well a remedy for a potential energy crisis. China's National People's Congress approved in 2011 (14th March) a new five-year national development programme through 2015. Its 12th Five-Year Plan stresses "higher quality growth" because the sustainable development problem has become of paramount importance (Table 2). The country faces resource depletion, expanding intensive energy use, and has to spend an increasing amount of money on dealing with the natural environment degradation.

Table 1. Chinese National Science and Technology Conferences

Time	Name of the conference	Important issues
March, 1978	National Science Conference	Deng Xiaoping stated that science and technology are a productive force; intellectuals are a part of the working class and S&T is fundamental to the four modernizations.
March, 1985	National Science and Technology Work Conference	Deng Xiaoping gave a speech entitled “The Reform of the S&T System is for the Liberation of Productive Forces”. He also announced some decisions regarding reform of the S&T system. From this moment, China started its reform of the nation’s NIS to enhance its economic orientation.
May, 1995	National Science and Technology Conference	The “Strategy for Revitalizing China through Science and Education” was promulgated by the government. Guidance and policies regarding acceleration of S&T development were issued. It was decided that economic development should rely on the progress of S&T.
August, 1999	National Technology Innovation Conference	The government unveiled the “Decision on Strengthening the Technological Innovation: Developing the High Technology and Realizing Industrialization”. This policy called for the creation of a NIS and stated to accelerate the industrialization of S&T production.
January, 2006	National Science and Technology Conference	The government issued a new innovation strategy as well as the “Medium-to-Long-term Plan Outline for Development of National Science and Technology (2006-2020)”. This plan set the goal for China to become an innovation-oriented country by 2020.

Source: OECD (2008: 381-393)

Table 2. China’s 12th Five-Year Plan: Seven Priority Industries and Key Non-economic Targets

Priority number	General guidelines	Specific means
1	New energy	Nuclear, wind and solar power
2	Energy conservation and environmental protection	Energy reduction targets
3	Biotechnology	Drugs and medical devices
4	New materials	Rare earths and high-end semiconductors
5	New IT	Broadband networks, internet security infrastructure, network convergence
6	High-end equipment manufacturing	Aerospace and telecom equipment
7	Clean energy vehicles	-

Key Non-economic Targets

1	Increase in non-fossil fuel use to 11.4%
2	Reduction of energy use per unit of GDP: 16%
3	Reduction of CO ₂ emissions per unit of GDP: 17%
4	Increase forest coverage by 21.66%
5	Decrease pollutants COD and sulfur dioxide by 8% each

Source: Based on KPMG (2011).

Tan (2010) claims that China is aware that the next phase of its S&T revolution will focus on clean energy. Therefore, it is determined to emerge as a global power in the development of science and technology. By becoming a pioneer in the clean energy revolution the Middle Kingdom hopes to change the label ‘made in China’ to ‘created in China’. It is obviously another method of gaining face. It is China’s Ministry of Science and Technology (MOST) that sets national S&T plans. There are two main programs instrumental in achieving these goals (Ibidem):

1. The 863 Program – known also as the State High-Tech Development Plan. It was founded in the third month of 1986 (hence the name) and was to stimulate creating and enhancing advanced technologies in order to let the country be independent of financial obligations for foreign technologies;
2. The 973 Program – known also as the National Basic Research Program. It was founded at the third meeting of the National Science and Technology Committee in 1997 (hence the name) and its focus was on energy, environmental protection and natural resources conservation.

Levine (2010) reports that there are two main reasons for China investing in clean technology and energy and they are compatible with what has been said earlier. These are: aspirations for a less oil-dependent world and for a more prosperous one. They are reflected in a global drive for a more advanced battery. It will change electric car industry and will position it on a par with the pharmaceutical industry by 2030.

3.3. Face

This term may be defined in several ways. Goffman (1955: 213) stated that this concept may be defined “*as the positive social value a person effectively claims for himself by the line others assume he has taken during a particular contact. Face is an image of self-delineated in terms of approved social attributes*”. Ho (1976: 883) finds that face “*is the respectability and/or deference which a person can claim for himself from others, by virtue of the relative position he occupies in his social network and the degree to which he is judged to have functioned adequately in that position as well as acceptably in his general conduct*”. On the other hand, in the view of Huang (1987: 71) face “*is a sense of worth that comes from knowing one’s status and reflects concern with the congruency between one’s performance or appearance and one’s real worth*”. Whatever the definition, it should be noted that the

concept of face concerns mostly individuals, though it may be more broadly applied to a macro scale and cover whole societies and even states.

Understanding face concerns leads to a better understanding of conflict styles between the collectivist and individualist cultures, but also between China and the rest of the world. It is crucial to note that China’s history is full of moments when it suffered humiliation at the hands of other powers. In this respect the drive for innovation may be seen as a peaceful way of building Chinese power. According to Bond and Hwang (1986), behaviours for saving and enhancing one’s face in the Chinese society can be classified in terms of the target of the face behaviour. There are six categories:

- 1) enhancing one’s own face;
- 2) enhancing another’s face;
- 3) losing one’s own face;
- 4) hurting another’s face;
- 5) saving one’s own face;
- 6) saving another’s face.

Bond and Hwang add that “*one’s face is more interconnected with that of others, and its protection and enhancement more disciplined by concerns about hierarchical order in Chinese culture than in more individualistic egalitarian cultures*” (Ibidem: 249).

When it comes to macro scale and investment in innovation, enhancing face of the Chinese nation and also its saving face behaviour seem to be proper in this context. First, it is a matter of particular qualities that are cherished by other countries. China tries to enhance its status in the international arena by showing off qualities that count, that is, innovation among others. Second, losing face is a historical experience that China wants to avoid. Therefore, it develops areas that can lead it to a more powerful economic position, which then can improve its defence capabilities.

3.4. Diaspora Influence and Nationalism

The Chinese diaspora is an important source of social capital and it is instrumental to a degree in the economic development of China. There is an increasing abundance of scholarly papers confirming that social ties are important in gaining new markets (Johanson & Vahle, 1992; Chen & Chen, 1998; Zhao & Hsu, 2007). There is a main problem in defining the term and estimating the size of the diaspora. In view of the fact that the majority of foreign direct investment

in China comes from Hong Kong, Macau and Taiwan, which are inhabited by ethnic Chinese, it is easy to realise the significance of the diaspora.

Social networks allow information to move faster and cross borders of the states. They also make various investments easier, especially in the field of information and communication technologies. What counts here is trust and it is reflected among the Chinese in the form of *guānxi*. It is particularly useful in the face of underdeveloped legal infrastructure in the emerging markets. Such networks in the form of *guānxi* make doing business a lot easier but they have no direct equivalent in the West. They are far more important for the Chinese and their depth is usually much greater. *Guānxi* has often been present due to lack of trust in law allowing for creation of trust in business and personal matters.

Members of the diaspora are also instrumental in exchanging ideas and making connections between people (*The Economist*, 2011). Many of them are graduates from Western universities. When they come back to their homeland they possess abundant knowledge and social networks outside of China. The technology industry in the Middle Kingdom has been dominated by those who lived overseas and came back home (*Ibidem*).

Multinational corporations which are active in the PRC often make use of middlemen who lessen the risk by knowing the business environment, and having access to local politicians. The Chinese from the diaspora play this role perfectly. Their presence makes economic agents change their strategies in such a way that the agents utilize their contacts. This has been common since 1978. Not only are multinationals interested in members of the Chinese diaspora, but so is the Chinese state. Biao (2008) identified that majority of over 50 Chinese laws and regulations related to capital transfers, taxes, etc. and implemented between 1978 and 1990, were in fact, specifically designed to encourage citizens of the PRC living and working abroad to return to the PRC.

According to a report published by the Chinese Academy of Sciences dated from 2007, 1.06 million Chinese went abroad to study between 1978-2006. What was most striking was that only 30 percent came back home. When it comes to engineering and the natural sciences, among the key fields of the modern economy, it turned out that approximately 90 percent of the graduates stayed in the United States (Tung, 2008). The report indicates the following reasons: (1) higher incomes abroad; (2) better prospects for employment; (3) better working conditions; (4) a higher

standard of living and a better quality of life; and (6) superior R&D facilities. The brain drain increased with expanded Chinese government funding of studies outside of China during the 1980s and 1990s. At present, it is increasingly more common for the Chinese to pay for studying in a foreign country, and as a consequence, there is no obligation to come back to China (*Ibidem*).

The PRC has taken prompt action in the face of this phenomenon. The country with its long-term orientation started dealing with it in a specific way. It did not want to fight it. Instead, it started to change its policy. At the very beginning the graduates staying abroad were being criticized, but later on they were being encouraged to come back to their homeland. A law was passed in 1991 that encouraged Chinese living and working overseas by giving them privileges after their return, such as preferential tax rates and protection from remittances. Apart from these administrative steps the state tries to foster strong ties between the homeland and Chinese throughout the whole world. Beijing's message is that they are part of the Chinese family inherently bound to the Chinese land irrespective of the date of their emigration or their place of residence. The authorities underline emotional ties with the country through programmes; examples include a programme which enables ethnic Chinese to discover their ancestral roots, while another facilitates overseas Chinese to attend summer language courses (Kinglun, Cheng, & Cheng, 2004). In the course of globalization and reforms the government has tried to gain access to the financial assets of the diaspora by binding their members emotionally with the country and giving them face (Hsu, 2000).

Smart and Hsu (2004) claim that the PRC focuses on developing state-of-the-art technologies and that it acknowledges the important role the diaspora plays. Citizens of the PRC or people of ethnic Chinese origin outside of the PRC are encouraged to "serve the country" and shades of nationalism are used by the authorities. The Beijing government offers generous incentives to attract and make use of the many experienced and talented Chinese outside of the homeland. There are over 53 science parks or industry parks created by the central government and by the municipal governments to foster the development of advanced technologies and innovation (*Ibidem*). The government sees emigrants not as a sign of brain drain and a loss, but as a resource kept beyond the borders of the state. This human resource is for future use. One indication of this is the large number of Chinese scientists working abroad who support China by teaching in a foreign country while organising joint research. There

Table 3. Reasons Selected by Overseas Mainland Academics (living in the USA and Canada) for Cooperating with China

Reason for cooperation	Score
promote the quality of research in China	225
make China stronger	102
establish personal relationships	80
attract good graduate students	70
high quality of collaborators	48
costs are cheaper	36
I conduct research in China, so I need to cooperate.	29
I want to be visible in the mainland.	18
access to research money	13
Total	621

Notes: N=94 for the USA, N=59 for Canada. First choices were given 5 points, second choices were given 3 points, and third choices were given 1 point.

Source: Zweig, Fung, & Han (2008: 26)

are many programmes of scientific exchange which draw a strong response from Chinese of the diaspora. The reasons for them are shown in Table 3. It should be noted that a nationalist trait is also present there and ranked second.

The Chinese diaspora continues to be a very important component in the PRC's attempts at accelerating innovation. They are very active in industrial espionage obtaining information that enables the government and economy of China to advance by leaps and bounds. This topic has not been researched in detail due to obvious reasons. It is mainly present in the news or various reports in the Western countries, e.g. by The Office of the National Counterintelligence Executive (2011) in the USA or by *The Economist* (2012a). On the one hand, it is nothing new, while the Chinese act like now-developed countries did during the Industrial Revolution and later.

Their government's aim is to save the means (or any resources in general) spent on research and development by copying the essential information regarding specific applications. What arouses its interest are technologies helpful in obtaining technological advantage but not only this. Cases of theft are also common in agriculture (new seeds and grains), advances in paint, science or other areas (*The Economist*, 2010 and 2010a). On the other hand, the new phenomenon is that China has adopted its military cyber espionage

strategies for business purposes and they are being used extensively (Rogin, 2010).

4. CONCLUSION

Chinese innovation policy after 1978 has been led by strict objectives in the minds of the country's rulers. Some cultural aspects in the formulation and implementation of this policy can be observed. The development and pursuit of science and technology in China has not been only a matter of money and policy. Although state capitalism works well to a degree, some limitations or disadvantages are also visible. A distinctive characteristic of the Chinese economic system up until the present has been the copying and adapting of other people's ideas. Fong (2011) states that Chinese companies are masters of second-generation production and process innovation. There are problems of separation of innovation and the economy while companies lack sustained interest in involving national educational institutions in research and development (Cao, Simon, & Suttmeier, 2009). It seems that indigenous cultural aspects indeed spur as well as stunt the Chinese system of innovation. A very crucial premise of innovation is to allow people to engage in different ways of thinking. Many Chinese scientists have relative freedom of speech and thought. However, within China there is no real autonomy of thought, nor is there free access to the

global information flow. When it comes to any dissent, scientific or political, they are not tolerated (Ibidem).

It has been attempted in this paper to underscore other-than-economic foundations of innovation development in one of the fastest developing countries in the world. The number of Chinese patents has been increasing substantially every year. China can justifiably claim to have a distinctive and successful, albeit non-liberal, model of economic development. In the opinion of the author the factors for Chinese success, are in large measure, cultural in origin. A question may arise about the relative hierarchy of the factors briefly reviewed in this article. Regardless of the degree of importance of the aforementioned cultural factors, however, it is the total impact of these very Chinese elements that contribute to Chinese success. Beyond the rubric of money or political will, the Chinese cultural environment appears to provide for a smoother implementation of economic policy guidelines.

Innovation requires some risk taking, which in China means going beyond the borders of Chinese culture, a cultural legacy that rewards obedience and harmony in the society. New concepts may make people feel uneasy. One solution to this problem could be to give more space for experimentation and allow investors to risk money on some ideas and bear all the consequences. However, more solid evidence is required in further studies to support this proposition. The position of the government in Beijing will surely evolve in order to give its citizens more freedom in order to enhance the state's innovation capacity.

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Values as the Basic For a New Approach to Business Management

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POLAND

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Abstract: Contemporary businesses operate in a dynamic environment and a reality of unprecedented changes in labor markets that create a new aspect of competition – competing for talent. In order to attract and keep talented and committed employees for years to come, it is necessary for firms to change their own approach to managing, by turning to the management by values. The first step is to understand which values are important in life and in business. Based on long-term experience of the authors, four groups of values relevant to business can be identified: fundamental, purpose-oriented, ephemeral, and destructive. Each of these categories respectively characterize specific postures: hero, lord, celebrity, and player. Defining the values of an organization and their effective implementation is the basis for the organization's further development, as demonstrated by numerous examples of companies in the global market. However, the importance of the concept of values management, utilized for years by the authors in their professional careers, is beginning to be widely recognized among small and medium businesses, and therefore, its use is expected to expand in area of business in the future.

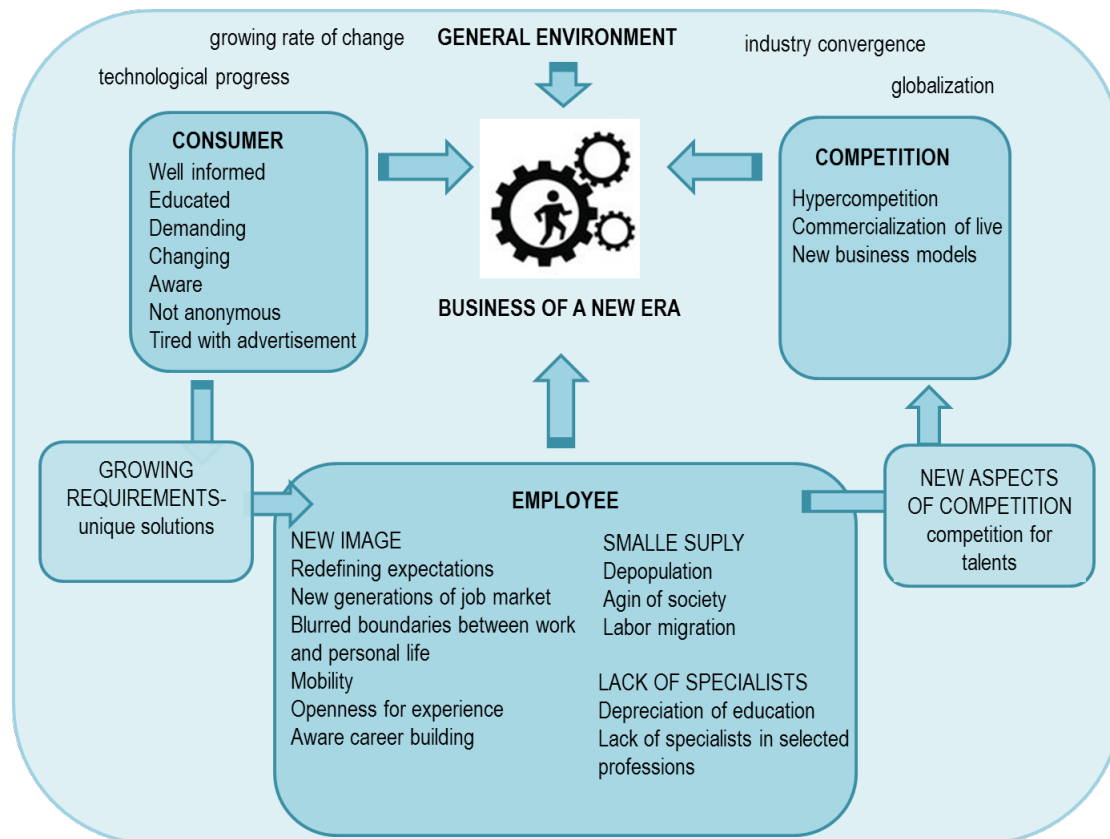
Key words: values, managing by values, values in business, postures in business, competition for talent

I. THE EVOLVING ENVIRONMENT AND A NEW APPROACH TO BUSINESS MANAGEMENT.

Contemporary businesses, both in Poland and abroad, operate in an ever changing, unpredictable, and turbulent environment (the “turbulence economy” ceased to be composed of cycles that are predictable on a macro scale, managers today have to be prepared for a “new normality” that involves risks and uncertainty resulting from fluctuations and painful impacts [Kotler, Caslione, 2009, p.34-35]), Today, people experience technological revolution on an unprecedented scale, and the progressing globalization and convergence of industries forces us to redefine the environment in which we operate. In this new reality, managers

attempt to get new customers, meet their needs and find their place in this new competitive environment. Entrepreneurs also try to understand the expectations and underline the significance of the employee.

At the present moment, competition ceases to be analyzed solely from a local or global perspective but more from a behavioristic point of view. Subject literature already speaks of hypercompetition, characterized by rapid and intense twists, deregulation, new models for running businesses, etc. Moreover, we can observe an intensification of the commercialization of life (no more than fifteen years ago universities taught their students during marketing classes that the subject of marketing was only products or services). Currently due to the advancing of commercialization, as many

Illustration 1. Evolving environment of a contemporary business.

Source: own work.

as ten or more subjects of marketing are presented to students; aside from the aforementioned products and services, the subjects of marketing include: individuals, events, experiences, places, tangible and intangible assets, organizations, information, and ideas. [Kotler, Keller, 2012, p.57]

Thanks to the Internet, a contemporary consumer is well informed and better educated, so thus he is more aware and conscious of the surrounding reality (including social and environmental awareness). A specific feature of the new consumer is a lack of anonymity (at present, more than 70% of people are willing to share their personal data in exchange for certain profit) [Dziwińska, 2014, p.38]. The variety and openness of the surrounding world combined with the willingness and ability to experience new innovations further individualize the consumer's needs and wants. Consumers frequently combine seemingly conflicting and contradicting elements, often making it a tool for expressing their identity [Bartczak, 2014, p.39]. A sign of our times is an increasing irritation and indignation with advertisement (Poles are becoming increasingly

annoyed and displeased with advertisement – over 40% declare a high degree of irritation with advertisement – and that number will most likely continue to grow) [Banera – Sikorska, 2013, p.21].

A better-educated and well-informed consumer, who is exacerbated with advertisement is a more demanding client, who expects a product or service that is adapted to his needs and openly declares a hedonistic search for pleasure in their everyday life. To meet their expectations requires coming up with unique solutions, therefore they make for a great challenge to businesses, a challenge that can only be met by employees who are well prepared and committed to their job. This is where a precise study of the modern labor market becomes necessary. The results of global surveys leave no doubt that the global economy is facing a workforce crisis which will particularly affect highly-qualified personnel [www.ted.com 06.2015] and confirms the evolution of expectations of employees who are now better educated, more mobile, and focused on here-and-now satisfaction [Dolan, Richley, Garcia, Lingham, 2008]. The deteriorating supply of workers in the workforce

is also connected with depopulation and the aging of society. According to the latest population forecast for 2008-2035, the population of Poland will continue to decrease, while the rate of the decrease will escalate with the passage of time [Nowak, Waligórska, 2008]. The ratio of mobile-aged population (18-44 years of age) to non-mobile aged population (45-60/64 and more) will change dynamically. This is accompanied by temporary labor migration (according to various estimates, about 2 million people have left Poland since the day of accession to the European Union) [the report from The Polish Human Resources Management Association]. Apart from a general digression in the supply of employees, businesses are facing an ever increasing shortage of qualified specialists. One reason of this problem is the lack of specialists in new professions, another is the degradation of higher education which is the result of universities who are out of touch with the realities and practices of business.

These objective changes in the job market along with a new image of the contemporary employee gains its significance in the face of the aforementioned shortages. Today, the separation of professional and personal life often becomes blurred and obscured in the life of employees. Work duties consume more and more of their free time, physical strength, and emotions. A great deal of employees work almost 24 hours a day and in their free time they also perform job duties remotely, utilizing advanced technologies (telephone conversations, e-mail, etc.). Their thoughts in their free time often center around work-related problems, which in consequences leads to an increasing number of people who perceive work as their main purpose in life (of which they are often unaware, or even unwilling to admit). Contemporary employees are definitely more open to new challenges and experiences, who often have a charted and planned path of their career development, which they consistently follow. This in turn makes them more mobile and ready and eager for changes and developments in their lives in exchange for the opportunity to complete another stage in their chosen path of professional development.

A new generation is entering the job market in Poland, the so-called "Millennium Generation" or "Generation Y". This age-group consists of well-educated people who often speak more than one language fluently, who are capable of finding information in no time and fast learners with multitasking skills, who are ambitious and effective in the attainment of their aims. However, their priority in terms of employment is not money, nor job stability. What is most important for them is that their job should be interesting and

provide opportunities for further development. Also, they expect that their employer allows for an open exchange of opinions in the workplace and isn't rigid in his interactions with employees [Nowak, 9/2014 p. 14-16]

The results of global surveys leave no doubt that we are witnessing a process of redefining the expectations of employees towards employers. Among 26 points on the list of factors that proved most motivating for work, remuneration came up as eighth, a good relationship with management came fourth, and the opportunity to find a balance between personal and professional life came third. The second most motivating factor was a good relationship with co-employees and number one was the sense of being appreciated for their work. The mentioned process of redefining proves that the changes in job markets take on a more personal form – people seek recognition and affirmation. [TED Conference 06.2015].

This new image of a contemporary employee and their role in the development process of an organization expand the aforementioned conditions of competitive situation of a contemporary business by one more important aspect – the competition for key talent. Companies wage "wars" for key talent (90% of surveyed CEOs declared that attracting and keeping talented individuals was one of the main priorities of their organization) [Robinson, 2010, p.32-35]. One effect of this field of competition is the emergence of employer branding. Employees aware of their skills and knowledge, having professional experience backed with success, search not only for information on the potential employer prior to employment but also additional communication with current or former employees to verify the quality and appeal of job offers. In order to attract, train, and keep talented employees to make them good and reliable representatives of the employer's business, it becomes necessary to meet their needs, mostly related to a certain group of values, organization culture, interpersonal relations, and proper leadership.

2. THE NATURE AND THE LIMITATIONS OF THE NEW APPROACH TO MANAGEMENT.

All the above phenomena made business managers realize that a milestone is necessary in the evolution of the approach to management. The first approach to management, MBI (Management by Instructions), was used in the 1920s when industrial production dominated over services and work was relatively simple,

usually only requiring good performance of repetitive and menial activities. With the development of business organizations, the development of services and increase in their significance to the economy in the 1960s, a concept of MBO (Management by Objectives) was formulated. In this approach, the supervisors only determined the objectives and each of the managed employees choose their own path to accomplishing their duties. This idea binds managers to the purpose of the organization, while providing them a sense of satisfaction with working with employees. It was then found that a new approach had to be developed to gauge the employees and employer's expectations. Until then, employees had only been seeking job stability, and in return, the company had expected obedience and due diligence for a set wage. However, a new system appeared with time, a system where the employee was ready to take the initiative in exchange for opportunities to develop his career [Hesselbein, Goldsmith, Beckhard, 1998, p. 43-44]. At the turn of the 21st century, it became apparent that the science of management in a rapidly developing, globalized world was already inadequate to the needs of managers. Furthermore, despite numerous attempts, managers were even unable to clearly identify their situation after a series of epochal changes in the business environment that took place which they could not predict. This was a major cause for frustration and sparked attempts to search for theories that allow to understand human behavior much better [<http://ceo.cxo.pl/>]. The answer to this question is the new theory of MBV (Management by Values). According to this approach, people are more effective and ready for a tremendous commitment and utilization of the resources of creativity only when the job they do allows them to pursue the values and needs that they personally hold dear [www.wolterskluwer.pl/czasopisma].

However, opening up for change, especially in an area as sensitive as one's mindset and approach to problem solving, is a very difficult process. Cardinal Stefan Wyszyński said: "*It is easier to change the system than to change a man*" [www.cytaty.bstok.pl], and the history of changes in the praxis and scientific study of management confirms that beyond all doubt.

The scale of the difficulty to change the science and approach to management is proven by the fact that theories spread at the end of the 19th century by Marry Parker Follet, a trendsetter of behavioral approach to management, such as the need to understand the role of a person and their behavior in an organization, the fact that people should not "report to somebody" but rather need to "be accountable

for something", or the fact that people need to work "with one another" and not "on themselves" or "under somebody" so that the entire organization may work effectively [Encyklopedia zarządzania, www.mfiles.pl] became manifest only many years after her death. The same goes for the mid-20th century story of William Edwards Deming, the supporter of the new approach to management and a propagator of the ideas of quality management. He posited that quality is not a feature of a product but rather the degree of meeting the consumer's expectations. He called for a focus on quality and brand building and for the active participation and commitment of the team of employees. He developed 14 innovative rules for the operation of organizations yet he would not find recognition in America, despite the clarity of his postulates. In contrast to American managers, Japanese managers more eagerly and actively implemented the rules he proposed. This led the Japanese economy, having been poorly managed and completely devastated after World War II, to match or even surpass the USA in many areas in the early 1990s, thanks to the period of implementation of Deming's principles in the 1950s and 1960s¹. It was not until the 1980s that Deming's ideas became popular in his native country (when he was 80 years old), where he had spent most of his life propagating his theories. The example of a change to the approach to management, propagated by W.E. Deming, visualizes two aspects. Firstly, a change in the approach to management is a very difficult process, and secondly, it even takes years to see the effects of decisions in this area, therefore implementation requires consistency and patience. It is likely that those requirements are causing many businesses to ignore the necessity to change their approach to management towards managing by values, when planning the business development. Additionally, another reason for little interest in managing by values may come from the difficulty to understand its concept by a great number of managers, and from its humanistic approach to the art of management.

3. THE NATURE OF VALUES

The creation of an organization that puts values in the center of its operation requires a thorough and complex understanding of the natures of values. An orientation on values shows what people consider

¹ For instance, between 1982 and 1988, 96 500 international patents were registered, with 18 500 in the USA, and 15 100 in Japan. In 1985 Japan began the biggest car manufacturer in the world (11.4 million cars produced in Japan in 1993, 9.5 million in the USA; in 1992, 5.7 million cars were exported from Japan, and only 0.9 million from the USA). Source: www.deming.org

important conflict resolution techniques and how they search for their purpose in life [Mariański, Zdaniewicz, 1991, p.14]. Value systems determine the general course of action of both individuals and social groups, because they form and shape human personality. The pursuit of values improves and augments human existence. Values form the criteria for making everyday decisions and so determine an individual's behavior [Rockeach, 1973, p.5]. The subject literature and my own observations reaffirm the thesis, that values are those ideas that are most cherished and valuable in a person's life, which determines moral norms and rules, allowing a person to develop oneself and achieve satisfaction in their spiritual, personal, and professional life, while causing no disservice to our peers.

Literature on the subject matter presents several methods of categorization and classification of values.

The most common is Rockeach Value Survey that divides values into terminal and instrumental. Terminal values are autotelic, they hold value for themselves, they help answer the question "who do I want to become?" Autotelic values refer to the most important and final purposes in life, and help maintain spiritual harmony. Instrumental or heterotelic values are means of achieving higher values [Małysa - Kaleta, 2012, p.35], that help answer the question "how to do it?" These values determine the necessary course of action, the desirable modes of personal behavior and they enable an effective pursuit of assumed personal, professional and social goals [Wędzińska, www.repozytorium.ukw.edu.pl].

When deliberating about the abovementioned values, the Schwartz value scale is also often employed. Apart from identifying values, it also establishes the so-called "motivational areas" such as independence, stimulation,

Table 1. Value scale classification.

TYPE GROUPS	ROCKEACH VALUE SURVEY (terminal values limited to 13 by Munon and McQuarie)	SCHWARTZ VALUE SCALE	KAHL VALUE SCALE
<i>COGNITIVE</i> (gaining knowledge and skills, intellectual and perfectionist values)	a sense of accomplishment wisdom	self-enhancement (ambition, competence, being influential, achieving success, intelligence, self-respect)	personality development, a sense of accomplishment
<i>MORAL</i> (worldview and existence)	Self-dignity freedom of behavior and decisions inner harmony a world of beauty	universalism (equality, harmony with nature, capability, a world of beauty, social justice, a world of peace) security, independence, spirituality, tradition, comfort (obedience, politeness)	respect for others, security, self-respect
<i>EMOTIONAL</i> (experiencing strong emotions)	an exciting life	stimulation (an exciting life, diversified life, courage)	a need for stimulation and excitement
<i>PRESTIGIOUS</i> (social recognition, professional career, social status)	social recognition	strength, power, authority (having authority, maintaining a good image, social recognition)	
<i>PLEASURE-ORIENTED</i> (easy, entertaining life)	pleasures	hedonism (pleasures, pleasant life)	pleasure and joy of life
<i>MATERIAL</i> (consuming lifestyle, material profit)	wealthy life		
<i>SOCIAL</i> (judging other people and interpersonal relations involving the individual)	equality among people true friendship	benevolence to others (being honorable, responsible, loyal, having true friends, being forgiving and obliging)	a sense of belonging hearty interpersonal interaction

Source: own work based on subject literature.

hedonism, self-enhancement, power, security, comfort, tradition, spirituality, benevolence, universalism, and the Kahle value scale [Małysa - Kaleta, 2012, p.35]. For the value analysis to be clear, the values have been categorized not only for their function, as in examples mentioned above, but also into type groups [Jachnis, Terelak, 1998, p.168]. Table 1 shows the Schwartz value classification, Kahle scale, and Rockeach's terminal values, according to type groups.

According to the type-based system, the value of happiness has not been classified, since its nature is personal and due to broadness of its understanding it could be put into any group. Those characteristics of the notion "happiness" often determine the essence of what is important to an individual. There is a Chinese proverb saying that happiness is somebody to love, something to do, and hope for something [Lachowski, 2012, p.29]. Hence, happiness, besides the need to feel and hope, is also associated with "something to do". In such an approach, work does not only determine lifestyle, the nature of social interaction, social status and material situation, but also gives meaning to existence and affects the level of satisfaction drawn from life, even becoming a measure of humanity and a factor that dignifies a person.

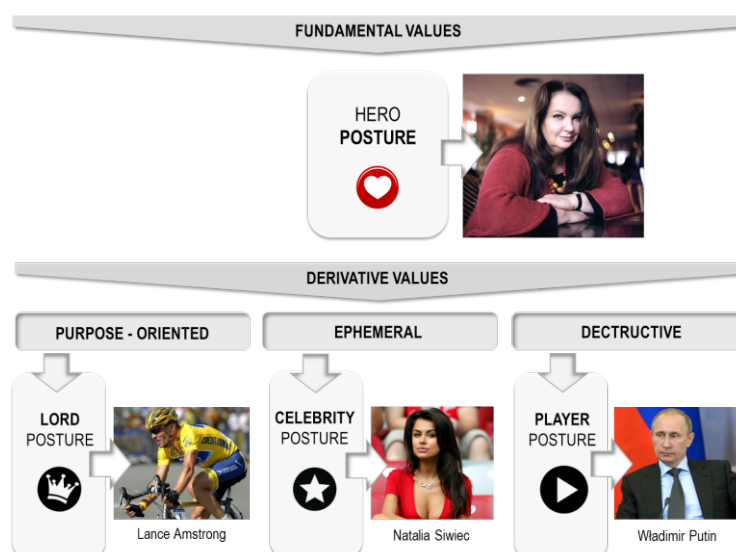
4. THE SHAPING OF VALUE-BASED ATTITUDES IN BUSINESS.

The choice of values constitutes the core of our business identity and is the main determinant of the stance and attitude that we assume in life and in busi-

ness. Beginning with fundamental values that bring meaning to our lives and determine all choices, we can define a "hero" posture. The "hero" stance is characterized by the most wanted values in life and in business, such as morality, conscientiousness, loyalty, respect, family, and righteousness. A person surely close to this kind of posture in the Polish market is Anna Dymna, a Polish theater and film actress, born in 1951 in Legnica, who made her debut in 1969 in the much acclaimed Juliusz Słowacki Theater in Kraków. She used her popularity to endorse numerous charities, such as "Mam marzenie" ("I have a dream"), "Wielkie Serce" ("A great heart"), "Nuta nadziei" ("A note of hope"), "A kogo" ("And who"). In 2003 she started her own charity "Mimo wszystko" ("Against all odds"), where she works pro public bono as CEO, organizing music festivals and theatre festivals for the disabled. [www.google.pl].

Another group is formed by derivative values which are a result of depreciation of fundamental values. We are losing ourselves in the quick day-to-day consummation of our lives, we seek new attractions and get bored with them even quicker. The boundaries between virtual life and reality begin to blur and appear dim while global availability urges manufacturers to create needs that we have not even heard of yet. Money, fun, perfection, fame, success, victory, and power form the first group of derivative values out of three, defined as derivatives of the purpose values. They were used to define the "lord" posture, focused on overcoming obstacles without any scruples. Such posture was represented by Lance Armstrong, former

Illustration 2. Postures in business.



Source: own work

American racing cyclist, born in 1971 in Texas, diagnosed with cancer in 1996. After he was diagnosed, he won the Tour de France seven times between 1999 and 2005 and started the “Livestrong” charity foundation for fighting cancer, with over 20 million members at its peak. However, a few years later, in 2012, a new light was shed on his sporting career and charitable activities as he was successfully charged with using illegal PEDs which disqualified him from cycling for life.

The second group of derivative values are ephemeral values. They are embodied into a “celebrity” posture that aims at joy, pleasure, satisfaction, satiation, excitement, euphoria, and ecstasy. Undeniably, an iconic celebrity in the Polish show-business is Natalia Siwiec, a supermodel. Born in 1983 in Wałbrzych, she won the title of “The best body” in South Africa in 2006. In 2012 she was acclaimed Miss EURO by reporters, and in 2013 she placed fifth in the ranking for the most popular celebrities in Poland. Since then, she has been adding splendor to a number of show-business events with her presence. The third group of derivative values are destructive values, represented by the “player” posture. A good example of such posture on international arena is Vladimir Putin, president of the Russian Federation, born in 1953 in Leningrad. In this case, let us cite some examples of public thoughts and comments about Putin, to be found on the Internet, partially taking them with a grain of salt, so as not to be accused of being biased: “It’s a draw with Russia. Putin has already sent us a telegram: <Congratulations. STOP. Gas STOP. Oil STOP.>” “Putin has declared Russia to be a democratic, peace-loving state – apparently I live in some alternate reality” or “Vladimir Putin has declared he is ready to get the Nobel Peace Prize... but he still does not know who to get it from”.

Classification of societal postures is a very important starting point for building the culture of organizations, for determining what is desirable and what should be avoided. It is an important element for building profiles and competence models of employees and potential candidates in the recruitment process. These stances provide the opportunity to build a team that appreciates certain values and, in the long run, propagates desirable attitudes among customers and members of the immediate environment.

5. INTERNATIONAL EXAMPLES OF VALUE-BASED MANAGEMENT OF ORGANIZATIONS.

Implementing management by values into an organization is a process that enables the creation or gradual transformation of the company management into

a dream team. However, in order to start the process, it is necessary to understand the meaning and role of values in the organization and to implement them with consistency and enthusiasm. Remarkable businesses are created by simple people who abide by moral values. Henry Ford, founder of the Ford company, said at the turn of the 19th century: “Do not be afraid of the future, do not worship the past, let go of rivalry, production is not about buying for less and selling for more, put your service above your profit.” Microsoft corporation has a clearly formulated reason for its operations and associated value system. They speak of themselves: “We help people and businesses around the world carry out their potential in full” and every day their employees pursue such values as: honesty and integrity, passion for creating new technologies, openness and humility, accepting great challenges and visionaries, as well as constructive criticism, constant development, and striving for perfection. The “HP way” concept, created by the founders of Hewlett-Packard, says “improving the life of the community is not only the obligation of the selected few – it is a responsibility shared by everyone.” The introduction to Nike’s corporate strategy reads: “At Nike, we are on the offence, always. We play hard, we play to win, but we play by the rules of the game”. Google assumes that a company, just like a person, should follow moral principles and declares “Don’t be evil”. The company follows ten principles, including: “focus on the user, the rest will come”, “it is best to do one thing well, very well”, “fast is better than slow”, “you can make a good living without being evil”, or “you don’t need a suit to be serious” [Lachowski, 2012, p.265-268]. There are countless similar examples and the ones provided above may indicate that managing by values is not only the domain of large international corporations. Nothing can be farther from the truth, and the next chapter proves it. Moreover, a question arises – is it only the great figures in business that have defined their value code, or have they become great because they have built up their business on a clear ethical code?

6. POLISH EXAMPLES OF VALUE-BASED MANAGEMENT OF ORGANIZATIONS.

We can present three examples of businesses from our portfolio that we cooperated with in search of new ways of building competitive advantage based on managing by values.

The first one is a construction and renovation service business “Twórcy Wnętrz”, owned by Tomasz Rogaczewski. The process of selecting and defining

values for the business was preceded by collecting market data. We focused our scope of interest on the areas of frustration that investors experience when dealing with construction and renovation companies. Additionally, we also received guides from architects who usually assume the role of a mediator between the investor and the contractor. Information gathered from two sources allowed us to pinpoint three key values: capability, knowledge, and practice. In his company, Tomasz Rogaczewski centers around these aforementioned values when building employee morale (Illustration 3). In this case, capability is defined as a skilled division of labor that combined a search

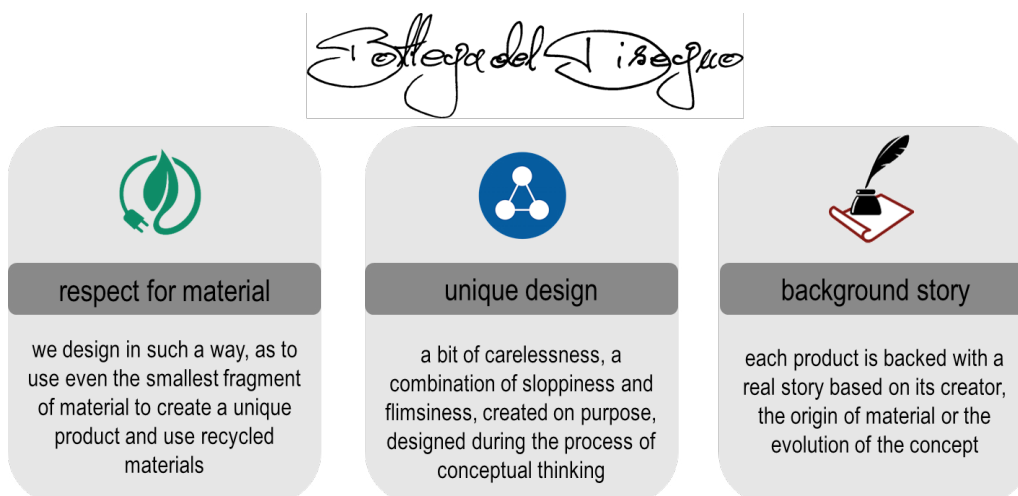
for optimum solutions with a timely accomplishment of tasks. Knowledge is defined as the sharing of useful information and latest industry expertise, gained through frequent training and communication with experts and customers. Practice is collaborative exchange of competence among qualified employees with extensive professional experience. In the following stages, values were used as basis for building a model of interaction with the customer and enabled the development of a set of features that characterize employees. The second example is the furniture business Bottega del Disegno (Illustration 4), when challenged with creating a development strategy

Illustration 3. Key values of the construction and renovation company Twórcy Wnętrz.




Source: own work.

Illustration 4. Key values of the furniture manufacturer Bottega del Disegno.



Source: own work.

Illustration 4. Key values of the accounting company Open Profit.


CLOSENESS	SECURITY	SIMPLICITY
customer care availability commitment of customer advisor to customer's matters openness to customer's problems choosing a form of cooperation that suits the customer good customer relations even after cooperation is finished	experienced and certified customer advisor technical support optional cooperation with a tax advisor and lawyer, completing our competence taking responsibility for our mistakes a few hundred audits, all successful	clear schemes of cooperation simple offer simple rules for setting price list, customized for individual and business customers simple marketing communication communicative language adapted to customer segment

Source: own work.

indicated that values are the key factors for successful international expansion. The values to be held and communicated were: respect for the company's material, defined as the design of a unique product out of every single material fragment, along with the use of recycled material; a unique design, incorporating a bit of carelessness, that is intentionally creating a combination of sloppiness and flimsiness in which the designing process is a result of rational thinking; background story, supporting the uniqueness of each product, based on the creator, the origins of the material, or the evolution of concepts. The key factor of success is cooperative production and the creation of a new product whose creative process entails the formation of a workplace which facilitates innovation and creative thinking. The group of values became a foundation for building a model for design that involves settling in trends, listening to one another and defining the expectations of the surrounding reality. Original inspirations were deemed to be secrets of the best solutions and when combined with artistic talent, a customer's opportunity for getting in touch with art on a daily basis. Products by Bottega del Disegno are the result of a few significant elements with a human factor playing the key role. That is why each product is a peculiar blend of attributes. This blend yields key features of products, most vital of them being modern shape, unique design, and timeless charm.

The third business is the "Open Profit" company. After 10 years of operations in the accounting market, Michał Drejling and Dominik Stacherski, ("Open Profit" owners) decided to search for a new way to stand out from the competition and attract customers (Illustration 5). After several months of work which included field tasks and two workshop sessions, we selected three values: closeness, security, and simplicity. The implementation of these values was essential for engaging in an effective offensive against a very fragmented market. We used these values to define key factors of success – complementarity and partnership, in other words building the image of the company as the best partner in business, from a substantive perspective, who shares knowledge with the customer and is open for information exchange. This foundation was later used to create guidelines for the key role of customer service, focused on operational capability that involves building quick and relevant solutions around impulses of dissatisfaction from customers. As a result, the company is able to react quickly and redefine new products and services that it introduces to the market.

All materials presented in this chapter are the result of conceptual work by its authors. The material was developed through close cooperation (discussions, interviews, workshops, etc.) with managers and employees of selected and mentioned businesses.

SUMMARY

Contemporary businesses operate in a dynamic environment and a reality of unprecedented changes in labor markets that create a new aspect of competition – competing for key talent. In order to attract and keep talented and committed employees for years to come, it is necessary to change their own approach to managing, by turning to management by values. The first step is to understand what values are important in life and in business. Based on long-term experience of the authors, four groups of values can be isolated in business: fundamental, purpose-oriented, ephemeral, and destructive, each of them respectively characterizing specific postures: hero, lord, celebrity, and player. Defining the values of an organization and their effective implementation is the basis for the organization's further development, as proved by numerous examples of companies in the global market. However, what is important, the concept, propagated for years by the authors in their professional careers, is beginning to be widely recognized among small and medium businesses, therefore it is expected to expand in the area of business in years to come.

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Money management methods in trading and investing

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Abstract: In this paper, we briefly discuss six basic methods of money management in trading and investing and analyze their effectiveness on the Warsaw Stock Exchange. The most efficient methods are the Martingale and Ralph Vince's methods giving profits of 1731% and 1453%, respectively.

Keywords: kelly criterion, stock market, money management, position sizing, pekao, thorp, investing, trading

INTRODUCTION

Most of the theoretical papers about investing are focused on answering the question: *in what and when to invest?* But another important issue is money management, which means how much an investor should invest. In an extreme case, it may happen that the investor, using a strategy with a positive expected value, will go bankrupt because of poor money management [Wójtowicz 2013, p.111].

Despite this, the topic of money management is ignored or marginalized in most publications. There have only been a few papers published on this topic [Thorp 2007].

In this article, we describe the most popular methods of money management in trading and investing:

- *The Irene Aldridge's* method of money management for a short term speculation is a compromise between aspiration to full optimization and maintaining relative simple calculations.
- *The Ralph Vince's* method relies on maximizing the relative growth rate of the investor's capital. This method allows to utilize all the information on a distribution of the investor's profit. The solution obtained from this method also has many other advantageous properties [Ziembra 2005].
- *The method proposed by Edward Thorp* is a simplified version of the Vince method. It permits the investor to simplify calculations, but it has some adverse properties.
- *The Van Tharp's* method relies on matching basic methods of money management with the investor's preferences.
- *The Rayan Jones's* method is an improvement of the simplest method of money management, consisting in buying one contract for a given value of the investor's wealth.
- *The Martingale method* relies on increasing a bet size after taking a certain series of losses which is much more frequent than the probability of such an event. Unfortunately, this method is very risky and can lead to ruin.

In the last part of this article, we present our own example of applying the above-listed money management methods on the Warsaw Stock Exchange.

I. MONEY MANAGEMENT ON A SINGLE FINANCIAL MARKET

Money management on a single financial market includes situations when the investor uses one or more investments or trading strategies on a single market.

I.1. Money management for short term speculation

The method was proposed by Irene Aldridge [Aldridge 2010] for traders (investors with a very short time investment horizon) who practice high-frequency trading (i.e. making speculative transactions implemented in seconds or even less).

In this method, it is assumed that the trader completes transactions on a single financial market using many strategies simultaneously. They would also like to determine the degree of involvement of their wealth in a single strategy. The simplest solution is an equal distribution of capital to all the strategies. For example, for four strategies one should allocate 25% of their wealth in a single strategy.

The advantage of this method is the simplicity of the calculations. Unfortunately, this way does not utilize any historical information about the results of the strategies. It is obvious that an application of such data should give a more profitable solution to the investor.

Hence, in a second approach, one studies the historic trends of all the strategies and checks which distribution of the capital gives the greatest profit. The disadvantages of this method are large computational complexity and time constraints.

The method proposed by Aldridge is a combination of these two solutions. It allows us to find a relatively optimal solution and, at the same time, it shortens the time needed to find the solution.

At the beginning, we assume *we have information about the historic results of the investigated strategies.*

First, we sort all the strategies using the Sharpe ratio, starting from the strategy with the largest value of the ratio. The Sharpe ratio for a given strategy is defined by the following equation [Aldridge 2010, p.76]:

$$\text{Sharp ratio} = \frac{\text{Profit expectation from a single transaction}}{\text{Standard deviation of profit from a single transaction}} \times TR$$

where TR is the estimated number of transactions which are made during a year. This is found through the product of the mean number of transactions in a day and the number of days in a year.

Second, we include an even number of strategies with the highest Sharp's ratio in our portfolio, wherein half of them should be positively correlated with the market and the second half - negatively.

Third, we sort the strategies (those that were included in the portfolio) by their current liquidity (the number of transactions that were made during a given period of time).

Fourth, we combine the strategies positively correlated with the market with the strategies correlated negatively into pairs. The combination is made on the basis of the current liquidity, i.e. that a positively correlated strategy with the highest liquidity is combined with a negatively correlated strategy with the highest liquidity (among the strategies that are negatively correlated), and so on.

Fifth, for every pair of strategies we separately optimize the variance of the portfolio consisting of these two strategies alone. The optimization relies on finding the participation of all the strategies in the portfolio, giving a minimal variance.

As a result, the trader makes transactions for any pair of strategies (of the portfolio), investing the maximum of their wealth in every strategy, yet less than the limit defined in the fifth step. The total of the investor's portfolio involvement should be less than the level defined before, which in turn should be less than the sum of the limits of all strategies.

The advantage of this method is a relative precise optimization and the simplicity of the calculations.

The disadvantage of this method is that it cannot be used in a quite common situation when the investor only uses a single strategy. In that case it cannot be combined with any other strategy.

1.2. Maximizing the relative growth of the investor's capital

The method has been proposed by Ralph Vince [Vince 1990].

It assumes that an investor invests their money on one financial market and only uses one investment strategy.

Vince introduces the notion of a divisor which is understood as a value which lets the investor to define how many units (e.g. shares) he should buy with the given capital and the largest possible loss on a single share [Vince 1990, p. 80]. The divisor should be from the interval (0,1).

For example, assume that the largest possible loss is 100 dollars and the divisor, f , chosen by the investor is 0.25. Then $\frac{100}{0.25} = 400$, so the investor should buy one share for every 400 dollars of their capital [Vince 1990, p. 88].

At first, the investor should determine the period of time from the historical data, best reflecting the situation on the given market. Next, the investor should check – using the aforementioned data from the chosen period of time – the relative growth of capital using a given strategy and chosen divisors f between 0.01 and 0.99 at intervals of 0.01. By these calculations, the investor should choose the divisor generating the biggest relative historical growth of capital. We shall say that the divisor with this property is an optimal divisor, and we denote it below with the symbol f^* .

With the assumption that the distribution of profits for a given strategy - on a given market - will not change in the future, the divisor f^* has the following properties: (1) it maximizes the investor's capital in the long run [Breiman 1961, p.72], (2) it minimizes the expected time (comparing to portfolios constructed using other methods) needed to achieve a fixed financial goal [Breiman 1961, p. 68], and (3) the investor using f^* will not go bankrupt [Hakansson and Miller 1975].

In practice, using the optimal divisor may create a big variance in the investor's capital [Wójtowicz 2013, p.108-109]. Moreover, if meanwhile the distribution of profits for the given strategy will change (e.g., the maximal loss may increase drastically) and the investor will still use the old divisor, he may go bankrupt [Wójtowicz 2013, p. 111].

Ralph Vince has never given a theoretical justification of his method. Due to that, it is neither quoted nor discussed in scientific papers. In practice, Vince's method consists of maximizing a function constructed by means of the distribution of gains and losses on a given market. We discuss it briefly below.

Let us consider a general case. Let the symbol Y denote a random variable describing an investor's financial result:

$Y = (Y = (a_1, \dots, a_n, -b_1, \dots, -b_m))$, where a_1, \dots, a_n are pairwise different non-negative values (hence, at most one of them equals 0), and b_1, \dots, b_m are strictly positive, $n, m \geq 1$. Further, let the distribution of probability for Y be of the form

$$P = (p_1, \dots, p_n, q_1, \dots, q_m),$$

with $p_i, q_j > 0$ for all i, j . In the next part of this paper we assume that $E(Y) > 0$ (that is, the average financial result of investing is profitable).

If b_s denotes the maximal loss: $b_s = \max\{b_1, \dots, b_m\}$, then X denotes the random variable, with the same distribution of a probability P , of the form Y/b_s :

$$X = \frac{Y}{b_s} = \left(\frac{a_1}{b_s}, \dots, \frac{a_n}{b_s}, -\frac{b_1}{b_s}, \dots, -\frac{b_m}{b_s} \right) = (A_1, \dots, A_n, -B_1, \dots, -B_m),$$

where $A_i = \frac{a_i}{b_s}$, $B_j = \frac{b_j}{b_s}$, $i \leq n, j \leq m$. Then $E(X) = \frac{E(Y)}{b_s} > 0$.

The values A_i are non-negative, pairwise different, and B_j belong to the interval $(0,1]$ with $B_m = 1$. We also have

$$E(X) = \sum_{i=1}^n p_i A_i - \sum_{j=1}^m q_j B_j > 0.$$

The generalized Kelly's function G is defined by the formula

$$G(f) = \sum_{i=1}^n p_i \ln(1 + f A_i) + \sum_{j=1}^m q_j \ln(1 - f B_j).$$

In [Wójtowicz 2013, p.113-114] it was proved that the function G has the following properties:

(P1) it is concave on the interval $[0,1)$, $G(0) = 0$ and there exists $f_c \in (0,1)$ such that $G f_c = 0$,

(P2) there exists a global maximum f^0 of G with $f^0 \in (0, f_c)$; it is a solution of the equation $G'(f) = 0$;

(P3) the number f^0 , defined in (P2), is the optimal divisor for the Vince's method, which means that $f^0 = f^*$,

(P4) $G(f^0) = E(X)$.

An example of G is presented in the second section of this paper.

1.3. A simplified Vince's method

This method has been proposed by Edward Thorp [Tharp 2008, pp. 214-215], and it is a simplification of the Vince method.

First, as in Vince's method, the investor determines a historical period that best reflects the situation on the given market. Next, the investor calculates a divisor defined by the formula [Tharp 2008, p. 214]:

$$f = \bar{p} - \frac{1-\bar{p}}{T}, \quad (1)$$

where:

\bar{p} is the quotient of the number of profitable investments by all investments,

T is the quotient of the average profit by the average loss of an investment.

The advantage of this method is a simplification of calculations, which are simpler than in Ralph Vince's method.

The disadvantage of Thorp's method is that, in the long run, the investor applying the parameter f achieves less profit than applying the optimal divisor f^* (which maximizes the investor's profit, see property (P3) above). Moreover, if f is bigger than f^* , the investor should be aware that larger decreases in their capital would be observed than when using f^* [Wójtowicz 2013, p.108-109].

In an extreme case (i.e., when f is bigger than f_c , see property (P1) in Subsection 1.3), the investor applying the simplified method may go bankrupt [Wójtowicz 2013, p. 111].

1.4. Adapting money management to investment goals

This method was proposed by Van Tharp [Tharp 2008]. The author indicates that the investor may not be interested in maximizing profit, Sharpe ratio or minimizing their risk. Due to that, every investor should explicitly specify their investment goals and manage their wealth in a way that allows them to achieve these goals.

1.4.1 The measure of utility of a strategy in methods of money management

Van Tharp has defined a new ratio (System Quality Number) which, based on historic results of a strategy, allows one to determine the utility of the strategy in achieving investment goals [Tharp 2008, p.28]:

System Quality Number.

$$= \frac{\text{Expected gain from a single transaction}}{\text{Standard deviation of profit from a single transaction}} \sqrt{\text{Number of transactions}}$$

The higher the ratio, the easier it is for an investor to achieve their goals.

1.4.2 Basic methods of money management

Van Tharp discusses five basic methods of money management [Tharp 2008, Section 8]:

1. Buying one contract for a given size of investor's wealth.
2. Equal division of wealth among all markets.
3. Specifying the percentage of wealth involved in every transaction.
4. Buying such a number of contracts on a given market, for the volatility position sizing of this market over a fixed period of time (e.g., five days) to be lower than a given percentage of the share of wealth.
5. Buying such a number of contracts for the share of wealth needed to secure the transaction to be less than a given percentage value of the wealth.

To illustrate the five, above-listed methods by examples, let us consider five investors *Alan*, *Ben*, *Carl*, *Dirk* and *Edwin* applying each of the methods separately.

Alan practices money management by buying one contract for a given size of his wealth. He would like to buy one contract for 10 thousand dollars. At the moment, Alan possesses 10 thousand dollars, and therefore, he can make a transaction to buy only a single contract. When his wealth grows to 20 thousand dollars, Alan can buy 2 contracts. When his wealth decreases to 17 thousand dollars, he may only complete transactions to buy one contract. This means that, in this method, an investor can buy only an integer number of contracts.

Ben practices money management by equal division of his wealth onto all markets. He divides his wealth, which is 2 thousand dollars, onto two markets, shares of A and B companies. Assume that, on the share market of company A, a signal appeared to buy the stock with one share costing 100 dollars. According to his plan, Ben should engage half of his wealth and buy 10 shares for 1,000 dollars.

In the next three scenarios we assume that an investor has 1,000 dollars and decides to risk 3 percent of his wealth in a single transaction; thus *they will risk 30 dollars each*.

Carl practices money management by risking a fixed percentage of share of wealth in any transaction. He decides to buy shares of a company which cost 10 dollars per share. When the price will drop to 9 dollars, Carl will withdraw from this transaction. Hence his risk for a single share is 1 dollar, and so Carl buys 30 shares.

Dirk practices the fourth method of money management. He measures the volatility position sizing on a given market as the difference between the highest and the lowest price from the previous week. Dirk decides to buy shares of a company with 5 dollars of volatility; which is also the risk of a single share. Hence Dirk buys 6 shares.

Edwin practices the fifth method of money management. He decides to buy a contract on shares which require 10 dollars of margin for a single contract; this is also the risk of a single share. In this case, Edwin buys 3 contracts.

In practice, the most advised and easiest method of money management is risking a fixed percentage share of wealth in any transaction.

1.4.3 Optimizing a chosen method of money management

After choosing a method of money management, an investor should define the value of a parameter optimal for our goals (for example, the percentage of wealth risked in a single transaction).

Next, the investor should determine the historic period of time that best describes the price fluctuations on a given market. Using this information, the investor should determine the distribution of profit for their strategy

and run numerous simulations (e.g., 10 thousand) of 100 future transactions. Before running the simulations, the investor should define a satisfying return from 100 transactions and the biggest acceptable relative decrease of his wealth (let's call it the investor's ruin).

In the next step, one should check the results for different values of parameters and find optimal values for the following six criteria:

- the largest average mean return,
- the largest average median return,
- the greatest probability of reaching an investment goal,
- the biggest value of a parameter for the probability of ruin less than 1,
- the biggest value of a parameter for the probability of ruin equals 0,
- the biggest difference between the probability of ruin and reaching an investment goal.

As a result, we should get 6 different values of parameters for 6 different criteria.

Using this data, the investor should choose the value that best satisfies thier preferences. To make it easier, for each of the six optimal parameters separately, one should check its probability of ruin, reaching an investment goal, the average mean return, and the median return.

The advantage of Van Tharp's method is creating a new measure of utility of a given strategy, which clearly reflects the specificity of the short-term speculation. Moreover, Van Tharp has defined new criteria which better allow to describe an investor's preferences, and has created the tools to meet them.

1.5 The advanced method of buying one contract for a given size of investor's wealth

The Rayan Jones's method [Tharp 2008, p.161-196] is a development of the method of buying one contract for a given size of investor's wealth. For example, assume the investor buys one contract for every 10 thousand dollars of their wealth and that they start with 10 thousand dollars; hence they will buy another contract but only when their wealth increases by 100%. If the investor had 100 thousand dollars, they would buy another contract after their wealth increased by 10%. This means that *investors with less money to start have a smaller chance to multiply their capital*.

Because of this limit, Jones has proposed a new way of defining the level of capital, which allows a smaller investor to buy a new contract:

$$\text{New level} = \text{Current number of contracts} \cdot \text{Delta} + \text{Old level}. \quad (2)$$

Here *Delta* denotes a monetary value defined by the investor describing risk tolerance (the smaller the *Delta*, the bigger the risk).

For example, assume the investor has 25,000 dollars. They invest in one contract and their *Delta* equals 2,500 dollars. Therefore, they will buy another contract when their wealth increases to $1 \cdot 2,500 + 25,000 = \$27,500$. For such wealth they should have 2 contracts. When their wealth increases to $2 \cdot 2,500 + 27,500 = \$32,500$, they will buy next contract, and so on. However, if their wealth dropped below 27,500 dollars at an earlier point, they should sell the contract bought before (and stay with one contract).

In this method, we do not assume anything about the risk associated with investing in a single contract. But if we make such an assumption and use this method then, along with the increase of investment engagement, the investor's risk rapidly grows and next it gradually decreases [Tharp 2008, p.162].

The advantage of this method is that *the investor with a small amount of capital can increase their commitment to the market at a quicker pace and has a greater possibility to increase their wealth*.

Unfortunately, the key elements of this method have never been defined. Jones has neither given us the method of defining the level of investor's engagement for a single contract nor pointed on how to define the parameter *Delta*.

Moreover, this method requires frequent changing to the investor's engagement, which can be hard for big price movements. There is also no assumption about risk connected with a single contract, which is of crucial importance in practice. For example, assume we buy a contract for \$10. If we decide to close the transaction when the price drops to \$9.50, we risk \$0.50 per contract. If we assume to close the transaction when the price drops to \$5, we risk \$5 per contract and our risk is 10 times higher.

Moreover, a rapid growth of investor's risk connected with the growth of their involvement on the market can be a very big threat.

1.6 Martingale strategy

The strategy was defined by Larry Williams [Tharp 2008, pp. 205-207]. This method is additionally based on the assumption that the investor is aware of the distribution of gains for the strategy. In addition, in a single transaction, the investor risks a fixed nominal amount or percentage of their assets.

Let us assume that, on the basis of historical data, the investor estimated the probability of generating a loss at q . In fact, however, the frequency of occurrence of their losses during the first time interval was at u , where u is significantly higher than q . In these circumstances, the investor should increase his involvement on the market. The probability of the investor incurring a loss in the next transaction is still at q , yet in the long run the frequency of occurrence of the investor's losses should converge to q . Such convergence will only occur if the frequency of losses is lower than q in a certain future period of time. Therefore, through increasing his engagement on the market, the investor will recover the assets previously lost in the event of higher wins, or even register a certain amount of gain.

The advantage of this method is its simplicity.

Unfortunately, Williams fails to specify when the frequency of loss occurrence can be considered significantly different from the probability of occurrence of loss according to the distribution. Nor does he indicate the initial engagement of the investor, or consider the fact that the investor cannot increase his engagement infinitely, for reason of limited liquidity on the financial market.

An investor using this strategy must take into account major decreases of their wealth and the resulting mental burden; in the event of occurrence of a longer series of losses, which is always a possibility, the investor who continuously increases his engagement will ultimately go bankrupt.

2. EXAMPLES OF MONEY MANAGEMENT ON THE STOCK EXCHANGE

The Irene Aldridge method was excluded from the analysis due to the fact that, unlike the other methods, this one applies only to high frequency data.

The money management methods are illustrated with the example of Pekao SA shares. The examples do not take into account the money management method for a short-term speculation because it cannot be applied to daily interval data.

The analysis covers the share prices for the period from 2003-09-05 to 2005-09-16.

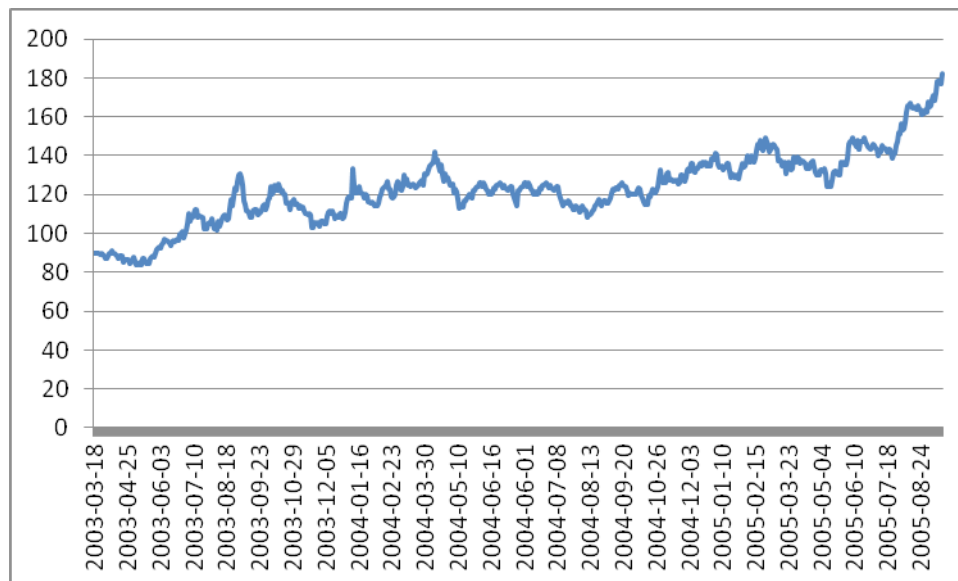


Diagram 1. PKO SA share prices during the period from 2003-09-05 to 2005-09-16

Further analysis is based on the investment method, which consists of

- (a) buying shares when the momentum indicator with parameter 10 changes from negative to positive, and
- (b) selling shares when the momentum indicator switches from negative to positive.

The value of the momentum indicator with parameter 10 on the given day is the difference between the closing price of the given day and the closing price ten days prior.

Furthermore, the following assumptions were made:

- (i) No transaction costs;
- (ii) Access to unlimited leverage, i.e. the ability to invest multiple times higher capital than actually available;
- (iii) No security deposit requirements; and
- (iv) Ideal market liquidity.

To determine the optimum parameters, the time series was divided into the following two periods: from 2003-09-05 to 2004-07-15 and from 2004-07-16 to 2005-09-16. An assumption was made to the effect that the investor has the initial wealth amounting to a value of PLN 1 million.

The first period was used to determine optimum parameters for the particular methods. During that time, the investor's maximum loss was at PLN 5.5 per share. If the investor invests all their wealth in the company's shares, without using financial leverage, then according to the adopted strategy, they would close 16 transactions and generate a 45.94% gain during that period.

The period from 2004-07-16 to 2005-09-16 was used to verify the money management methods based on the parameters determined according to the first period. If the investor invests all their initial wealth of PLN 1 million in the company's shares, without using financial leverage, then according to the adopted strategy, they would yield a 51.18% gain during that period. In addition, maximum relative decrease of his wealth would be at 4.06% for the period.

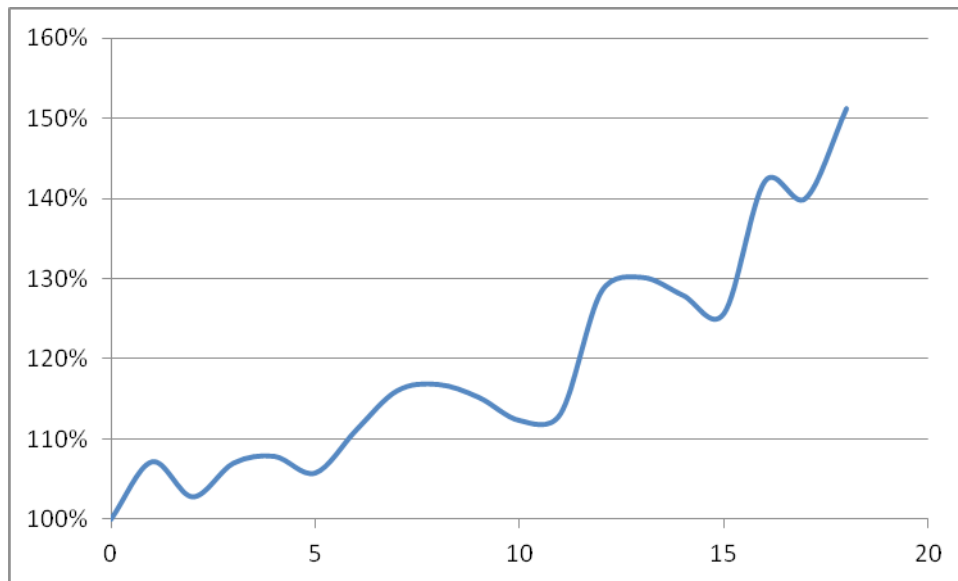


Diagram 2. Relative status of the wealth of an investor that does not use financial leverage during the period from 2004-07-16 to 2005-09-16 after subsequent transactions.

2.1. Maximization of the relative increase of the investor's wealth

Based on the investor's performance during the period from 2003-09-05 from 2004-07-15, the function G has been estimated as follows:

$$\begin{aligned}
 G(f) &= \sum_{i=1}^8 p_i \ln(1 + fA_i) + \sum_{j=1}^5 q_j \ln(1 - fB_j) = \\
 &= \frac{1}{16} (\ln(1 + 4,27f) + \ln(1 + 2f) + \ln(1 + 1,64f) + \ln(1 + 1,45f) + \ln(1 + 0,64f) + \\
 &\quad + \ln(1 + 0,55f) + \ln(1 + 0,27f) + \ln(1 + 0f) + \\
 &\quad \ln(1 - 0,18f) + 4 \ln(1 - 0,36f) + \ln(1 - 0,45f) + \ln(1 - 0,64f) + \ln(1 - f)
 \end{aligned}$$

Through numerically solving the equations $G(f) = 0$ and $G'(f) = 0$, we get $f_c = 0.9$ and $f^* = 0.48$.

Diagram 3 is a graphic presentation of function G .

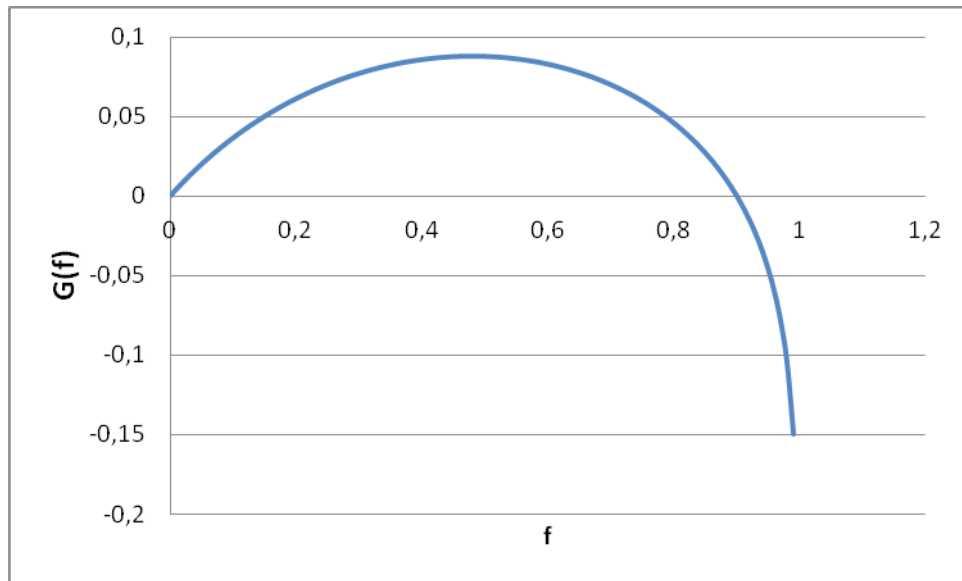


Diagram 3. Generalized Kelly's function $G(f)$, estimated on the basis of the investor's performance during the period from 2003-09-05 to 2004-07-15

Using the 0.48 divisor determined in the preceding period, the investor would make a 1453.48% profit and the maximum relative decrease of his wealth would be at 43.64%.

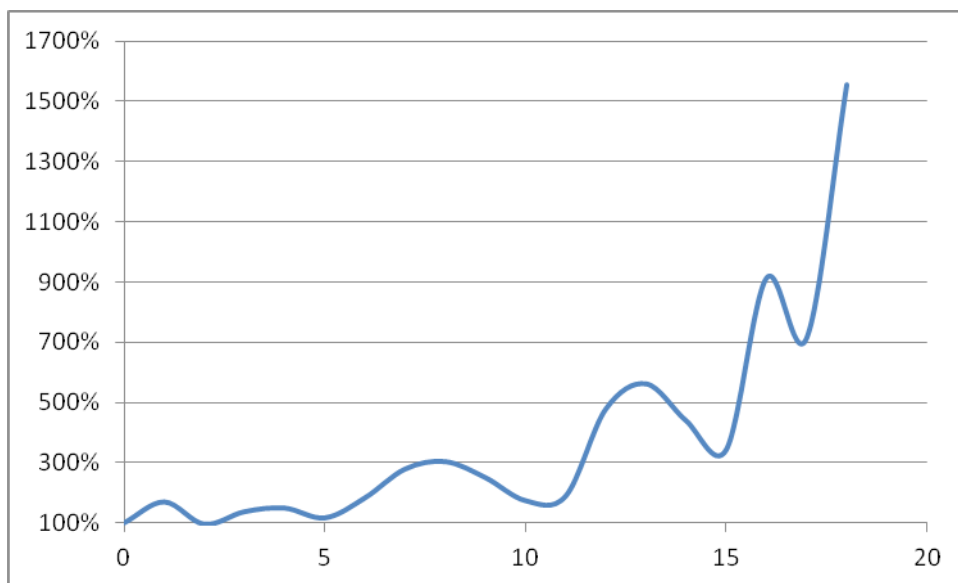


Diagram 4. Relative status of the wealth of an investor using the relative wealth increase maximization method during the period from 2004-07-16 to 2005-09-16 after subsequent transactions.

2.2. Simplified R. Vince's method

Probability p of an investor making a profit when using a momentum indicator-based strategy, estimated on the basis of the initial period, was 0,5, with the average profit 7.44, and the average loss 2.56. Therefore, the value of the divisor determined according to the simplified method was $\hat{f} = 0.33$ (see (1)).

Using the 0.33 divisor determined according to the simplified method, the investor would make an 878.64% profit and the maximum relative decrease of his wealth would be at 30.48%, occurring between the first and the second transaction. This is illustrated on diagram 4.

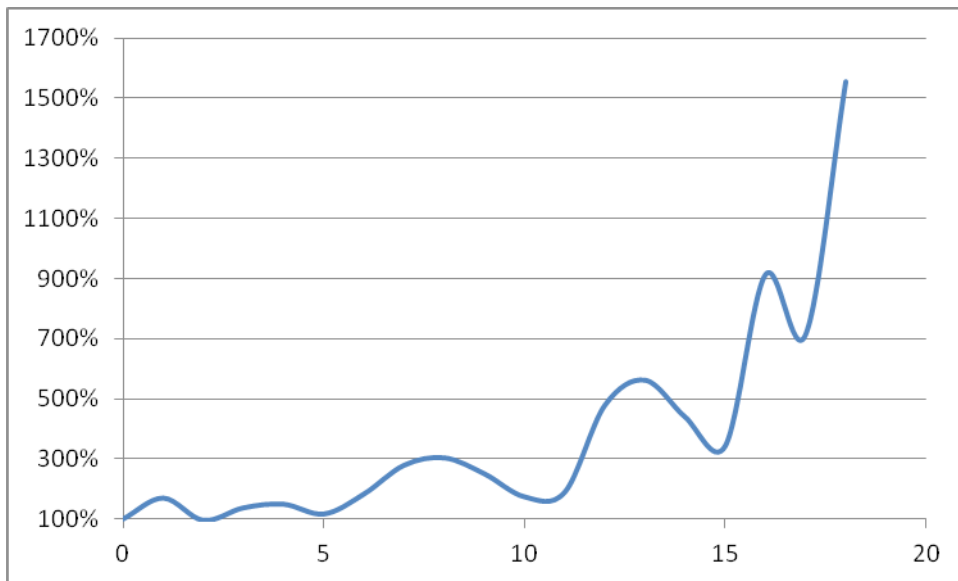


Diagram 5. Relative status of the wealth of an investor using the simplified R. Vince's method during the period from 2004-07-16 to 2005-09-16 after subsequent transactions.

2.3. Adapting money management methods to investment goals

Based on the distribution of the initial period's profits and losses, 10 thousand simulations were carried out in Excel software. Each simulation consisted of 100 consecutive transactions. On this basis, optimum divisors were selected on the basis of six different criteria. The overall assumption is that the investor is striving to accomplish 400% profit after 100 transactions and is willing to risk the loss of their entire wealth. Optimum divisors for these criteria are presented in the following table.

Table 1. Optimum divisors in terms of the particular criteria for an investor aiming at gaining 400% profit after 100 transactions and accepting the risk of losing their whole wealth.

Criterion	Divisor
Largest average mean return	0.99
Largest median return	0.99
Maximum divisor at nil probability of bankruptcy	0.08
Maximum divisor at <1 probability of bankruptcy	0.99
Maximum probability of achievement of the goal	0.22
Maximum difference between probability of goal achievement and bankruptcy	0.21

Consequently:

- The maximum average return at 3138% will be achieved by an investor who uses a divisor of 0.99;
- The maximum median return at 3762% will be achieved by an investor who uses a divisor of 0.99;

- The maximum divisor at nil probability of bankruptcy is at 0.08;
- The maximum divisor at <1 probability of bankruptcy is at 0.99 and the probability of bankruptcy for this value was at 30.65%;
- The greatest probability of achieving the goal, at 96.94%, will be accomplished by an investor who uses a divisor of 0.22;
- The largest difference between the probability of achieving the goal and the bankruptcy, at 95.54%, will be accomplished by an investor who uses a divisor of 0.21.

Performance of an investor using each particular divisor is illustrated by diagram 5.

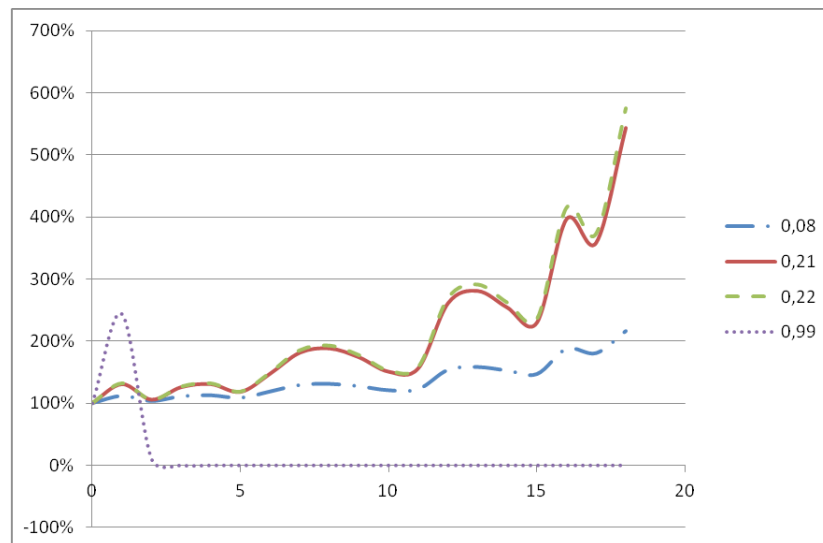


Diagram 6. Relative status of wealth of an investor using divisors optimized for the given criterion.

In addition:

- An investor using the divisor of 0.99 will go bankrupt after the second transaction;
- An investor using the divisor of 0.08 will make 216% profit with the largest relative decrease of wealth at 7.85%;
- An investor using the divisor of 0.21 will make 543% profit with the largest relative decrease of wealth at 19.98%;
- An investor using the divisor of 0.22 will make 575% profit with the largest relative decrease of wealth at 20.88%.

2.4. Advanced method of buying one contract for the given value of the investor's wealth

During the initial period, the investor's largest loss was at PLN 5.5. Thus, an investor willing to risk 3% of their wealth in a single transaction should buy $\frac{0.03 \cdot 1\,000\,000 \text{ zł}}{5.5 \text{ zł}} = 5456$ shares. Therefore, let us assume that initially the investor having a wealth of PLN 1 million buys one contract in a single transaction, consisting of 5,400 shares.

Let Delta be at PLN 100,000. Then, the investor will buy a second contract when their wealth reaches PLN $1,000,000 + 1 \cdot \text{PLN } 100,000 = \text{PLN } 1,100,000$ (see (2)). The third contract will be bought when his wealth reaches $\text{PLN } 1,100,000 + 2 \cdot \text{PLN } 100,000 = \text{PLN } 1,300,000$.

An investor applying this strategy will make 52.38% profit with the largest relative decrease of wealth at 4.52%.

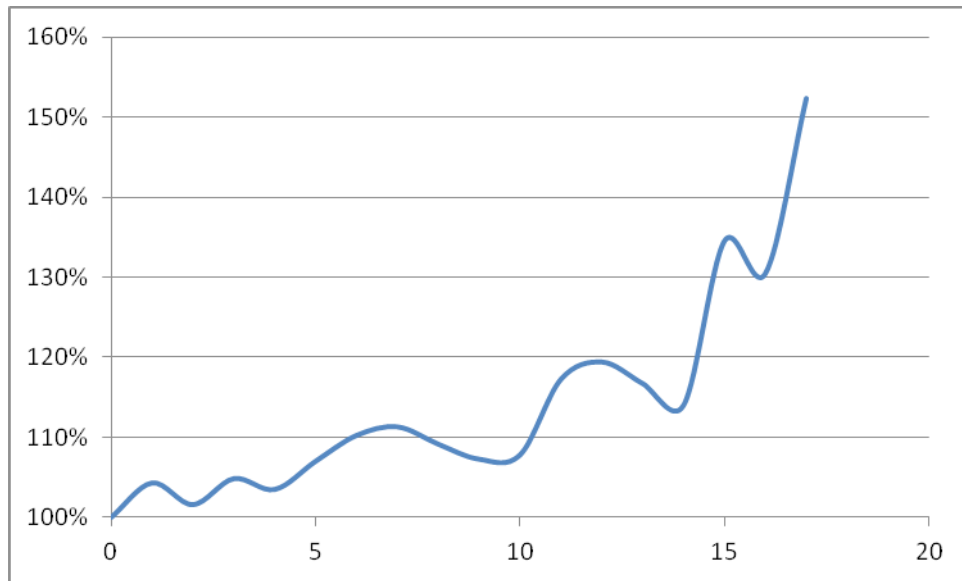


Diagram 7. Relative balance of wealth of an investor using the advanced strategy of buying one contract for the given value of the investor's wealth

2.5 Martingale strategy

On the basis of data of the first period from 2003-09-05 to 2004-07-15, the probability of loss was determined at 0.5. A martingale strategy was developed on this basis, where the investor uses the divisor of 0.48 (see Table 1), determined through maximizing the relative increase of the investor's wealth, provided that the investor generated nil or one loss in the last three transactions. However, if the investor incurred two or three losses in the last three transactions, i.e. the frequency of such losses was higher than the probability of their occurrence, we expect the investor to increase his commitment using the 0.6 divisor.

An investor applying this strategy would make 1731.78% profit and the largest relative decrease of his wealth would be at 43.64%.

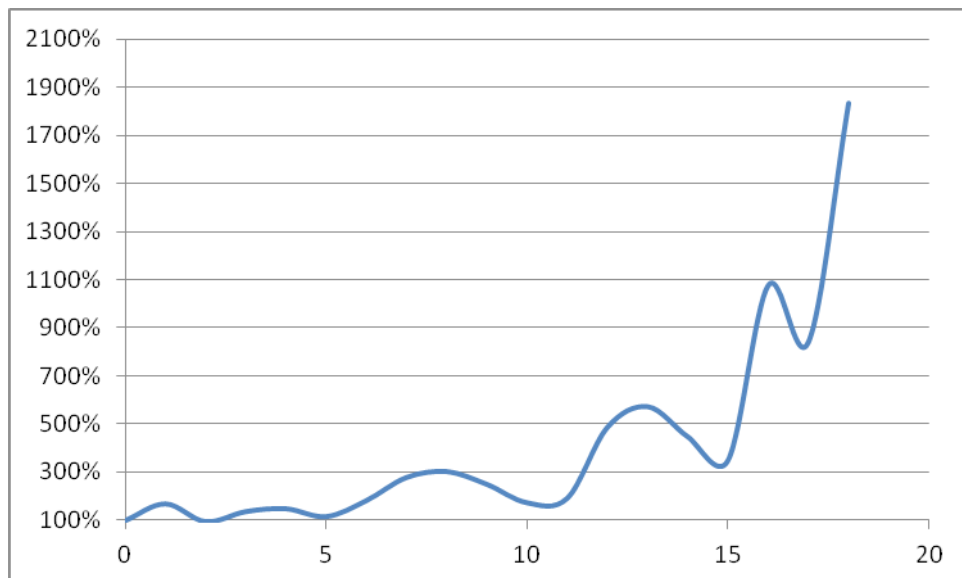


Diagram 8. Relative status of the wealth of an investor applying a martingale strategy during the period from 2004-07-16 to 2005-09-16 after subsequent transactions.

SUMMARY

The Irene Aldridge money management method for a short-term speculation is a successful compromise between aiming at full optimization and maintaining relative simplicity and comprehensibility of calculations. However, it cannot be applied to the most common case, i.e. an investor applying a single investment strategy.

Ralph Vince's method, which consists of maximizing relative growth of the investor's wealth, has a number of beneficial characteristics. Yet it exposes the investor to a significant risk of major decreases of their wealth. Also, this method has its theoretical foundations which have not yet been examined.

The method proposed by Edward Thorpe offers a potential gain which is not higher (and usually is significantly lower) than that derived from Ralph Vince's solution.

The Van Tharp method is capable of fulfilling the investor's expectations. However, it is so general that it cannot be compared to other methods.

With Rayan Jones's method, one can bypass one of the key disadvantages of the simplest money management method, in which an investor with low capital has fewer options of commitment, compared to an investor with significant wealth. Unfortunately, the key components of this method have not been determined precisely, which is a restriction of its applicability.

The martingale strategy involves extremely high risks, which renders it highly useless considering the lack of determination of numerous key issues.

Application of the particular money management methods on the market of Pekao SA shares generated the following profits:

- 1731% for the martingale method;
- 1453% for Vince's method;
- 878% for Thorpe's method;
- 216% to 575% for van Tharp's method (disregarding bankruptcy);
- 52% for Rayan Jones's method.

The examples of practical implementation of the money management methods have demonstrated that with the use of a profitable strategy and a high level of awareness of its distribution, money management can multiply an investor's profits while simultaneously multiplying his risk. Yet the use of the wrong method, or inaccurate determination of goals could lead to bankruptcy of an investor following a strategy with positive expected value.

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Reward Management in Small and Medium Enterprises on The Basis of Alfa I Omega, Głogów, Poland

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Abstract: Since the turn of the century, the number of fluent non-native speakers of English across the world has quickly accelerated. The use of English as a global lingua franca, including its widespread acceptance as the universal language of business, has ascended across multiple social and economic environments. However, in spite of the strengthening union between regular English language use and the world of business, many post-secondary institution graduates are inadequately prepared for the realities of the cross-cultural business transactions they will face in their professional lives. In spite of growing evidence that something is amiss, many business educators maintain oft-used teaching methodologies that can be heavily dependent on practices that include adapted course books or traditional grammar-based themes. This author has found that such methods, by their failure to inculcate *both* the communicative abilities needed for future leaders *and* the high level of language fluency needed for such roles, do not always prepare students to later adapt to a world composed of multicultural complexities. Hence, this work proposes the use of a dynamic method which would better instill both business English and managerial communication skills in students – and one that would allow them to increase their cross-cultural and communicative competence. This method is known as the case study approach. The following work begins with the premise that the approach can effectively help students to acquire a comprehensive range of vocabulary, speaking and understanding skills as they elevate their English language fluency. Then, by outlining the case of a real, functioning business, and describing the challenges and aims of that business, the author will show how the approach can be used as an effective managerial teaching tool in new communication spheres and environments.

Keywords: business English, case study management, cross-cultural competence, internet-based support, employment contracts, reward system, motivational tools

INTRODUCTION

In the context of a growing globalization paradigm and the increasing importance of English as a global language, communication skills in – as well as knowledge of – so-called ‘business English’ and communication management skills is self-evident. A task for instructors of business English and communication in management lecturers is to discover and develop more efficient and effective instructional programs and methodologies.

The acquisition of English as a second language within the framework of managerial communication competence requires on-going analysis and debate. We have concluded that the case study method in an e-learning arena may be one of the most efficient tools for conducting, organizing and managing business English and communication in organizational education. Furthermore, it can lead to the practical acquisition of business English cross-cultural competences and abilities. Cultural, ethnic, racial, social and linguistic diversity are present in most international business dealings. Even in countries where only minor cultural and ethnic differences exist, business English and management teaching as a subject must take into account the interconnected and multicultural world of today.

The case study method, supported by e-learning, can be a very powerful tool for acquiring communication skills in business and in the sphere of the interpersonal. The challenges are multi-dimensional. The instructor must find suitable cases that can assist the student to centralize and solidify previous knowledge and at the same time provide a rich educational, cross-cultural and linguistic component. Additionally, these cases should focus on the student’s acquisition of broad managerial skills, and assist business English college and university instructors in adapting to their new roles as facilitators of learning in a traditional setting that is supported by e-learning. As Sławek Magala of the Rotterdam School of Management has stated, “Managers are paying lip service to cultural issues; they say that culture and communication are important, but do little to improve either.” (Magala, 2007, p. 18). While educating students in business English-competence, management and the social sciences, post-secondary institutions have often failed to effectively address cross-cultural communication issues and challenges.

In this context, this chapter seeks to answer the question of what sort of business English and management communication skills might be required for global intercultural and cross-cultural competence.

Also, the author poses further questions regarding which business communication skills are being taught, acquired and fostered in management and business English courses in colleges and universities where English is taught as a second language, or used for teaching in a non-English-speaking country, such as Poland? What are the best methods to use in teaching students so they can acquire business English and managerial communication skills, thereby adding to increased cross-cultural and communication competence – both personal and professional?

English as a Global Language

According to Carmela Briguglio of the Curtin Business School, Curtin University of Technology, Perth, Australia, while scholars may not agree on the factors that have led to the preeminence of English in commerce internationally, there appears to be no disagreement recognizing the current importance that English holds in the business world (2005, p. 3). According to Phillipson and Skutnabb-Kangas, “There would seem little doubt that English is, increasingly, a global language. Even those who decry this fact acknowledge it.” (Phillipson & Skutnabb-Kangas, 1999, p. 85). Although it is difficult to obtain precise data in this area, Crystal (1997) estimates that nearly one quarter of the world’s population, or between 1.2 and 1.5 billion people, are already fluent or competent in English. Ironically, the number of ‘native speakers’ or ‘first language speakers’ of English may be declining. Furthermore, Crystal (1997) estimates the number of first language speakers of English in some 56 countries to be around 337 million while the number of second language speakers continues to grow (Graddol, 1999).

Is this enough to make English a ‘global’ language? According to Crystal (1997) English not only has a large number of first language (L1) speakers in a number of countries, but it has also been made the official language in a number of others (e.g. Ghana, Nigeria and Singapore) and a priority foreign language in many more. Kachru (in Crystal, 1997) describes the spread of English as three concentric circles. The countries where there are the most L1 speakers of English (e.g. the UK & USA) represent the inner circle; the countries which were formerly colonized and where English is now the official language (e.g. India & Singapore) form the middle circle; and those where English is increasingly being taught as a foreign language (e.g. China, Greece & Poland) are in the expanding outer circle. The growth of English speakers, coupled with economic developments on

a global scale, new communications technologies, the explosion in international marketing and advertising, as well as mass entertainment, have supported the continued expansion of English as a global ‘lingua franca.’ “There has never been a time when so many nations were needing to talk to each other so much. There has never been a time when so many people wished to travel to so many places; never has there been a more urgent need for a global language” (Crystal, 1997, p. 12). Briguglio (2005) adds that, especially in latter part of the 20th century, the breadth of the spread of English around the world was unprecedented and that the spread of English, underpinned by the current economic power of the United States, is accelerating.

The importance of English as a global language is likely to continue to grow in the foreseeable future (Crystal, 1997). In the field of business, arguably, it will grow more rapidly than in other areas. We need to keep in mind that many, if not most, future business interactions in the global arena will take place between English speakers from different national/cultural backgrounds, only some of whom will be L1 speakers of English. In this scenario, ‘native speakers’ will not necessarily be advantaged. Indeed, they might well be disadvantaged, lured into a false sense of security by the belief that “everyone speaks English,” and no extra effort is necessary in order to facilitate intercultural communication. This false sense of security can develop in students and professionals in the expanding outer circle countries such as Poland, including international students studying in Poland, many of whom speak English as a second language.

The Challenge

As stated earlier, our challenge is to better prepare the business graduate with business English communication skills which will enable him or her to successfully negotiate through a web of multicultural complexities. Our goal is to manage business English education and the acquisition of business English managerial competencies to reflect the cultural, racial, social and linguistic diversity present in both globalized trade and in the world economy. The final product is a well-educated business graduate who is not only able to communicate in English, but is well aware of the existing diversity and challenges which he or she will face in the future. In opinion of this author, the present strategies and methods of managing business English education do not provide complete answers to the above dilemma. Today’s methods largely focus on acquiring either ESP (English for specific purposes),

or on independent BET (business English teaching). Additionally, most business English courses focus on developing general communication skills. Our curriculum inheritance is characterized as follows:

- Historically, business English teaching and management methods were mainly adaptations to course books.
- The original assumption which was that the foundation for these courses – that is, the grammar/vocabulary dichotomy – was invalid. This dichotomy produced ineffective and time consuming instruction.
- Grammar as an element was subordinate to lexis (Lewis, 1993).

Peter Daly from the EDHEC Business School (Lille – Nice, France) has also observed case studies available to language learners and teachers. He elaborates on a methodology of how these case studies can be exploited to maximize student-talking time in the language classroom. He has stated, “Not all case studies are the same and with different levels of difficulty and skills trained the choice of case study is tantamount to the success of your class.” (Daly, 2002, p. 1).

As Daly indicates, the most important considerations for case study preparation and teaching are thorough case review and appropriate internet-based support provided to each group, commensurate with their level. The use of e-learning resources supports business, intercultural management, communication and managerial skills acquisition and language skills. According to Daly, “Case studies are extremely rich in content and can provide the learner with the potential to consolidate already acquired knowledge and train specific language and managerial skills. Language teachers inexperienced in the use of the case study method may be inhibited by the content-based nature of the case study and therefore shy away from using case studies in class. This teaching methodology should help teachers plan their classroom to ensure effective execution of a case study”. (Daly, 2002, p. 1).

This author suggests a method which builds on the aims of Daly (who has stressed the principal goal of language acquisition, with secondary attention given to the general business managerial communication skills), by focusing on business communication as a management skill. It accepts that while acquisition is of primary importance, students should be encouraged to develop their fluency in English over their accuracy. With the notion that they can excel in fluency – in spite of possibly lacking in accuracy – while gaining English skills for the business world, students are

supported in gaining knowledge of content directly related to economics and management. It is hoped that students' gains in the mastery of content-based knowledge enhances their integration into the society at-large, giving them added communicative skill both at work and in their extra-curricular social lives. Such a comprehensive approach aims to increase competence in today's intercultural world village.

The author believes that the approach advocated above is a viable alternative to using suitable case studies which are not content-led and do not presuppose an in-depth knowledge of a specific subject matter. In the case of transitioning from a focus on language acquisition to further adaptation of content under challenging circumstances, Crowther-Alwyn has suggested an eclectic approach. "While there are various publications on the market which respond to the language teachers' needs, there are some books that offer simulations with prescribed roles" (Crowther-Alwyn, 1997), while others integrate mini-cases at the end of each chapter dealing with a specific topic such as international marketing or finance (Cotton, Falvey & Kent, 2000; 2001).

Why the case study method?

At this point, the author will address some obstacles that instructors discover in utilizing case study methods. Some of the factors which contribute to instructor "discomfort" are as follows:

- they do not feel confident;
- they have never used cases in the past;
- business English books come with CD's, and tests, and teacher support materials;
- the case study process is too loosely structured to some instructors who are inured to regimentation and predictability of textbooks;
- reaction to each case is unpredictable;
- business English books usually carry reputable names and are recommended;
- case teaching may initially require more intensive preparation;
- e-learning support requires the possession of suitable technology and a good grasp of this technology.

Instructors who are accustomed to a transmission style of teaching may feel that teaching is not really happening if they use simulations or case studies (Daly, 2002). However, the advantages of case studies are numerous. Some of them are set out below, adapted from Daly:

- It is possible to inspire critical thinking and reflective learning in the learner.
- Change within a learning mode is a fresh approach.
- It is possible to train managerial communication skills, such as holding a meeting, negotiating a contract, or giving a presentation. Case studies force students into real-life situations that require them to get involved in managerial communication.
- The research often elevates the students' knowledge of the complexities of the interconnected human environment. The author believes that this makes them better world citizens.
- Case studies foster collaborative learning and team-working skills in the language learner. Extensive research completed by Prof. Magdalena Wyrwicka indicates that the following interpersonal skills are necessary for success in today's business environment:
 - the ability to make contacts and communication;
 - friendliness and cooperation;
 - the ability to adjust;
 - auto-reflection abilities;
 - openness to criticism;
 - the ability to compromise (Wyrwicka, 2001).

Daly adds that improvement of the student's organizational skills can be substantial, as case studies are sometimes very dense in information. The key is to condense this information into logical sections and organize them so that a clear picture of the problem or issue emerges. Case studies can be used to improve the student's written and oral communication. Non-verbal communication skills are also practiced by using case studies, as students working together in close-knit groups learn how to maximize effective, fruitful interaction by increasing respect for each other's cultures, by being flexible and by showing a willingness to negotiate mutually-beneficial results. Pease (1997) reminds us that many of our messages are communicated through body language that has unique features depending on one's cultural background. What's more, there is an element of flexibility to teaching through case studies, in that even an instructor without a business background may be trained to effectively facilitate a group of students who are studying a case.

While teaching with the case study method, it is very important to explain the case to students and, in some cases, read the case with them to explain what is expected. One can never assume that providing a student with an internet link to a case, along with a brief explanation, will suffice. We have often found

that many advanced non-natives or native speakers do not possess adequate business English vocabularies. Native speakers in the business community do need to study business English, as it is a specialized ability and a skill that must be acquired. We can provide the example of a full case study in the area of HR management, with a set of questions and teacher notes that can be utilized in management of the case for the purpose of learning and communication. With this comprehensive approach, it is hoped that HR and managerial competences can be acquired in business colleges and universities across various economics, business and social science programs.

I. ORGANIZATIONAL SETTING

Alfa i Omega (AIO) was established in October 1991 in Głogów, Poland. Głogów is a town in southwestern Poland, in the Lower Silesian Province, with a total population of 67,953 (Central Statistical Office, 2009). Southwestern and southern Poland are both areas with high levels of investment in the steel and mining industries. Many companies from neighbouring Germany, as well as many other international corporations, have opened their production plants in the southwestern and in southern Poland.

AIO's main areas of interest are safety, security and health at work. AIO services a wide range of industries, including: chemical manufacturing, Polish oil and gas companies, electricity companies, coal mines, salt mines, steelworks, glassworks, food processing, general industrial, pharmaceutical, electronics manufacturing.

AIO was founded as a general partnership between two friends, Jan Nowak and Adam Kowalski, and had no other employees at that time. The partnership between two friends lasted for nine years, but in 2000 they made a decided to divide the capital and end their cooperation. The main reason was a conflict of interests. Nowak wanted to expand AIO sales from regional to country-oriented as well as, and had new ideas for gaining new working partners. In October 2000, Adam Kowalski took half of AIO's capital and left the company. Jan Nowak again formed a partnership, this time with his wife Anna Nowak. The partnership between Anna and Jan Nowak set new standards for AIO. As managers, they put pressure on AIO to improve performance and quality of products and services the company has been delivering. AIO invested in new company's facilities, employed more workers, made its own brand and invested in company's marketing.

Since AIO's inception, the company has been cooperating with many well-known manufacturers and importers mainly from Germany. Among AIO's main suppliers are German companies, such as AS- Arbeitschutz, Carl Wilden GmbH, Kachele-Cama-Latex, Peter Greven GmbH, and Polish Mps. AIO is an exclusive representative of three companies for the Polish market.

AIO is a fast-developing company, as protection of individual workers has become an important requirement in Polish industries. AIO is presently recognized as one of the largest companies in Poland selling safety, security and health-at-work products. The company also specializes in: providing safety, security and health in the workplace, providing safety solutions to help manufacturers across a wide range of industries to reduce workers' injuries, choosing proper gloves for chemical applications, and offering comprehensive business solutions to assist manufacturers in achieving their cost reduction.

The quality and efficiency of AIO's management system is proved and documented by the certificate ISO 9001:2008.

2. HISTORICAL BACKGROUND OF THE CASE

The Republic of Poland is a country in Central Europe. Poland shares borders with Germany to the west; the Czech Republic and Slovakia are to the south; Ukraine, Belarus and Lithuania are to the east; and the Baltic Sea and Kaliningrad Oblast, a Russian enclave, are to the north. Poland is a member of the European Union, NATO, the United Nations, the World Trade Organization, and the Organization for Economic Co-operation and Development.

Poland's economic history exemplifies a transition from a centrally-planned economy to a primarily capitalistic market economy. These changes have occurred since the fall of the communist government. The development of the private sector has been possible since liberal law on establishing new firms was introduced. Restructuring and privatization of coal, steel, rail transport and energy sectors has been ongoing since 1990. Although privatization of such sectors meets a very strong public criticism, nowadays Poland is struggling to fulfill all structural reforms to be able to enter into the European Single Currency (Euro). Joining the EU was extremely significant for Polish citizens. The work of importers and exporters, especially, became much easier. They no longer had to

wait in queues in customs before sending or receiving their commodities. The times of paying import duties in order to import products from European Union countries have ended.

3. POLISH LABOUR LAW SUMMARIZED

Polish labour law is determined in the Labour Code, as well as in other laws such as: collective labour agreements, a company's labour regulations, its regulations related to remuneration, international law, including the World Labour Organization's conventions and recommendations as well as international agreements (Polish Ministry of Economic Affairs and Labour, 2015).

The Labour Code mostly contains regulations connected with contract of employment, including: entering into a contract, its termination, expiry, remuneration, hours of work and vacations. Work regulation defines the rights and duties of employers and employees connected with order in the place of work, mainly:

1. Organization of work, conditions of workers' presence in an office's territory during and after working hours, providing employees with tools and materials, as well as with working clothes and shoes, individual protection and personal hygiene concerns.
2. System and schedule of working hours and additional vacation: working hours equal to 8 hours each day; working hours should be scheduled in a way that provides employees with 39 additional vacation days a year.
3. Night-time work as well as on Sundays and holidays; night-time work includes any 8 hours occurring between 9 p.m. and 7 a.m. Night-time can be no longer and no shorter than 8 hours. Salary per 1 hour during night - time should be 20% higher than lowest salary per 1 hour. Pregnant women, women who have children who are younger than one year, and those who are under-age (below 18 years old) are forbidden to work at night.
4. Sundays and holidays: working on Sunday or on a holiday is defined as working between 6 a.m. on the holiday and 6 a.m. on the next day, unless the employer has defined different hours. The Labour Code defines in detail when this kind of work is permitted. Employees working on Sunday are entitled to a day off during the work week.
5. Overtime work: overtime work means work over working-time standards, defined according to the

Labour Code regulations. This kind of work is admissible only if rescue action is necessary or in the case of special employer's needs - in this case, an employee cannot work overtime more than 4 hours each day and 150 hours each year.

Under-age, pregnant women and others, if the detailed regulations state so, are completely prohibited to work overtime. Relative prohibition concerns women caring for their children under four years old. For overtime work each employee is entitled to 50% of his salary during the first two hours and 100% of his salary during the remaining hours.

4. TOTAL AVERAGE MONTHLY GROSS WAGES AND SALARIES IN POLISH ZLOTY- POLISH NATIONAL CURRENCY (PLN) AND USD-\$

The average gross monthly salary provided by Central Statistical Office was 3783.46 PLN in 2014, which is equal to 1019.00 USD*. According to the Central Statistics Office, in the first half of 2015, overall average monthly gross wages and salaries across the national economy amounted to 3953.72 PLN (1064.86 USD), an increase of 3.6% on the previous year.

In the public sector, average wages amounted to 4481.42 PLN (1206.98 USD) (an increase of 2.5% as compared to the same period during the previous year). In the private sector, average wages amounted to 3721.11 PLN (1002.21 USD). The buying power of the average monthly gross wages and salaries across the national economy was 5.0% higher than last year. This increase was higher than the increase observed between 2013 and 2014 (the preceding year-on-year increase was 3.5%). Compared to the first half of 2014, an increase in wages and salaries was observed in all sectors; the highest growth was observed in the following sectors: administrative and support service activities (a growth of 5.7%), information and communication (5.5%), financial and insurance activities (4.9%), professional, scientific and technical activities (4.7%), construction (4.6%), accommodation and catering (4.5%), trade, repair of motor vehicles (4.3%). The lowest growth in wages and salaries were observed in mining and quarrying (it grew by 0.4%), transportation and storage (1.3%), and in public administration and defense. Compulsory social security grew by 2.5% (Central Statistical Office, 2015).

*Amount in USD was calculated based on the exchange rate from Oct 14, 2015; average exchange rate provided by National Bank of Poland, 2015.

The registered unemployment rate for Poland is 8.3%, as of December, 2016 (Central Statistical Office, 2016).

5. TYPES OF EMPLOYMENT CONTRACTS IN POLAND

All Polish citizens have the same rights to medical care, old-age and disability pension, and also to family and sickness benefits. Everyone who would like to benefit from the social security schemes has to adhere to compulsory compliance with regulations, as well as with country legislation. The authority of social services is administered by the Ministry of Labour and Social Policy. The health insurance benefits competent authority is the Ministry of Health.

For the worker to be insured, one's employer has to pay insurance contributions which are assessed on the basis of each employee's salary. There are two types of insurance available in Poland, social insurance and health insurance. For a Pole signing a contract of employment with a Polish or foreign employer operating in Poland, this means that the employer is obliged to transfer the contribution in an amount assessed on the basis of employee's salary pursuant to the regulations in effect. In case of self-employment, people may contribute to various insurance types.

It is important to mention that, according to rulings by the European Court of Justice, an employed person is anyone who provides work for some period of time while under the direction of another person in return for remuneration. In the case of Poland, the Ministry of Labour and Social Policy clarifies who is recognized as employed, self-employed and non-employed.

Every employee is subject to social and health insurance legislation. According to the place of work principle, if one is employed or self-employed in Poland, he or she is subject to the Polish social security compulsory legislation.

A contract of employment implies an economic dependence and subordinate relationship between the employer and employee (the worker). It is a contract in which an employee is binding him or herself to provide services (work) under the employer's guidance, at a time and place specified by an employer. An employer binds him or herself to pay a bilaterally agreed-upon amount for the employees' work and covers state health and social security payments.

The most common types of contracts of employment are: permanent or ongoing contracts, contracts for specific periods of time, contracts for specific work

and contracts of mandate (a contract for specific work). In 2015, which is an election year in Poland, various parties propose sweeping changes to the labour law. They claim it will be easier for all parties to enter into work agreements clarifying rules on social security, health insurance premiums and total tax due on various types of employment contracts.

A permanent contract is the most favourable type of contract for an employee. An employee feels secure, and it gives him or her stabilization of employment. Moreover, it is also beneficial for the employer, as one has an opportunity to build a good and long-lasting relationship with employees. On the other hand, it is also least preferred by employers due to maximum taxation and compulsory social and health benefits premiums that must be paid by employers on the employee's behalf, on the top of the agreed-upon salary. In fact many owners of small to medium enterprises see this responsibility as an extra tax paid by the employer. The burden of this legislation is putting many small enterprises out of business, and some are forced to use various contracts not covered under state employment law to stay in business, at the same time risking that their employees are not properly insured regarding social security and health insurance. Many new small and some medium enterprises resort to hiring new workers based on small business to small business relationships to avoid compliance with strict employment law and associate codes. This forces new entrants and the unemployed who are seeking work to start their own small firms in order to find even part-time work.

A contract of employment for a specific period of time is one of the most popular contracts of employment in Poland nowadays. An employer and an employee draw a contract for a specific time (one year, two years, ten years, etc.). An expiration date can be stated two-fold, either by giving a specific date (e.g. "the 15th February, 2017") or by giving the name of the event (e.g. the end of summer holidays in Polish schools). The contract expiry date has to be stated in the contract. Under contract for specific work, the contractor (worker) carries out a specific work.

A contract of mandate (a contract for specific work), is a contract under which a contractor (employee) undertakes to perform a specified task for the owner. Art. 734 of the Legal Act specifies that by the contract of mandate the contractor undertakes to perform a specific legal transaction for the principal. It may seem that there is not much difference between these two contracts; however, the contract for specific work/called in Polish "umowa o dzieło" is much more favourable for employers, as health and social

insurance premiums are the employee's responsibility. Many times, these are not paid at all, or they are avoided. It may, however, negatively influence the employer-employee long term relationship, as most employees are still looking for permanent contracts in which employers pay for all social and health insurance costs and ensure those benefits include additional benefits, such as membership in health clubs, tickets to events and extra bonuses available only to permanent employees. A contract for specific work can be drawn when a work or service performed is tangible. To be recognized as tangible work under Polish law, the following can be classified: painting, writing a book, building a fireplace, translating a catalogue or something similar to these activities. Many employers use a flexible definition of tangible assignment. For example, giving university lectures, counseling students and providing service jobs such as customer service and secretarial jobs qualify to be included under contract for specific work or task. The State Work Agency for Inspection of Labour Law may, after investigation of such contract, force an employer to convert the contract for specific work to one of full employment, with all social security and health premiums that need to be paid retrospectively from the contract's inception.

Under a properly constructed and executed contract of specific work, in practice no health or social insurance payments are required. The employee has to pay only an income tax, which lowers employment costs for the employer. The contract of mandate is not employee-oriented, as it leaves employees without any health and social benefits. It may be used in some circumstances allowed under labour and civil code laws, but not as a primary employment contract specifying employer-employee relations.

According to the Ministry of Labour and Social Policy /<http://www.mpips.gov.pl/en/working-conditions/>, basic rights and obligations of the employee are provided for in the Act of 26 June 1974 – Labor Code (Journal of Laws of 1998, No 21, item 94, as amended), mainly in Section 10, entitled “Occupational Safety and Health.” The key obligation of the employee is to comply with the rules and principles of occupational safety and health (OSH). Pursuant to Article 211 of the Labour Code, the employee is particularly obligated to:

- know the rules and principles of OSH, participate in the relevant training and instruction, and take required examinations,
- perform his or her work in compliance with the principles and standards of OSH as well as comply

with all instructions and guidelines given by superiors in this respect,

- ensure the proper condition of machinery, equipment, tools and devices as well as the order and cleanliness of the workstation,
- use collective protection measures, as well as the assigned personal protection measures, clothing and working footwear in accordance with their intended use,
- undergo initial, periodical, control as well as other recommended health assessment and comply with all medical guidelines,
- immediately notify the superior of any accident or hazard to human life or health occurring at work, as well as warn colleagues and other persons present in the danger zone about the hazard,
- cooperate with the employer and superiors in complying with the OSH obligations.

6. BASIC INFORMATION ON OCCUPATIONAL SAFETY AND HEALTH FOR EMPLOYERS

Basic obligations of the employer are provided for in the Act of 26th of June, 1974 – Labour Code (Journal of Laws of 1998, No 21, item 94, as amended), mainly in its SECTION TEN, “Occupational safety and health”. Pursuant to Article 207 § 1, the employer, who is responsible for the status of occupational safety and health (OSH) at the establishment, is obligated to protect the employees' life and health by ensuring safe and healthy working conditions for them, making appropriate use of the progress in science and technology. Under § 2 and 3 of the said article, the employer is in particular obligated to:

- organize work in a manner that ensures safe and healthy working conditions,
- ensure compliance at the establishment with OSH rules and principles, give instructions to remedy any failures in this respect, as well as check whether such instructions are complied with,
- ensure the development of coherent policy to prevent accidents at work and occupational diseases, taking account of technical issues, work organization, social relationships and the impact of the working environment agents;
- consider the protection of health of young people, pregnant or breastfeeding female employees and disabled employees within the undertaken preventive actions;
- ensure compliance with orders, statements/submis-

- sions, decisions and instructions issued by the entities supervising working conditions;
- ensure compliance with the recommendations of the social labor inspector, and
 - be acquainted, so far as to be able to comply with the relevant obligations, with the regulations on labour protection, including OSH rules and principles.
 - Detailed obligations of employers, with respect to occupational safety and health, include, among others:
 - assess and document occupational risk resulting from the work performed, and apply the required preventative measures that reduce the risk, as well as advise employees of the occupational risk related to the work performed; this includes following the rules of protection against occurring hazards. (Art. 226 of LC),
 - undertake, at his or her own expense, tests and measurements of agents that are harmful to one's health, keep the results of such tests and measurements and make them available to the employees (Art. 227 § 1 section 2 of LC),
 - undertake initial, periodical and controlled health assessments for the newly-employed and already-employed workers (Art. 229 § 1 – 3 of LC) and comply with the prohibition of employing a person without a valid medical certificate stating no counter indications to render work at a given workstation (Art. 229 § 4 of LC),
 - provide the employees employed in particularly onerous conditions with free-of-charge, appropriate food and drinks, in-so-far as is required for prevention (Art. 232 of LC),
 - systematically analyze the reasons for accidents at work, occupational diseases and other diseases related to working conditions, and apply the appropriate preventative measures in line with the results of such analysis (Art. 236 of LC),
 - ensure training for employees with respect to occupational safety and health, prior to their commencement of work and holding periodical training sessions in this respect (Art. 2373 § 2 of LC),
 - undergo training in occupational safety and health that is required to fulfill the obligations of the employer in this respect; the training should be held periodically (Art. 2373 § 21 of LC),
 - provide the employees free of charge with personal protection measures, protecting them against hazardous and harmful agents present in the working environment and give them instructions for use of such measures effectively (Art. 2376 § 1 of LC),
 - provide the employees free of charge with working clothing and footwear that meet the requirements specified in the Polish regulations of the employee's own clothing could be destroyed or soiled considerably, consistent with the relevant technological, sanitary or OSH requirements (Art. 2377 § 1 of LC),
 - in a case when more than 100 employees are employed, the employer is required to establish a service for occupational safety and health, to perform advisory and control functions, and in cases where less than 100 employees are employed, a person with other working duties or, in case there are no competent employees at the establishment, a specialist from outside the establishment should be tasked with duties to be performed by the OSH service. The employer who completed the training necessary to perform safety and health service tasks may carry out these tasks on his or her own if he or she (1) employs up to 10 employees, or (2) employs up to 20 employees and is classified into a business activity group where the risk category, within the meaning of regulations on social insurance for accidents at work and occupational diseases, is defined as level three or lower (Art. 23711 § 1 and § 2 of LC),
 - consult with employees or their representatives about all measures related to occupational safety and health (Art. 23711a § 1 of LC),
 - in cases when more than 250 employees are employed, the employer must establish an occupational safety and health committee, to act as an advisory and opinion-making body to the employer (Art. 23712 and 23713 of LC); consultations as regards OSH may take place within this committee (Art. 23711a § 5 of LC),
 - comply with the prohibition to employ women for particularly onerous jobs or jobs that are harmful to their health (Art. 176 of LC) and prohibition to employ minors for jobs they are not allowed to take up (Art. 204 § 1 of LC).

The obligations of the employer as with regard to occupational safety and health are also provided in the executive (secondary) regulations issued on the basis of authorizations given by the Labour Code (Ministry of Labour, 2015).

7. THE STRUCTURE OF ALFA I OMEGA (A DETAILED DESCRIPTION)

At present, AIO employs twenty-two workers. Additionally, it is outsourcing some work to external companies. Sixteen full-time employees work at AIO's headquarters in Głogów. Six external sales representatives work in their own areas, with flexible working hours. The majority of employees live close to the company's headquarters in Głogów, except external sale managers. AIO has its external sale representatives in the areas of: Katowice, Rzeszów, Wrocław, Poznań, Warszawa and Gdańsk. Over the years, AIO's owners have built friendly relationships with all employees. The owners and employees refer to each other by their first names, which is very unusual for Polish companies. AIO is recognized locally. The owners have good relations with local community, as AIO supports local schools, charities and sport events.

The structure of the company may be divided into five departments: administrative, accountancy, IT, sales, warehousing plus drivers and two caretakers (cleaning staff). Additionally, AIO employs extra workers for short periods of time when company is facing a large amount of additional work. The owners of AIO both have equal power within the company. However, to make the work easier they have divided the work. Anna Nowak is mainly responsible for sales – therefore the sales department, warehouse and drivers are assigned to her. Anna supervises imports and sales of goods. She takes part in important sales meetings and is responsible for contact with the most important clients. Jan Nowak is in charge of AIO's financial condition and is responsible for some of the human resource (HR) functions. His work is dedicated to finance and marketing – therefore accountants, ad-

ministrative workers and IT workers report to him. As far as HRM is concerned, Jan does job descriptions, primary selection for new employees, contracts, pay and benefits. There is no HRM department. The functions of HR are performed by the two owners. They both take part in job interviews, counselling, and they make decisions concerning motivation and training and development. (Figure 1)

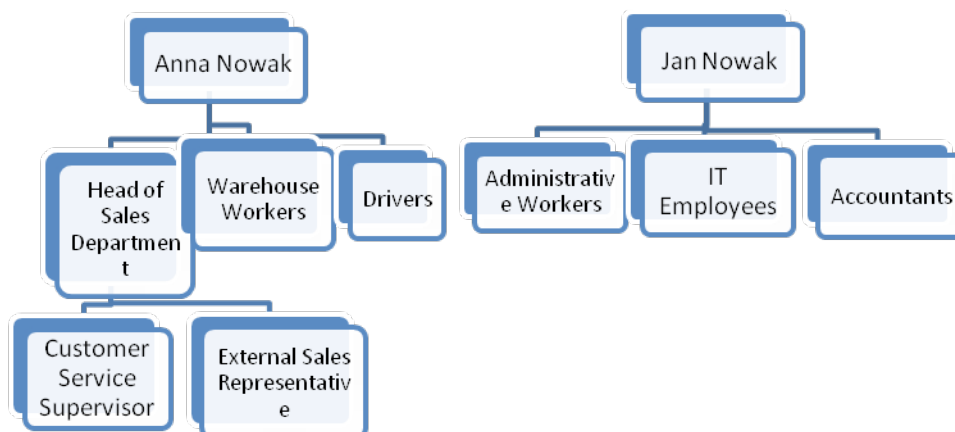
Relations between Importing and Selling:

AIO has two sales departments, internal and external. The head of the sales department is also responsible for ordering goods from Germany. The employee doing this job at AIO is woman and is in her early thirties. She is bilingual (Polish - German). The process of importing goods proceeds through several stages. Once the amount of needed goods is established, they are ordered, by an AIO employee, from a German business partner. Afterwards transport is organized to ship goods from Germany to Poland. Usually goods are transported by freight-forwarding companies. Lastly, products are checked within AIO headquarters by warehouse workers and shipped to AIO's customers in Poland.

Problems Faced:

As AIO was expanding its offer by acquiring new business partners, as well as opening its offer to new areas of Poland, two problems have been identified by AIO's owners and employees. First, it was noticed that there was an insufficient and uncompetitive reward system. Second, it became clear that it would be necessary to choose an appropriate type of contract which would be profitable, motivational and fair for AIO and its employees.

Figure 1. AIO's organizational structure



Reward Management in AIO

The reward system in AIO used to be very simple and not employee-orientated. Such a reward system was very popular in Poland for many years, and is still found among many companies. A salary was seen as a tool for rewarding employees for performed work. There were no motivational factors. Most employees were treated equally, and worked the same number of hours. Warehouse workers earned a little bit less than office workers. There was not much distinction between an accountant and a customer service worker. At some point AIO started to expand more and more. It hired new employees, internal and external sale representatives. Giving a similar amount of money to everyone was seen as no longer a fair practice.

The sales department had a specific reward system. Sales groups as a whole were given a base salary plus a percentage (approximately 5%) of AIO's total net sales attained during each month. Sale representatives were not getting many sales, because they knew that even if they did not sell much, their colleague probably would sell something, meaning that they would still get a reward at the end of month. Moreover, after hiring two sales representatives the amount of sales did not increase. Sales representatives did not work efficiently. This situation caused communication problems and conflicts among sales department employees. The owners were amazed that after AIO hired new employees, the company's sales still were at the same point and the sales representatives were in conflict. This was the point at which the owners decided to change the whole reward system within AIO. Hence, in 2006, the reward system underwent an enormous transformation.

Presently, the reward system is one of the most basic tools for managing employee motivation at AIO. The heads of AIO have found that rewards that are given for performance have a big impact on motivation and on the actual performance of AIO's employees. The owners share Griffin's (2008) view about motivation and rewards – that rewards are related to motivation and to performance. As an organization, AIO wants employees to perform at relatively high levels, and must make it worth their effort to do so.

The Reward System for the Administrative Department Employees:

There are two employees in the administrative department. One speaks fluent German, the other fluent English. Administrative employees are rewarded with base gross salary of 4000 PLN (1036 USD) *

The Reward system for the Accountancy Department Employees:

There are two employees in this department. Both employees get base gross salary of 4000 PLN (1036 USD) *

The Reward System in the IT Department:

Each employee in the IT department has a base salary, although they have opportunities for extra rewards. Employees are given rewards based on their performance. IT employee may receive additional rewards by sharing and implementing his or her new ideas that are related to AIO's performance. It may be something such as the new design of the website or new ideas for increasing sales through the internet. This reward is usually determined by the individual's performance and overall contributions to the organization. The base gross salary equals 3500 PLN (906.85 USD). *

The Reward System in the AIO's Sales Department:

Internal Sales Department: There are three employees in the internal sales department. They also work within AIO's working hours and in its headquarters. They are responsible for contact with external sales representatives, contact with current clients, searching for new clients, monitoring the number of commodities, and making sales and ordering plans. Internal sales department employees receive a base salary and percentage (from 5 to 15%) of the total personal net sales as a bonus attained in each month. The internal sales department base salary is higher than those in the outer department, as they have more responsibilities. The base gross salary equals 5000 PLN (1295.50USD). *

External Sales Department: AIO employs six external sales representatives. Each has been given an area in Poland within which he or she works. Their working hours are flexible. They are required to work eight hours per day and are granted one day a week when they stay at their homes doing administrative work. They are not required to come to company's headquarters that day. Each external sales representative receives a car, a laptop and a mobile phone. They are responsible mostly for current sales, searching for new clients, as well as for the care and management of present customers. The reward system of these employees is a bit more complex. First of all, they receive a base salary plus sales commissions. Because their productivity can be easily and objectively measured, they receive a percentage (from 5 to 15%) of their total net sales of every month. The base gross salary equals 3500 PLN (906.85 USD). *

The Reward System for Warehouse Employees:

There are three warehouse workers employed by AIO. They are responsible for receiving and shipping commodities, preparing commodities for drivers and keeping orders in the warehouse. All three receive a base salary. In case there is a shipping order that needs to be prepared – for example a large order preparation – employees receive performance-based rewards. The base gross salary equals 3500 PLN (906.85 USD). *

The Reward System for Drivers:

There are two drivers working for AIO. Generally, drivers work also within AIO's working hours but there are a few days in a month when they have to start work at 6 a.m. Each day they are in AIO's headquarters and are responsible for delivering AIO's commodities to customers in area of Głogów. Once a week, one of them must go to Germany to pick up commodities from one of AIO's partners. During that time, according to Polish labor law, one is given an expense account. In cases where there are no deliveries, drivers are responsible to help in the warehouse. Drivers are also paid a base salary plus performance-based rewards. The base salary equals 3500 PLN (906.85 USD). *

Contracts between AIO and its Employees:

When AIO hires new employees, each is given a trial period contract for three months. Up until 2006, each employee, after a three-month trial contract, was given a contract of permanent employment. Employees were sure of their position permanence within AIO; their motivation was decreasing significantly. Since AIO decided to expand to new areas of Poland, the owners of the company started to search for new methods of employing workers (various contracts with different levels of basic and extended benefits and employment security to motivate them more efficiently). Currently the structure of employment is characterized by the following:

- As a new employee is being employed, he/she has a three-month trial contract.
- This three-month period is a time for the employer to decide whether the person chosen is appropriate for this position. It is also a time for the employee to decide whether it is an appropriate job for him or her, and to see how he or she feels in AIO's working environment.
- Within this period, AIO covers its employees' social and health insurance costs.

- If the employer is satisfied with employee's performance after this three-month period, the employee is offered a temporary contract for a specified period of time.
- Two-year temporary contract:
- If an employee is doing his or her best during the two-year period, he or she will be promoted with a permanent employment contract after two years. The two-year period is a time for the employee to show his or her ongoing motivation towards work and their ability to produce measurable effects of their labour. Within this period, AIO cover its employees' social and health insurance.
- A permanent employment contract is given to those who have been working hard, meeting and exceeding all work-related requirements, for the last two years. As mentioned above, the permanent contract is very profitable for the employee. Within this period AIO cover its employees' social and health insurance.

Contracts for seasonal workers:

AIO uses two types of contracts for seasonal workers:

- A contract for specific work agreement, to carry specific tasks with social and health insurance premiums covered by employer, usually without an extended benefits package. Contracts for specific work are assigned within AIO for the following jobs: hosting events during international fairs and seasonal jobs for students during holidays.
- A contract of mandate is given when the outcome of the casual employee's performance is tangible, e.g. the translation of products catalogue, building a new warehouse, etc.

*Amount in USD was calculated based on the exchange rate from 31st of October, 2015; 1\$ = 3.86 PLN

Summary of Rewards System:

AIO uses three types of rewards: base salary, performance-based rewards and nonmonetary rewards. Base salary is a gross income that an individual is paid each month, regardless of their performance. A performance-based reward is given to employees on the basis of the value of their contributions to the company's performance. Employees who make greater contributions are given higher pay than those who make lesser contributions. Rather than increasing the person's base salary at the end of the year, an individual instead receives five to 15% of their net sales in con-

junction with demonstrated performance during that performance period (at the beginning of each month). This kind of reward system is very likely to be used when performance can be objectively assessed in terms of number of units of output or similar measures, rather than via a subjective assessment by a superior. Nonmonetary rewards are also other ways by which AIO's employees are rewarded for their performance.

- Prior to Easter and Christmas, AIO uses monetary and nonmonetary rewards for each of their employees. All employees receive equal nonmonetary rewards but monetary rewards are based on individual employee's performance during the year. These are given to employees during formal Easter and Christmas dinners when all employees are present.
- For those who show outstanding performance AIO's has a special training available. Training is held by external training companies or by AIO's German partners.
- In case an outstanding performance is required from the whole company, AIO can count on its employees. Sometimes situations require an extra job performance effort which has to be done as quickly as possible. Therefore, everyone in the headquarters has to work together very hard to achieve this goal. After good cooperation and achieving a desired goal, employees always get a reward, as this will motivate them for future job assignments.

Monetary and nonmonetary rewards increase employees' motivation to work. Furthermore, AIO's head management has found another way to motivate their employees. They enable their workers to set their own goals, make decisions, and solve problems with their responsibility. This strategy applies mainly to the administrative and sales departments. What's more, AIO owners wanted to increase motivation of IT and accountancy workers, Therefore, they give them the possibility to make decisions on their own.

AIO's owners are aware of the fact that motivation is important at work, although they also know how important communication in an organization is. Once each month, AIO organizes whole company meetings. These meetings usually begin with a short training session for employees. During the afternoon, there is a dinner in a restaurant. If possible, AIO's partners from Germany attend these meetings. As AIO's employees underline, it is much easier and enjoyable for them to work with people they know in person, rather than working with people known only via e-mails or telephone conversations.

QUESTIONS RELATED TO THE CASE STUDY

1. Identify reward systems in "Alfa and Omega". Is the reward system used by AIO an efficient and effective way of motivating employees work according to their job requirements?
2. What motivational tools are used by AIO owners? Would you consider them as effective in a small to medium enterprise in your country?
 - Would you recommend any changes to AIO's owners?
3. Role play exercise:

A focus group has been set up to consider issues of hiring new employees and signing contracts with them. The goal of the group is to create a list of evaluation criteria for job positions and to choose appropriate types of contracts of employment for each job position.

The group should hire 5 new employees:

 - a customer service supervisor,
 - a translator of a new catalogue from German to Polish,
 - an external sale representative,
 - a part-time worker to help in a warehouse,
 - a translator and an interpreter for a five-day international exhibition in Milan, Italy
4. Questions for class discussion:
 - Why is it important to motivate employees? How should employers motivate their employees?
 - Unlike in the old reward system, the new strategies implemented in the AIO include quantitative and qualitative components. In what ways do the implemented strategies encourage employees' motivation towards work and team work?
 - Consider what effect would the introduction of the Euro as a currency in Poland in the future on the AIO's imports from Germany.
 - Consider and discuss similarities and differences in providing employment contracts and motivation systems in similar types of companies between Poland and your country.

TEACHER'S NOTES

1. Reward system implemented in AIO
 - Base salary
 - Merit reward system
 - Incentive reward system

AIO uses a combination of base minimum salary with additional commission as an incentive

2. Motivation strategies used in AIO:

- Empowerment
- Participation
- Reward system

CONCLUSIONS AND RECOMMENDATIONS

During the writing of this article we often confronted our own notions of what is really important for our students. It is a phenomenon that is central to the professional existence of this author. It is his conclusion that the most valuable skill that may be acquired from thorough examination of case studies is the ability to deal with the unknown. This is a crucial skill for a future manager, engineer, business graduate economist or social scientist. The current era is punctuated by accelerating change, and the unknown is ubiquitous. In our own way, it is hoped that the concepts hereby outlined, as well as the methodologies advanced as a result of this research, provide bridges over which those who come after us will travel.

It is worth noting that future research could be beneficial in the area of the interplay of social media and e-learning, while utilizing the case study as a managerial teaching tool in new communication spheres and environments.

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Gender-Sensitive Budgets as a Social Innovation in Local Governments

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Abstract: Industrialized societies struggle with a growing number of challenges that may not be solved solely with technological innovations. Citizens in post-industrial societies demand more sophisticated approaches from public administration offices at all levels of governance. Social innovation has become even more important for sustainable economic growth in recent times. Today the understanding of innovation in the government sector is changing. There is an increasing need for creative and innovative solutions for fostering sustainable growth, securing jobs, and increasing competitive abilities.* This paper examines one particular social innovation, namely ‘gender-sensitive budgets’, and contains the insights gained by the authors who participated in an EU project conducted by Vistula University. The aim of the project was to improve the quality of management in twelve selected local governments in Poland. One of the deliveries in the project was the creation of a set of tools supporting the introduction of gender-sensitive budgets. Those tools included educational materials, manuals, guidelines and measurement instruments for employees, including decision-makers at the county (*powiat*) level of public administration. Gender-sensitive budgets are a social innovation in Poland. This paper describes the first early practical experience from the implementation of gender-sensitive budgets in local governments in Poland, and is in fact, also one of the first such endeavors among OECD countries.

Keywords: gender equality, empowerment of women, public administration, social innovations, service quality, local government, new public management

I. INTRODUCTION

Poland has been undergoing structural changes since 1989 when the first free election in Eastern Block countries took place. After reforms were initiated in Poland, all communist countries followed, including East Germany, which opened the gates of the Berlin wall in the autumn of 1989. The event soon became

known as ‘the fall of the Berlin wall’. The reforms in Poland continued thereafter. Another important milestone for Poland was the reform of public administration. Poland’s 1999 public administration reform reduced the number of provinces from 49 to 16, restored 373 counties (including 65 cities with county status), and decentralized public programs and services, returning local autonomy to cities and counties. This process dramatically altered many programs in social services previously administered at higher levels including residential nursing homes, orphanages, adoption services, rehabilitation centers, and services for the disabled. It also provided the

* See: K. Ch. Urama, E.N. Acheanpong, Social Innovation Creates Prosperous Societies, Summer 2013, http://www.ssireview.org/articles/entry/social_innovation_creates_prosperous_societies, 05.12.2014.

potential for increased citizen participation in social service programming (Kerlin 2002).

The size of provinces (*województwo*) was increased by means of consolidating the then 49 provinces to a total of 16. The level of county government and its structures was re-introduced after it had been abolished in 1975. The return of counties was intended to give impetus to the restoration of local cultural identity, which had continued to forming in these areas since mid-thirteenth century. The restoration of self-governing counties, which had been abolished by the Communist Party in 1975, was especially viewed as an important step in returning democracy and democratic structures to Poland (Regulski 1999). The new counties were seen as a symbol of change as they reflected full democracy at the local level.

The research reflected in this article was conducted by Vistula University in response to changes brought about by the knowledge-based economy (KBE), in which the service sector is the main contributor to GDP. These changes have led to the necessary search for organizational solutions which are adjusted to newly emerging specifications of service organizations – both from the private and public sector. Vistula University research team has been engaged in a project with the Association of Polish Counties (*Związek Powiatów Polskich*) titled “*Innovative and Efficient Administration: The Source of Success in the Economy Based on Knowledge*”, co-funded by the European Union. The purpose of the project was to improve the functioning of 12 local government units (*urząd powiatu*).

Gender is a basic social category. Human beings are born, live and die as people with a particular gender, whereas ‘sex’ is a biological state or manifestation of gender. Gender determines social relations which are especially visible in stereotypes. Social messages include indicate responsibilities and traditional forms of behaviour. However, women and men have different needs and problems, therefore, decisions made by a central government have different impacts on the economic, legal and social situations of genders. To put it in other way, tax payers and beneficiaries are women and men with different needs. Many countries focus their attention on the fact that macroeconomic decisions, including decisions related to taxation, which are not sensitive to gender-related issues, may lead to the creation, consolidation and deepening of inequalities between males and females.

In the report of the Secretary General of the United Nations “Measures Taken and Progress Achieved in the

Follow-up to and Implementation of the Fourth World Conference on Women and to the Twenty-third Special Session of the General Assembly” (Report of the UN Secretary-General, 2008), there were presented recommendations for consideration by the Commission on the Status of Women for enhancing implementation of the Beijing Platform for Action and the Outcome Document.¹ The report highlights the challenges that stem from the nature of economic frameworks themselves. Generally speaking, mainstream economic thinking assumes the behaviour of the individual to be rational, self-interested and market-oriented. This individual is presumed to have no sex, no gender, no class, no age or ethnicity, and also lives outside any particular historical, social and geographical context (Çagatay, 1998). These individuals are seen to make decisions unhindered by unequal power relations. The particularities of and differences between women and men go unrecognized under the assumption that policy objectives and instruments are broadly applicable and hence seen as gender-neutral (Balmori, 2003).

Whilst there are instances where men are disadvantaged in comparison to women, generally women and girls have fewer opportunities, lower status and less power and influence than men and boys. Gender inequality represents a huge loss of human potential, with costs for men as well as for women (Derbyshire, 2002). Millions of women around the world (Derbyshire, 2002; Kelsey, 2015) experience the following:

- have to work harder than men to secure their livelihoods;
- have less control over income and assets;
- have a smaller share of opportunities for human development;
- are subject to violence and intimidation;
- have a subordinate social position;
- are poorly represented in policy and decision making.

It is worth to mention something about the cultural specificity of Poland which is a Slavic country (like Russia, Czech Republic, Slovakia, Croatia, Ukraine, Belarus, Serbia). Historically, the role of a woman in Slavonic countries before Christianity (i.e. fourth century A.D. – ninth century A.D.) was much stronger than in “Western” cultures. Although this difference is still visible in family life when the role of women is examined, in parliaments of Nordic countries and Western countries, it is evident that the representation

¹ See: Fourth World Conference on Women, Beijing, China - September 1995, Action for Equality, Development and Peace, <http://www.un.org/womenwatch/daw/beijing/platform/>, 07.12.2014.

Table 1. Women in National Parliaments

SITUATION AS OF 1ST APRIL 2013

Country	WORLD CLASSIFICATION							
	Lower or single House				Upper House or Senate			
	Elections	Seats*	Women	% W	Elections	Seats*	Women	% W
Sweden	9 2010	349	156	44.70%	---	---	---	---
Finland	4 2011	200	85	42.50%	---	---	---	---
Iceland	4 2009	63	25	39.70%	---	---	---	---
Norway	9 2009	169	67	39.60%	---	---	---	---
Denmark	9 2011	179	70	39.10%	---	---	---	---
Netherlands	9 2012	150	58	38.70%	5 2011	75	27	36.00%
Belgium	6 2010	150	57	38.00%	6 2010	71	29	40.80%
Spain	11 2011	350	126	36.00%	11 2011	266	91	34.20%
Serbia	5 2012	250	83	33.20%	---	---	---	---
Germany	9 2009	620	204	32.90%	N.A.	69	19	27.50%
Slovenia	12 2011	90	29	32.20%	11 2012	40	3	7.50%
Switzerland	10 2011	200	58	29.00%	10 2011	46	9	19.60%
Portugal	6 2011	230	66	28.70%	---	---	---	---
Italy	2 2013	630	179	28.40%	2 2013	319	86	27.00%
Austria	9 2008	183	51	27.90%	N.A.	61	19	31.10%
France	6 2012	577	155	26.90%	9 2011	347	77	22.20%
Belarus	9 2012	109	29	26.60%	8 2012	57	20	35.10%
Poland	10 2011	460	109	23.70%	10 2011	100	13	13.00%
United Kingdom	5 2010	650	146	22.50%	N.A.	760	172	22.60%
Czech Republic	5 2010	200	44	22.00%	10 2012	81	14	17.30%
Slovakia	3 2012	150	28	18.70%	---	---	---	---
United States of America	11 2012	433	77	17.80%	11 2012	100	20	20.00%
Russian Federation	12 2011	450	61	13.60%	N.A.	163	13	8.00%

Source: Inter-Parliamentary Union, *Women in Parliaments: World Classification, 2013*, <http://www.ipu.org/wmn-e/classif.htm> (20.04.2013).

of women in Slavic countries is not strong as much as in non-Slavic countries. In all European countries the empowering of women is a crucial challenge for social and economic development (Swedish Institute, 2016; Leyenaar, 2013). The data in the table below has been compiled by the Inter-Parliamentary Union

on the basis of information provided by national parliaments by 1 April 2013. 189 countries are classified by descending order of the percentage of women in the lower house in bicameral systems, or in the single house in unicameral systems.

The United Nations Development Fund for Women (UNIFEM)² includes the following factors in its definition of women's empowerment (Narayan, 2002; Duflo, 2012; Cornwall, Rivas, 2015)

- acquiring understanding of gender relations and the ways in which these relations can be changed;
- developing a sense of self-worth, a belief in one's ability to secure desired changes and the right to control one's own life;
- gaining the ability to generate choices and exercise bargaining power;
- developing the ability to organize and influence the direction of social change to create a more just social and economic order, nationally and internationally.

THE CONCEPT OF GENDER BUDGETING

Gender budgeting is a relatively new concept (Stotsky, 2006; UNIFEM, 2009; Turan, Senturk, 2016; The VENRO Project on the Africa-EU Partnership, 2010; Sodani, Sharma, 2008). Its theoretical basis was formulated in the 1990s. Government budgets and economic management policies are increasingly viewed as key policy instruments that reflect government priorities. These policies reflect the seriousness of governmental responses to persistent developmental challenges such as gender inequality, poverty, exclusion and economic injustice.

Governments need to think about both gender and sex when making policies and allocating budgets to implement the policies. Regarding sex, government needs to ensure that policies and programmes are available and adequately financed to address the different biological needs of women and men, including childbearing for women. Regarding gender, government needs to have a vision of the type of roles, responsibilities, and relationships that it wants to see in the country for women and men, girls and boys, and design, fund and implement policies and programmes to move towards this goal. Discrimination of women is observed in different stages and in the context of various roles played by women. It starts during infancy (0-1 years) with discrimination in breast feeding and healthcare. During childhood (1-10 years) discrimination against girls manifests itself with malnutrition, discrimination in apportioning resources, and child abuse. Later, in adolescence (11-18 years) girls in greater numbers are trafficked and forced into commercial sex work, have higher rates of school

² UNIFEM is now (2014) UN Women, the United Nations Entity for Gender Equality and the Empowerment of Women.

dropout, anemia and child marriage. The discrimination continues throughout the whole life cycle of women who are subject to domestic violence, abortion, unpaid farm work, lack of an asset base, dowry harassment, divorce destitution, begging, etc.³

The sole concept of gender budgeting is not based on favoring women. On the contrary: it means that budgets, both on the level of the national budget and local government budgets are "blind to differences between the males and females". It means that decision-makers treat women as individuals regardless of their social background (NORDEN 2006; Dalal 2016).

WHAT CONSTITUTES A GENDER BUDGET INITIATIVE (GBI)?

GBIs are diverse efforts aimed at breaking down the government's budget in order to analyse its impact on women, men, girls and boys, and can include other axes of social differentiation (such as race, ethnicity, class, and caste). Their main purpose is to examine whether public expenditures are allocated in an equitable way, and hence promote gender equality (Robertson, Byrne, 2016; Verloo, 2005; Chant, Sweetman, 2012). Following this line, gender-sensitive budgets are neither separate budgets produced for women, nor limited to achieving an increase in allocations specifically targeting women. Around the world gender budgeting trends to focus on women because of the following considerations (Budlender, Hewitt, 2003):

- Nearly two thirds of the illiterate people in the world are women.
- In developing countries, maternal mortality continues to be a leading cause of death for women or reproductive age.
- Women are under-represented in decision-making in both government and business sectors, especially at senior levels.
- Women's 'economic' work continues to be very different in nature from men's. Women are engaged in less formal, lower status types of work and continue to receive less pay than men for the same work.
- Women continue to do most of the unpaid work of bearing, rearing and caring for children and other citizens.

³ For more on discrimination through the life cycle of girls and women see: Ministry of Women and Child Development, Government of India, *Gender Budgeting Handbook for Government of India Ministries & Departments*, 2007, p. 4, <http://wcd.nic.in/gbhb/Link%20hand%20pdf/Gender%20Budgeting%20Hand%20Book.pdf>, 24.11.2013.

Australia pioneered gender-sensitive budget analysis in 1984 by committing government agencies to evaluate the impact of the budget on women and girls. The Australian Women's Budget required the breakdown of each agency's expenditure into three main categories (Budlener, 1999): (1) Women-specific targeted expenditures: resources allocated for programmes that specifically target women. (2) Equal employment opportunity expenditures: resources allocated to affirmative action in order to promote employment of women and men in equal numbers, equal representation within management posts, and equal pay. (3) Mainstream expenditures: the bulk of the remaining expenditures not covered by the first two categories (Budlener, 1999).

ABOUT THE PROJECT

Implementation of gender budgeting is one of the forms of social innovativeness. Enhancing the management of local self-governments in Poland is essential for the improvement of the quality of inhabitants' lives. Innovative methods of management such as gender-responsive budgeting (GRB) are a big challenge for local governments. Helpful to this process is the GRB methodology that has been available since the late 1980s and is used now by almost 100 countries of the South and the North. In Austria, since January 2008 a new constitutional law requires gender equality principles in budgets at all governmental levels (towns, provinces, state). The budget is the technical instrument by which a government reflects its policy priorities, translating these commitments into monetary terms. It is the document that encompasses the government's expenditure and revenue proposals. Consequently, the budget can be viewed as a government's declaration of principles and values, either in an explicit or an implicit way.

Generally speaking, budgets are formulated to address the needs of everyone in a uniform, apparently neutral way. As a result of traditional macroeconomic theories already mentioned, policy makers tend to assume that all individuals are equal, with shared needs and interests. These conceptions fail to acknowledge the most evident distinctions that stem from class, gender, age, race, ethnicity, sexuality and location, thus ignoring that policies and budgets have different outcomes for different groups. Typical problems faced by public institutions while implementing gender budgeting are (see for example: Quinn, 2008; UNIFEM 2006):

1. Lack of statistical information showing revenues and expenditures achieved by the local budget with gender breakdown. As now it is very difficult to ascertain what share of taxes is paid by women, and what share of different types of local government expenditures are distributed to women,
2. Decision makers are generally of the opinion that "neutrality" or "gender-blindness" of a budget is a desired and positive state.
3. Decision makers are not made accountable for results targeted at increasing the sensitivity of the budgets. During the last decade, this conception has undergone important changes, due to a series of global trends – such as emerging policy processes of democratization, decentralization, anti-corruption, and poverty-reduction (Krafchik, 2001).
4. Local citizens are not aware of the potential benefits of introducing the concept of gender-budgeting to their local governments. As a consequence, this issue is not present in local political debates,
5. Perceiving this initiative as an activity beyond the main stream of politics, as something "nice-to-have", but not necessarily important for the current functioning ("must have").
6. Lack of competencies among workers of local self-governments in the field of gender budgeting management.

In the first phase of project implementation, three tools supporting local governments in the implementation of GRBs were created: diagnostic tools, a guide for workers, and a set of key notions. Diagnostic tools describing the stage of development of the given local government. The aim is to examine the present state (preliminary diagnosis) of the area's gender sensitivity (See Table 2):

Sixteen respondents representing local governments from 16 Polish counties participating in the project were filled in and returned. The respondents were requested to describe the actual situation in their local governments (*urząd powiatowy*), and therefore, can be considered as representing those sixteen entities. The designed research questionnaire was divided into five sections. In each section there are from 6 to 12 diagnostic questions to which the answers are either "Yes" (2 points), "Yes, but not always" (1 point), and "No" (0 points). The maximum score is 82 points. Below are some of the questions included in the questionnaire:

Table 2. Evaluation of the Stage of Development in the County for Gender Budgeting

Level of sensitivity	Description			Number of points
	Sensitivity to differences between men and women	Presence of solutions leading to discrimination	Whether a given county is able to serve as an example in one of the areas related to gender budgeting	
I	Lack of sensitivity to issues related to differences between the males and females, the budget does not include neither elements nor solutions which would decrease sexual discrimination. All inhabitants of the county may feel discriminated on the grounds of sex due to inappropriate construction of the budget.	Yes.	No.	0-13
II	There are areas indicating that the budget is not “blind to differences between males and females”. However, there is a great number of elements and solutions, which may decrease sexual discrimination. Most inhabitants of the county may feel discriminated on the grounds of sex due to inappropriate construction of the budget.	Yes.	No.	14-27
III	There are areas indicating that the budget is not “blind to differences between males and females”. However, the number of elements and solutions, which may decrease sexual discrimination is so high that the inhabitants of the county may feel discriminated on the grounds of gender due to inappropriate construction of the budget.	Yes.	No.	28-41
IV	There are areas indicating that the budget is not “blind to differences between males and females”. The number of elements and solutions, which may decrease sexual discrimination is insufficient. Some of the inhabitant of the county may feel discriminated on the grounds of gender due to inappropriate construction of the budget.	Yes.	Yes.	42-56
V	The county has achieved a high level of development in the area of gender budgeting. There are a few areas indicating that the budget is „blind to differences between males and females”. However, the number of elements and solutions, which may cause sexual discrimination is scarce and many inhabitants does not feel discriminated on the grounds of sex due to inappropriate construction of the budget.	Yes.	Yes.	57-71
VI	The county has achieved the highest level of development in the area of gender budgeting. The quality of life of inhabitants of both males and females is very good with regard to solutions offered by the county, which may lead to gender budgeting. The implemented solutions are permanent and widely approved.	No.	Yes.	72-82

Source: Fazlagić J., (2013) *Gender Budgeting Guide*, Związek Powiatów Polskich, Warszawa.

- Do the documents describing the budget of the county include such terms as “gender budgeting”?
- Is there an equal participation of women and men in decision making processes related to the budget?
- Does the percentage of women sent for training events correspond to the work participation structure?
- Is gender budgeting used for the purpose of informing the local community about the process of decreasing the differences between the number of positions held by men and women?
- Are meetings on the subject of women’s needs held?
- Are local taxes collected in such a way as not to discriminate none of the gender?

The second of the three tools being utilized by local counties in Poland included a guide for the workers of local governments in which key notions are included (know-how type of knowledge). Its purpose is to pass on basic knowledge on construing GSB. The third type of tool is a set of recommendations including know-how. Its aim is to describe the basic concept of local self-government in the field of construing GSB through the creation of a set of guidelines for the implementation of gender budgeting. Each of the 20 recommendations includes an aim and a description of its implementation:

1. Change the rhetoric, from using the word “discrimination” to “increasing the sensitivity to differences between males and females”.
2. Review the existing statistic data about the inhabitants. Identify key areas which lack gender-sensitive information.
3. Classify budgetary expenses according to the gender of the beneficiaries.
4. Require from local non-governmental organizations reports on disbursement of funds which are not gender-blind.
5. Prepare an agenda for compensatory actions.
6. Prepare plan of social communication directed to increasing awareness of the inhabitants in the area of the GSB.
7. Perform an analysis of expenditures related to social issues, such as problems of health and nutrition, and social exclusion.
8. Males should be engaged in the programmes directly or indirectly related to GSB.
9. Organize training events and/or delegate workers of the offices of counties and towns to attend

training devoted to the problem of sexual equality and GSB.

10. Determine the amount of expenditures from the county’s or town’s budget for the support of sexual equality.
11. Employ people with experience with gender sensitive budgets (GSB) and sexual equality.
12. Start on a small scale – look for “small successes”.
13. Apply for the funds from the EU for the support of activities and initiatives related to gender budgeting.
14. Conduct independent social research or commission research through an external company or a university.
15. Support the non-market activities of women living in the given town or county.
16. Introduce the BASS methodology.
17. Improve the system of human resources management in the office.
18. Draw up a report on gender budgeting.
19. Start gathering statistical data about the inhabitants with regard to both males and females separately.
20. Ensure the support from the town or county.

CONCLUSION

Through budgets, local governments outline their policy intentions and the resources they intend to use to implement them. Increasing demands for democracy and good governance require that public administration offices play a more active role in the budgetary process. Democracy is based on a partnership between men and women and the eradication of gender inequalities. Gender sensitive budgets are a social innovation that has the potential to contribute to this goal. This paper presents the recent achievements by Vistula University’s research team. The results of the project indicate that there are a lot of misunderstandings and competence deficits among public administration representatives regarding gender budgeting. This paper sets out practical examples of gender budgeting initiatives which may be implemented in Poland and abroad to make a positive impact on the budget, and to equip local government offices with the necessary tools to examine the budget from a gender perspective. Finally, it is hoped that the points made in this paper could be used as a reference guide for other similar initiatives in Poland and elsewhere.

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The outdated status of the Fisher effect in the context of modern world economy

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Abstract: The paper focuses on the conditions of present-day economy which render the Fisher effect out of date. A multi-plot analysis was conducted to determine the reasons why, within the last 100 years, the Fisher effect ceased to be a universal theory in both time and space dimensions. Consequently, the author proposes to view the Fisher effect as a mere historical generalization. The paper enumerates a wide range of empirical studies, conducted by a number of academics, which show that the occurrence of the Fisher effect was limited, in both space and time, to only a few economies in the second half of the 20th century and the first decade of the 21st century – it did not appear in any other periods or economies. The results of these studies support the author's theoretical considerations. The present study constitutes a continuation of the methodological analysis conducted in the work titled *The Fisher effect – a law, a theory or a mere hypothesis?* published in the Research Papers of the Faculty of Economics of the Gorzow Wielkopolski State University of Applied Sciences (Sobkow 2015).

Keywords: Fisher effect, inflation, value of money in an inflationary environment, nominal interest rate, Darby effect.

I. INTRODUCTION

The theory of interest rates proposed by Fisher is not a trivial matter. Its author has been hailed by some of “the greatest economist that the United States has ever produced” (Schumpeter 1951, p. 223) and the theory itself has been used as a base for a number of other macroeconomic theories. Furthermore, the issue of the relationship between nominal and real interest rates under inflationary conditions is related to the current and strategic economic decisions made by both central banks and the various business entities operating in the economy. Examining the issue of choice of the best methodological framework for investigating the occurrence of the Fisher effect appears to still be vital and necessary as it does, ultimately, affect the financial effectiveness of corporations as well as the economy of the entire world.

Fisher published his theory of the correlation between real and nominal interest rates in the work *The Rate of Interest* published over 100 years ago, in 1907. In it, he asserted that a depreciation of the value of money by 1 percent will raise the interest rate by (approximately) the same amount (Fisher 1907, p. 327). This is the so-called ‘a point-for-point effect’, also known as the Fisher effect, which can be represented by the formula:

$$I_n = I_r + F$$

where:

I_n – nominal interest rate,

I_r – real interest rate,

F – expected inflation rate in the economy.

Fisher maintained his point of view in his next book *The Theory of Interest* (Fisher 1930). He postulated constancy of the real interest rate. Thus, he claimed that “nominal interest rates rise point-for-point with expected inflation, leaving the real rate unaffected” (Barsky 1987, p. 3).

The structure of the current article is as follows: Section 1 presents the methodological arguments proving the possibility of viewing the Fisher effect as a ‘historical generalization’; Section 2 describes the changes which took place in the American economy over the past century. Whilst the Fisher effect worked properly at the beginning of the 20th century, there is a huge possibility that now, as a result of those changes, it is no longer effective; and finally, the Conclusion sets out the results of the analysis conducted for this study as well as potential new lines of inquiry in this area of research.

2. THE METHODOLOGICAL BASIS FOR CATEGORIZING THE FISHER EFFECT AS A HISTORICAL GENERALIZATION

Narrowing down a theory or a scientific law into a historical generalization requires mentioning two different reasons for putting forward this postulate, namely:

- methodical reasons which necessitate the moving of a theory or a scientific law from the universal level into a lower one, in this case the level of a historical generalization,
- socio-economic factors which formed the basis of the description of a given theory and which make it objectively impossible for a given theory to be universal.

Undoubtedly, from a methodological perspective, Fisher’s ‘point-for-point effect’ is held as a scientific hypothesis. A hypothesis may generate more detailed predictions, for example, as to the stability of the real interest rate in the inflationary economy. If the Fisher hypothesis were to be an economic law, the outcomes of its expected application should not be limited both in terms of time and space. Thus, the law should remain effective at different times and in different places, namely in the 1930s and at the turn of the 20th/21st century, and not only in the US, but also in Poland, Japan, etc. Yet, as a result of the research carried out by numerous different groups of scientists and over a span of many years, the ‘Fisher effect’ underwent many effective falsifications. These falsifications have been conducted not only in a time, but also in a space di-

mension. There were times, in a certain economic area, when the hypothesis was applicable, and there were times when it was not. And there were places where the hypothesis was workable, and there were places where, at the same point in time, it was not. As such, the thesis relating to the stability of the real interest rate turned out to be false. Fisher’s theory continued to be falsified on numerous occasions despite the fact that the research tools which might have caused errors in empirical studies were changed (Makin 1981; Mishkin 1984; Payne and Ewing 1997; Carneiro 2002; Miyagawa and Morita 2003). It was Cooray (2003) who conducted an extensive analysis of the research done on the effectiveness of the Fisher hypothesis in various places and over the last few decades. Concluding his study, he stated directly: “Despite the positive relationship observed between interest rates and inflation, the majority of empirical studies have not conformed to the hypothesis in its strictest form” (Cooray 2003, p. 145-6). Martins was even more rigorous and claimed that “a better understanding of interest rates and nominal prices empirical behavior requires the abandonment of Fisher (1930) theory of interest”. Fisher’s theory itself was described by himself as “an untouchable scientific axiom” (Martins 1994). Making reference to Popper’s research methodology (Popper 2005), the Fisher effect should be rejected as a hypothesis which validity, in a universal sense, has been repeatedly denied. Thus, the methodological basis for questioning the universality of the Fisher effect is set on a firm foundation – the falsification conducted independently by various groups of researchers.

The methodological analysis conducted by the author of this article in the work titled *The Fisher effect – law, theory or just a hypothesis?* (Sobkow 2015) indicated that, as a result of the above, the Fisher effect might be considered as a so-called historical generalization. A historical generalization is a statement which, even if valid, is by no means universal as its validity is limited by time, and at times also by space. A historical generalization is, as such, only valid at a particular time in history and sometimes only in relation to a particular area (be it a country or a group of countries).

To exemplify, despite its name, the so-called Okun’s law is a historical generalization. It was possible to observe that, in the United States until the year 1965, for every percentage point increase in the natural rate of unemployment, the country’s GDP would decrease by roughly two to three percentage points (Okun 1966). Thus, Okun’s law, which was derived from the abovementioned observation, is primarily

based on empirical studies rather than theoretical considerations. It allows to conclude that Okun's law may not be entirely predictive and, as a result of economic changes, may be perceived to be unstable across time. Undoubtedly, empirical studies confirm this assumption (Knotek 2007). It was already Prachowny who has estimated about three percentage points decrease in GDP for every one percentage point increase in the unemployment rate (Prachowny 1993). Other studies show that, whilst this index does, actually, stand at a mere 2% in the case of the US economy, it takes, at the same time, different values in other countries (Giorno, Richardson, Roseveare, Noord 1995). Thus, it would not be unusual, as in the case of Okun's law, to view Fisher's effect as a historical generalization.

3. THE DETECTION OF THE POSSIBLE CAUSES OF NARROWING DOWN THE FISHER EFFECT INTO A HISTORICAL GENERALIZATION

The search for the origins of the socio-economic conditions making it impossible for the Fisher effect to become a universal law should focus on detecting the specificity of the US economy at the turn of the 19th/20th century. These conditions differentiate the American economy from the past from the present one. It turns out that, at present, the American economy differs critically in many areas from the economy which constituted a basis for Fisher's theory on interest rate levels in inflationary conditions. It the primary issue, however, emphasis should be put on four issues, namely: the existence of income tax, the dollar/gold convertibility as well as the way a central bank operates.

3.1. Inflation rate

When Fisher formulated his 'law' at the turn of the 19th/20th century, the currency/gold convertibility, the so-called 'gold standard' was a prevailing principle in the world economy. At the same time, gold was also considered to be a material good. Not only was it used as a currency, but a lot of people tended to also hoard gold. What is more, it also had industrial applications: gold was used to produce luxury goods but it was also used as a material in technological production. Just like any other raw material, it was subject to the law of supply and demand. The changes in the supply of this particular material influenced its price (Barsky and De Long 1991, p. 11). The rise of supply related either to the opening of new gold mines or the introduction

of new advanced melting technologies, which resulted in a drop in the price of gold. This, in turn, led to a rise in the price of other goods in which prices were represented by the decreasing value of gold. The same was true the other way round. Thus, the drop in the supply of this raw material resulted in a rise in the price of gold. As a consequence, deflation appeared. However, these changes in gold supply (or demand) per year were not drastic. For this reason, the annual changes in prices fluctuated only by a few percentage points. In the last 20 years prior to 1907 (the year of the publication of Fisher's *The Rate of Interest*), the average level of price fluctuations (inflation or deflation) amounted to merely 1.18%. At the same time, the highest annual rate of inflation was 2.23% and deflation – 2.28% (21st Century: A Post Keynesian Perspective, 2015). The inflation rate was not even significantly influenced by the two major gold rushes in the US, namely the California and Klondike Gold Rush. The level of price fluctuations at that time was not more than a few percent annually. Therefore, investor's forecasts of inflation rates concentrated around this level. Moreover, it was also this level which they took into consideration when determining their investment risks. These were the conditions under which Fisher was conducting his considerations.

Fisher's effect is based on a wide range of assumptions related to the economy in which it functions. Curiously enough, some academic authors claim that there is no such thing as an economy in which the Fisher effect would prove to be valid (Marco 1994). Without going deeper into this issue, as it does not form the focus of this study, it is important to take note of one of the assumptions of the Fisher effect. The assumption refers to the fact that investors will expect the inflation premium to be exclusively limited to the inflation rate. For example, Fisher does not take into account the risk of changes in expectations of the level of the inflation premium depending on the alterations in the expected inflation rate. Neither the expected inflation rate nor the nature of inflation in terms of its potential changeability is taken into account in Fisher's formula. In other words, it does not matter in the formula whether inflation is expected to be amount to several or several hundred percentage points, and also whether it is stable or not. Modern economic thought acknowledges that a bonus expected by an investor investing in financial instruments with highly changeable rates of return will be higher than a bonus related to more financially stable investments. After all, Markowitz's modern portfolio theory is based exactly on this statement. However, the theory was formulated in the 1950s and 60s, which is many

decades after the publication of Fisher's fundamental works. What is more, some empirical studies carried out in recent years, may indicate that the level of inflation may have an influence on the validity of the Fisher effect (Phylaktis and Blake 1993).

The departure from the gold standard by the world economy after the Second World War led to a significant increase in interest rates. The average inflation rate in the American economy during 1968-1987 was as high as 6.4% and it was almost five times higher than in 1887-1906. In the Polish economy during the 1980-2000 period, the average annual level of increase in prices was as high as 69%. Conducting empirical studies aimed at establishing the connection between inflation rates, as well as the intensity of their changes and the effectiveness of the Fisher effect could allow to work out detailed limiting conditions. These would become the conditions limiting the effectiveness of the Fisher effect beyond which it would be nothing but a historical generalization.

3.2. Income tax

The Fisher effect may be considered as a determination of the condition under which money demand equates money supply under inflationary conditions. If we assume that Fisher was right, and that in an economy, regardless of the extent of changes in the rate of inflation, the rate of the real interest rate is stable, then, if the interrelation between the rate of inflation and the rate of interest would not match a point-for-point relation, the money market could become imbalanced. For example, if the rate of interest would not keep pace with the expected inflation rate, this would result in the flow of additional financial profit from creditors to debtors. This would increase the demand for money and, as a result, in accordance with the law of supply and demand, there would be an equilibrium in the money market at higher prices – exactly at the fulfillment of Fisher's 'point-for-point' condition.

The opinion that inflationary conditions make it possible for additional profits to flow from creditors to debtors is well established in the economic literature. However, the conditions in which this profit transfer would be feasible were limited to the situation characterized by a discrepancy between the expected and actual inflation rate (e.g. Alchian and Kessel 1959). Fisher shared this view. The situation mentioned above was, however, related to the conditions in which the actual inflation rate would equal its expected rate. Even if the Fisher effect does not hold, the abovementioned profit transfer would appear. In addition, while

in the second case the transfer was to result from the unpredictable occurrences (a discrepancy between the expected and actual inflation rate is, by nature, unpredictable), the first-case transfer was possible to predict. It would invariably appear in inflationary conditions. Unpredictability would only relate to the scale of the profit transfer.

After many falsifications of the effectiveness of the Fisher effect, many economists indicated that in both inflationary conditions and in a situation where an income tax was imposed on companies in order to maintain the real value of money whilst at the same time, while avoiding the disturbance of the balance of supply and demand, the nominal interest rate would have to increase by more than 'point-for-point'. A rise in the nominal interest rate should additionally allow for a tax shield generated from interest in order to avoid the transfer of profit from creditors to debtors (Darby 1975; Feldstein and Summers 1979). Otherwise, in inflationary conditions resulting a change in the level of interest charge at the rate indicated by the Fisher effect, a tax shield there would result in the transfer of a benefit from capital grantors to capital takers. The condition for the abovementioned situation to happen is the fact that interest rates should rise only by a level indicated by Fisher. With both higher levels of inflation and income tax rate, the tax shield effect could even exceed the level of the cost of money under non-inflationary conditions. Shaped in this way, the level of the cost of money would result in the lender incurring a financial loss every single time he was making a transaction. With reference to the Fisher effect, the Darby effect or Darby-Feldstein was formulated. It describes exactly this kind of relationship between nominal and real interest rates in inflationary conditions and the applicable income tax where the transfer, from money grantors to money takers, of the abovementioned financial profits related to a tax shield does not take place. The relation between the value of nominal and real interest rates would then be:

$$I_n = I_r + F / (1 - T)$$

where:

T – income tax rate

Many studies conducted to prove this theory revealed the actual existence of evidence supporting the presence of the Darby effect (e.g. Peek, 1982). However, many of them also indicated time restrictions as well as varying intensity of the impact of the

tax factor on nominal interest rates. For instance, John A. Carlson, while examining the evidence verifying the Darby effect, found the proof for its influence on nominal interest rates in the United States in the 1960s. However, in the 1950s and the 1970s, this influence was considerably smaller (Carlson 1979). Even though, from a mathematical perspective, the Fisher effect is a special case of the Darby effect, perhaps it may be reasonable to view the Darby effect, just as Fisher effect, as a historical generalization. The question of theories accounting for the relation between nominal and real interest rates remains to be solved.

It turns out that when Fisher published his fundamental work titled *The Rate of Interest* (Fisher, 1907) income taxation did not exist in the US. It was only introduced in 1909 and it only became official law after passing the so-called Sixteenth Amendment of the United States Constitution in 1913. Moreover, at first, until the US joined the war in 1917, the tax rate amounted to merely 1-2% (IRS, 2015). Against the background of this low level of inflation and tax rates, the impact of a tax shield on the nominal interest rate suggested by Darby would amount, at that time, to only a fraction of a per mil. Its impact on the interest rates calculations, aimed at predicting future interest rates conditioned by the expected inflation rate, could still be omitted. As noted earlier in the last 20 years before 1907, the average yearly level of price fluctuations (inflation or deflation) was equal to merely 1.18%. At the same time, the highest annual rate of inflation was 2.23% and deflation 2.28% (21st Century: A Post Keynesian Perspective, 2015). The average tax shield impact would thus be:

$$T_s = f * I_t$$

where:

T_s – Tax shield

f – inflation rate

I_t – income tax rate

$$T_s = 1.18\% * (1 \div 2\%)$$

$$T_s = 0.012\% \div 0.024\%$$

The maximum impact of the tax shield would be:

$$T_s = (2.23 \div 2.28\%) * (1 \div 2\%)$$

$$T_s = 0.02\% \div 0.05\%$$

Even if the highest values of inflation and deflation are included in the calculations above, the money

transfer caused by the existing income tax would still amount to just a fraction of a per mil. Its impact on the interest rates calculations aimed at predicting future interest rates, conditioned by the expected inflation rate, could still be omitted.

The inexistence of an income tax imposed on companies would be a fully explicable reason for the absence of this factor in Fisher's formula when he presented his view on the interrelation between real and nominal interest rates in inflationary conditions at the beginning of the 20th century (Fisher 1907). He might have omitted this element until the publication of his fundamental work *The Theory of Interest* (Fisher 1930). This date, however, marks the time when significant tax and inflation transformations took place in the American economy. Both tax and inflation rates increased sharply. The change in Fisher's views might have already taken place in 1930 when he published *The Theory of Interest*. In the introduction to this book, Fisher pointed out to the significant changes in the world economy which took place since the date of publication, as well as other economists' critical opinions on *The Rate of Interest*. Ultimately, however, Fisher stood by his practically unchanged views ("My theory of interest has been altered scarcely at all") (Fisher I., 1930, p.10). Fisher's 'point-for-point effect' was not adapted to the changing conditions of the world economy.

3.3. Dollar/gold convertibility – the gold standard

Another factor that could limit the Fisher effect in terms of both time and space is the dollar/gold convertibility at the turn of the 19th/20th century. At that time, it was the currencies backed by the gold standard that dominated world financial markets. The American dollar was also convertible into gold on the basis of the Gold Standard Act passed on 14 March 1900 according to which 1 USD was backed by 1.67 g of pure gold. Both of Fisher's key publications, relating to the issue at hand, namely *The Rate of Interest* and *The Theory of Interest*, were published in 1907 and 1930 respectively, that is, before the American economy's departure from the 'gold standard'.

Nowadays, the dollar is no longer subject to the gold standard. It was replaced by fiat money. However, in the US, the transition from a gold-backed currency to a fiat currency was not just a single act but a process which started in 1933 and was completed in 1973. In 1933, the dollar's internal convertibility was suspended, and one year later the gold standard was

changed from \$20.67 per ounce to \$35 per ounce. In 1971, the government officially announced its intention to depart from the convertibility of the dollar. That ultimate step was finally taken in 1973. At the time, the exchange rate was already as high as \$42 per ounce.

The hypothesis of the existence of a potential interrelation between the Fisher effect and the gold standard may be arrived at via indirect research. Most importantly, the relation between the price level in the economy and the interest rates which was noticed by Alfred Gibson and described by John Keynes as “Gibson’s paradox” (Keynes 1930) has been directly linked to the “gold standard” period in the world economy. Together with the slow downfall of the “gold standard” Gibson’s paradox also lost its power until its complete disappearance in the 1980s. The attempt aimed at explaining Gibson’s paradox was taken by reference to the Fisher effect. This endeavor was made by Fisher himself as well as by other economists on the basis of his work. Gibson’s paradox was supposed to be a deferred Fisher effect (Fisher, 1930). This explanation was generally criticized on the basis of different research outcomes (Friedman and Schwartz 1982) or the acknowledgement that Gibson’s paradox is related more to the fluctuations of real interest rates than nominal interest rates (Shiller and Siegel 1977; Barsky and Summers 1988). However, in the opinion of the author of this article, the relation between Gibson’s paradox and the Fisher effect is a matter which remains open for debate.

The next significant fact that could indirectly point to the relationship between the Fisher effect and the “gold standard” would be the fact that Darby, later followed by other academics, proposed the existence of the Darby effect following the abolition of the dollar/gold convertibility. The years following 1973 saw the publication of the most important works by Darby, Feldstein and Summers who postulated the incorporation of the income tax into Fisher’s equation. As noted above, these works were published after 1973, that is, only after the convertibility of the dollar to gold was abolished. Thus, the publication of these research papers of a fundamentally methodological character took place in the 1970s, even though the rates of income tax payable by corporations as well as natural persons (which are crucial for the Darby effect), already reached a two-digit level in the US since the Second World War (IRS 2015).

3.4. The functioning of a central bank

Finally, the creation of a central bank in the United

States might have substantially influenced the relationship between interest rates and inflation forecasts. The Federal Reserve System (Fed), which is a counterpart of the European Central Bank, was established in the US in 1913 (Econlib 2015). Thus, the creation of the Fed took place only after the publication of *The Rate of Interest* which established a basis for Fisher’s equation. Subsequent changes, which were aimed at strengthening the Fed’s power, were introduced in the years 1931-35, again that is a couple of years after the publication of *The Theory of Interest* (Fisher 1930). The influence central banks exert on interest rates is unquestionable and results, among others, from the fundamental duties imposed on these institutions. By way of an example, in Poland those duties as well as the rights related to them are laid down in the Banking Act of 29 August 1997 (Dz.U. 1997 Nr 140 poz. 938). Art. 3.1 of this Act states that “the basic objective of the NBP [the central bank of the Republic of Poland]” shall be “the maintenance of price stability and, at the same time, the support of the Government’s economic policy”.

The role of the influence a central bank has on the price levels may therefore contradict investors’ expectations in terms of inflation rate, change these expectations or it even lead to the effective change in the result of these expectations (Gibson 1970).

4. CONCLUSION

The changes in economic circumstances of the US economy after 1930 could have an impact on the nominal and real interest rates as well as the relation between them. The postulated “point-for-point” relationship under inflationary conditions might have changed. Many theoretical, as well as subsequent empirical studies, confirmed the fact that the Fisher effect might have lost its validity or could only function under limited conditions of time and space. Some academics have directly stated that Fisher’s “point-for-point” effect could be only applicable in income tax-free economies (Weidmann 1997). As a consequence of the publication of numerous research results denying the universal character of the Fisher effect, the author of this article believes that in today’s global economy, it should be viewed just as a historical generalization and that its effectiveness should be limited to not later than the time until the first half of the 20th century. Since that time, the changes in economic conditions gave rise to such factors as inflation rate, the intensity of changes in inflationary processes, income taxation as well as the abolition of the gold standard. All those factors may influence the nominal and real

interest rates in inflationary conditions which were not taken into account in Fisher's theoretical considerations. As a result of these changes, the postulated 'effect' has lost its universal character. Thus, its use in decision-making processes at the corporate level may not be economically effective at present.

Undertaking empirical research aimed at determining the relation between inflation rates, the intensity of their changes and the degree of the effectiveness of the Fisher effect could lead to the pinpointing of detailed limiting conditions. They would become the conditions limiting the functioning of this 'law' beyond which it would be nothing but a historical generalization.

A final methodical commentary should be made at this point. Even if it would not be possible to detect all the causes which limit the Fisher effect to a given historical period, the empirical evidence of this limitation, derived from empirical studies aimed at the falsification of Fisher's effect, should be sufficient evidence to warrant the statement.

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The Concept of Personnel Marketing in Companies

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Abstract: The concept of HR/personnel unit operations at many medium-sized or small companies has been noticeably transformed. The changes are related to the scope of tasks, starting with typical personnel files administration and ending with proactive personnel and personnel competence management. With these transformations, human capital gains importance within all types of organizations. With the new approach and attitude towards staff and staff affairs, and with building foundations for career development paths available within the organization, individual organizations regularly strive at improving the level of advancement and competitive edge of their companies in all the dimensions of their operations and expansion to new markets. Intellectual resources accelerate economic growth for every organization in the global dimension, which is specifically predominant in the knowledge or information era.

Keywords: personal marketing, human resources, human resources management, improvement of qualifications, work ethics.

OVERVIEW

The concept of personnel marketing opens new opportunities for human resources management, namely in the improvement of competitive advantage for recruiting new employees from the job market by particular organizations. In basic marketing terms, the baseline, or the entry point, is the recognition of customers' needs and expectations so that the promotion of action offers product support opportunities in its market presence, the product is marketed via properly chosen distribution channels, at prices corresponding to prevailing market rates. In our era of spectacular market changes, the center of gravity moves towards the practical ability to build strong relations with the employees of the given organization. This kind of attitude is offered by personnel marketing, as a coherent and integrated system consisting of two subsystems, one of them internal and the other external. Perceiving personnel marketing as a system defines a set of

selected measures reaching across as many important areas in the company as possible, where the employee is the culmination of the organization's actions. The point of the distinction made between internal and external factors is to optimize the application of all the available tools. Such a diversified application of all the instruments and the multifaceted approach of personnel marketing requires the ability to consolidate work within an internal and external HR policy.

Competence orientation seems to be of key importance, as the advantages that can be attained through such a unique investment in human capital are mutual and strongly related to the level of balance between the stakeholders' interests. Typically, investments in human capital yield such results for employees as improvement of their ability to compete on the job market (Olesiuk, 2009) A significant role is ascribed to relevant and professional management of human capital, which needs to be perceived from two

separate viewpoints, namely from the viewpoint of a company with high quality human resources, and that of an organization which is somewhat an owner of these resources. In this unique mix, the economy needs to be considered as well as a very important component of the company's external environment (Kozuch, 2001). Human capital, which is the core of a company's strength, is of major importance in determining the value of the entire company and its competitive advantage. For a company's management, this value is a complex multi-thread issue, important in terms of obtaining funds for building, maintaining and development of human potential (Sajkiewicz, 2001). In this context, a change is taking place in the meaning of an organization's wealth viewed in the perspective of its application and creation (Jarugowa, Fijałkowska, 2002).

The concept of intellectual capital at any organization encompasses the human element and the structural element, owned by the company and available to it in the form of knowledge accumulated within the organization, the corporate culture, or the intellectual property of the company (inventions, software, databases, etc.), derived from human activities in any organization (Kotarba -red., 2006). Human capital is an organization's intangible asset which is not owned by the organization as such as every employee quitting their job would take their knowledge away with them. In a broader sense, human capital can be perceived as a sort of property of organizations, derived from their knowledge (Jarugowa, Fijałkowska, 2002); in other words, it is the accumulation of knowledge, competence and skills of all the members of the given organization, as well as the susceptibility to the creation and implementation of innovation (Kotarba -red., 2006). Nowadays, with an enormous role played by information, only those organizations that place a person's intellectual capability in the center will gain importance. In this context the structure of power in society is shifting to give the well-educated group the advantage, whom are the owners of the knowledge capital. People and their skills, abilities, experience and knowledge become key. It should be emphasized here that a clear distinction is being made in every organization into traditional physical capital, i.e. tangible goods and cash, and intellectual capital, comprising human, social and organizational capital. Intellectual capital encompasses a subconscious aspect, involving the organizational capital and social capital, and a conscious aspect (thinking part), namely human capital (Zamigała, 2009).

One should not disregard the level of personnel

costs generated at an organization, yet the more important element is the production efficiency which, in addition to the applied technology solutions and organizational change, can be raised through emphasizing a more proactive attitude in HR work. The foundations of higher efficiency/performance should be viewed as advanced human capital qualifications available to the enterprise, i.e. the general academic qualifications of individual employees, their ability to work several jobs/duties, their willingness to improve and enhance their professional competence, and the advanced level of ethics of the whole personnel.

The main purpose of this paper can therefore be defined as a description of the issue of personnel marketing components (subsystems), i.e. internal and external marketing. The paper will elaborate on the presented key tools of personnel marketing oriented towards recruitment of valuable employees. In addition, a literature review will be presented, extended with the relationships between personnel marketing and the broad area of management in this respect.

The arguments presented in the paper are based on national and foreign literature sources, mainly English-language references.

THE CONCEPT AND ASSUMPTIONS OF PERSONNEL MARKETING AND RELATIONSHIP MARKETING.

The concept of personnel marketing as adopted in literature supports such conceptualization of HR work that will enable it to generate competitive improvement at organizations, skillful recruitment of personnel from the job market and, indirectly, possible improvements of market activities. The theory has its roots as early as in the Middle Ages, when the origins of trade were formed and the concept of relationship marketing was formed (Mitręga, 2008) between purchasing entities and sellers. However, one cannot disregard a reference to the present era, when it has become possible to set up strong relationships with employees in an organization in its broad sense. The traditional concept of marketing focuses on the analysis of customers'/buyers' needs and expectations so that the promotional tools can support the product in its market presence and the product can be offered via the right distribution channels, at prices acceptable to buyers (Fonfara, 1999). Relationship marketing at every organization is determined by several key activities, namely: development of the core of each product; adaptation of

the proposal to consumers' tastes and preferences; expanding the core with special services in the sense of added value; influencing consumer loyalty through the determination of an adequate price; and building specific marketing activities targeted at a group of employees, so-called internal customers within the organization (Berry, 1995)

It should be emphasized here that every company/organization focuses first on the accomplishment of its goals in the short term (Żabiński, 2000), as the results can be observed relatively soon.

Personnel marketing, like marketing as such, has been given multiple definitions and discussions in subject-matter literature. The most extensive approach defines it as a system of certain methods of a company's actions and behaviors on the market, oriented towards the interests and expectations of the organization's current and future employees (Schwan, Seipel, 1997). Another definition presents marketing as a scheme of activities oriented towards the inside and the outside of every company, focused on comprehensive management of the broadly understood potential of the organization, building its right size and structure, and the continuous improvement of processes. These activities make it possible to build optimal foundations for employees' involvement in the performance of their duties, and to increase the organization's operating efficiency on the market, while picking the right employees from the job market (Penc, 1997).

The issue of relations management, understood as the process of the organization's cooperation with its employees and other stakeholders in the field of development of profitable relations to customers, based on their satisfaction and emotional commitment (Penc, 1997) cannot be omitted in the analysis. It would be reasonable to emphasize that every human resources management approach or technique is focused on a certain interest, attraction and motivation for employees to be more efficient in running the company (Certo, Peter, 1998).

All the human resources constitute a critical component in the process of effective management of any organization (Griffin, 2008).

Entities capable of identifying effective application of personnel marketing tools define the common concept of the external and internal job market as a market, i.e. the interface of demand and supply, with regard to specific offers and candidates who meet all the criteria specified in the offers. Dynamically defined market and all its participants (business operator-employee) are not defined according to fixed parameters,

whether quantitative or qualitative. In today's market environment, it becomes indispensable to plan, study and interpret the results derived from the job market and in this way to consider new market tendencies in personnel marketing strategies and its far-reaching repercussions. This kind of perspective gives permission to the application of 'strategic HR management' with reference to 'personnel marketing'. A highly complex and multifaceted assumption on which the concept is based seems to be essential for the results actually achieved and expected. Not so long ago, HR marketing activities were limited to the acquisition and recruitment of the right personnel. With this approach, the effects are not consistent with expectations. In our times, when multiple attempts at comprehensively defining the aspects of marketing in all the possible areas of HR management in an organization are undertaken, personnel marketing and the concept as such can go beyond the traditional interpretation of marketing. In this option, emphasis is on the ethical orientation, for which all the assumptions defined for HR policies cannot be based on ordinary manipulation of employees, and the strategy itself cannot be focused on noisy job advertising without previously building the right atmosphere and structure at the organization. The person within the organization will always remain the central point of interest for personnel marketing. It should be emphasized that people create a unique subsystem within an organization, which remains unique in its individual dimension as well as the team dimension. All new recruits, the new individuals entering an organization, contribute their knowledge, talents or abilities, skills and values, thus contributing to the development of the organization's unique culture and atmosphere, while at the same time building the diversity of the entire system constituting the business organization. Therefore, every organization sets itself the goal or the objective to acquire and retain employees characterized by relatively prominent commitment in the process of performing joint tasks and therefore, the company will be able to achieve systematic growth. Thus, the overall duty of the organization is to provide appropriate work resources, the ability to set the objectives for every specific workstation, and a positive/friendly environment of people cooperating and collaborating on behalf of the employee's own unit of organization as well as all the other units of organization within the particular departments of the company. If the organization is successful in meeting these requirements, it will facilitate the employee feeling an affinity with the structure, being willing to learn and to continuously improve their qualifications, and building a motivation that would lead to optimized

performance of all tasks. The advantages that can be generated at the organization, beneficial for the organization itself and for the employee's satisfaction, should be noted as well, including the reduction of wasted time, less fluctuation, higher work efficiency (reduction or elimination of nonconformities/errors), more stable production process and other flows, and therefore the feeling of more stability at work and in life, the right interpersonal atmosphere, closer relations to the organization, the feeling of affinity to the organization, and perceivable own contribution to the improvement of corporate culture. All the aspects enumerated above indirectly affect a company's competitive advantage. Personnel marketing is a concept which, if implemented, makes all the employees feel that they have performed well in the contemporary business organization.

The stages of transformation towards personnel marketing orientation are presented in Diagram 1.

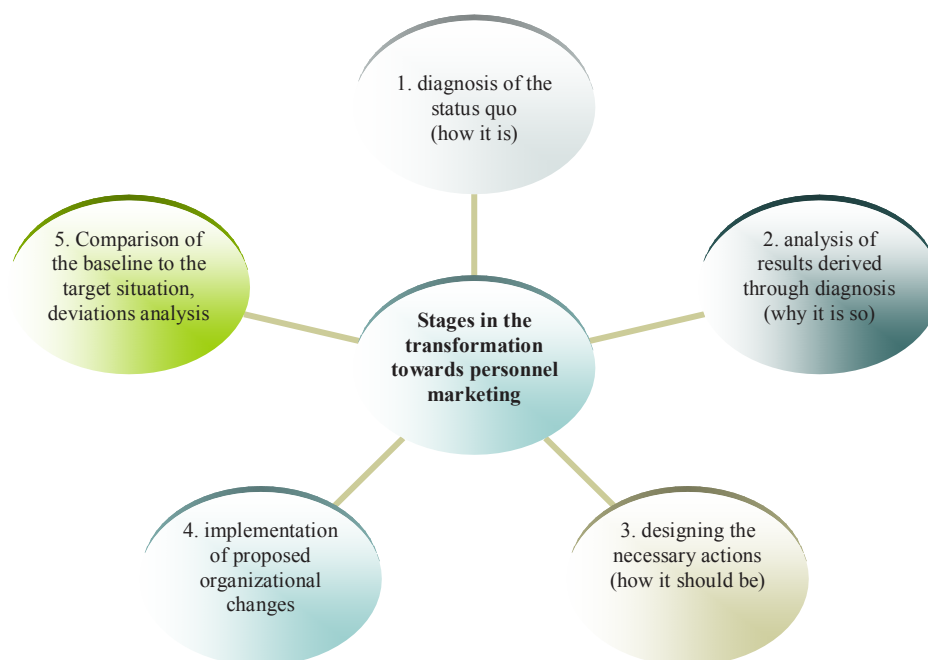
PERSONNEL MARKETING SUBSYSTEMS

Personnel marketing is a highly coherent and integrated system; therefore, its two subsystems - internal and external personnel marketing - should always be considered together.

Internal personnel marketing encompasses a number of elements, such as:

- Internal vertical communication (employees to management) and horizontal communication (employees to their peers),
- Motivation system, including financial and non-financial (tangible and intangible) motivators,
- A system for building and reinforcement of the company's image as an employer, within the framework of internal marketing activities, particularly public relations, targeted directly at the employees working for the company,
- A training system, consisting of activities in the field of continuous professional training (i.e. expanding the current knowledge of the employees; necessary for working the given job), and further training (learning completely new skills and therefore becoming more efficient in one's tasks, or having a better opportunity for vertical and horizontal promotion),
- An internal recruitment and personnel selection system relating to employees' mobility and ability to move them to other jobs where they could make better use of their knowledge and abilities. In our times, activities in this field follow the prevailing trend (and at the same time the necessity) to contin-

Diagram 1 Stages in the transformation of personal marketing



Source: Own research, based on: A. I. Baruk, *Marketing personalny jako instrument kreowania wizerunku firmy*, Centrum Doradztwa i Informacji Difin Sp. z o. o., Warszawa 2006, s.15.

ue learning throughout the period of the employee’s professional career (Baruk, 2006).

External personnel management consists of activities undertaken within the external communication system, i.e. communication between the company and its potential employees, external recruitment, including broad and segment recruitment, and a complete system for creating and reinforcement of the company’s reputation as a good employer. All these activities are usually undertaken as external marketing activities, specifically public relations targeted at potential employees.

With the right perception of the concept of internal marketing, a company can be treated as a specific type of market. To do this, one would have to adjust the traditional marketing techniques oriented towards the company’s environment and focus them now on the internal organization (Otto, 2004). As a consequence of this approach and such activities, the expected results should improve the performance. At every company, employees spend a major part of their active time in

house. This is the environment and the surroundings in which we spend longer hours than anywhere else; therefore, many of the employees would prefer integration into a community of a reputable company rather than continuously ‘escaping’ their current organization in search of a better and newer job (Schueler, Fuchs, 2005)

Employees expect their abilities and skills to be noticed and appreciated, they seek opportunities for influencing the decision-making process at the organization. As employees have a solid sense of belonging to the organization, companies hold team-building events. The workplace can be seen as acquiring certain qualities of a second family, often more important than the original one. The manager takes on the parental role, and the employees are the children and siblings, often experiencing the emotional bond as strongly as in a real family (Hryniewicz, 2007)

The important aspects of personnel marketing oriented on acquisition and recruitment are presented in Table 1.

Table 1 Key employee-oriented personal marketing components

Visual presentation	
Preparation of information <ul style="list-style-type: none"> • Dates of trade fair events, • Information of the HR image, • Notice boards, • Information brochures, • Sponsoring. 	
Job application	Current employees
<ul style="list-style-type: none"> • Job interviews, • Site visits, • Oaths taken by new recruits, • Handling the matters of new recruits, 	<ul style="list-style-type: none"> • Employee dialogues, • Training and improvement, • Structuring wages and working times, • Discretionary personnel benefits.
Dismissal of employees	Relations with training centers
<ul style="list-style-type: none"> • Assistance (advice) for persons leaving their jobs • Dialogue with people leaving their jobs, 	<ul style="list-style-type: none"> • Academic papers, • Apprenticeships, • Internships.

Of all the aspects of the human resources market, there are three groups that deserve special attention, namely (Schwan, Seipel, 1997):

1. Corporate marketing factors

- Numbers and performance ratios of the company (sales, employment, profits, balance total, investment expense, etc.),
- legal status of the organization (ownership, applicable laws, etc.),
- geographic location and environment of the company,
- the company's reputation in its environment,
- strategic goals of the company,
- market position of the company,
- types of goods produced and sold,
- infrastructure available in the company's environment (schools, traffic, cultural environment, etc.),

2. Workplace marketing factors

- Duties and job descriptions,
- Professional relations,
- Competence, responsibilities, authority,

- Transmission of information between departments and outside the company,
- Expectations of company management and officers,
- Number of employees,
- Organization chart,
- Evaluation scheme and growth opportunities,
- Basic salary, profit distributions, employee benefits,
- Information about employees previously working the given jobs,
- Communication channels existing within the company,
- Contents and term of job contracts,

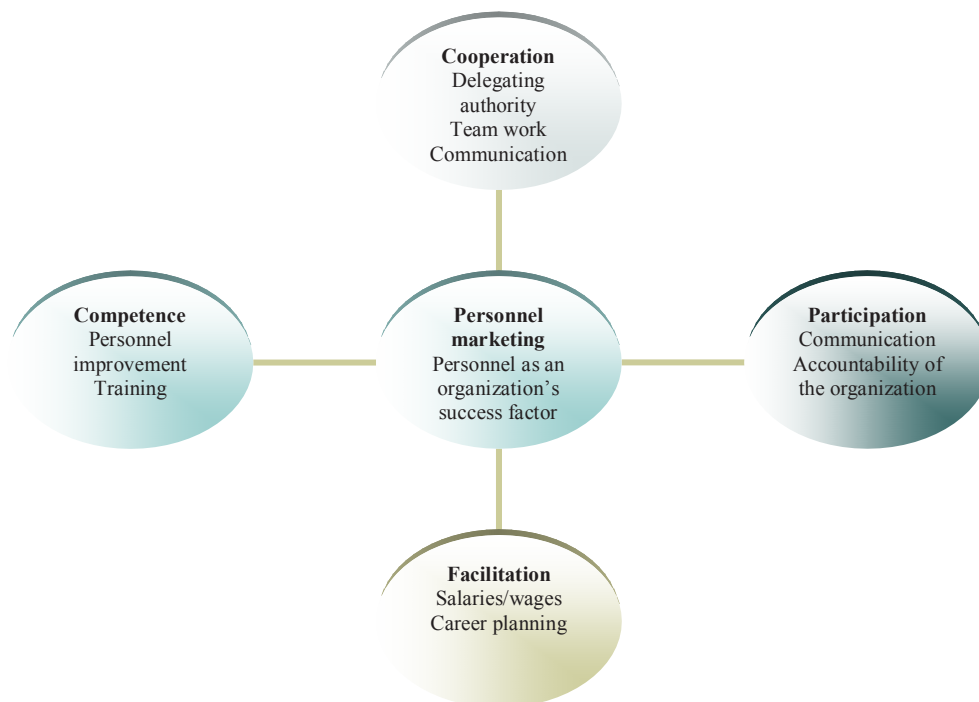
3. Corporate culture factors

- Atmosphere fostering innovation,
- Management styles,
- Rules of proceeding in different positions,
- Behavior in crisis,
- More humane approach to jobs.

All the factors discussed above are relevant for the external personnel market.

Internal personnel market factors are shown in Diagram 2.

Diagram 2 Internal personnel market



Source: Own research, based on: K. Schwan, Kurt G. Seipel, *Marketing kadrowy* - redakcja naukowa Leszek Krzysztofiak – publication quoted above, p. 14.

PERSONNEL MARKETING IN THE CONTEXT OF MANAGEMENT STUDIES

With the implementation of the concept of personnel marketing in an organization, the employee is always in the center of all processes. In addition, the involvement of HR structures at a company is aimed at offering new opportunities and growth options to employees. Building a compromised solution between the staff's and management's aspirations is the right way to enable each party and all kinds of success of a company. The issues discussed above would require management to have professional knowledge, psychology background and awareness of personnel marketing issues being implemented and adapted to every company's specific capability (Synowiec, 2011).

SUMMARY

The broad concept of personnel management places the employee in the center of attention of every organization, or even moves the employee higher on the ladder as a superior resource. Emphasis on the organization's commitment to employees' needs and growth opportunities is gaining significance and becoming the prevailing trend in human resources management. It would be useful to bear in mind that, with the time spent by every employee at the workplace, the company becomes a 'second family' for them. This is where people build relations with their superiors, business partners, and peers, and these relations affect their lives, whether professionally or privately.

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Employee Motivations in Maintaining Occupational Health and Safety (OHS) Compliance: Research on Nine Construction Firms in Poland

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Abstract: The main aim of this article is to verify the awareness of employers regarding the use of motivational tools for promoting OHS compliance and to explore the effects of their application. Structured interviews were carried out in a purposefully selected group of Polish construction companies between September and November 2016. The interviews confirmed the following thesis that resulted from previous studies based on which financial tools were found to be main motivators: a risk of “a loop” is indicated where the financially motivated OHS compliance is perceived by employees mostly as a source of financial gain.

Keywords: Occupational health and safety (OHS), motivation, construction sector (industry)

INTRODUCTION

Dynamic market conditions affect preferred business models and enforce flexibility in response to the expectations of the market and company owners. Flexibility guarantees adaptability to end-users' evolving preferences in an environment of growing uncertainty. The ability to adapt to fluctuations, in terms of such things as production volumes, can translate into solutions which bring about changes for the whole organisation and its staff. In the United States and Europe, the percentage of temporary, contract and leased employees is on the rise. This necessitates the use of specific work management and organisation techniques, and impacts the attitudes of employees.

One of the areas affected by these changes is occupational health and safety (OHS). This article was inspired by the professional experience of one of its authors, an OHS specialist and the owner of a company implementing OHS solutions. His professional observations called for in-depth and well-structured research to be carried out in a larger team. Inspired by an analysis of cases from the Polish construction industry, this article addresses the issue of motivating employees to comply with OHS guidelines and explores how such motivation measures affect the actual safety at work. The aim of the authors was to verify employers' awareness and use of tools for promoting OHS compliance, as well as the effects of their application.

The choice of the construction sector for the analysis was intentional. Many other researchers addressing the topic of OHS focus on this industry (e.g. Lingard 2002, Paap 2003, Wadick 2010, Dester and Blockley 1995, Meldrum, Hare, and Cameron 2009). The construction sector is also among those with the highest numbers of occupational accidents being reported. It involves strenuous work in which the observance of OHS rules may have a profound impact on the actual safety. The nature of the industry itself and of its working methods is universal, even if different measures are used to ensure safety. The sector is among the leaders in the use of flexible forms of employment and is regarded as a barometer of the economic situation of a nation. It is also often referred to as a good example of general work culture trends in society (see Paap 2003, p. 200).

The analysis in this article was further encouraged by a certain paradox often pointed out by researchers exploring the topic: OHS costs are typically incurred by entrepreneurs, while its benefits seem to be reserved for employees and insurance companies (Bartusik 2008, p. 133). Nevertheless, employers feel compelled to take OHS into account in order to avoid the risk of additional costs (Haupt and Pillay 2016, p. 375), while for employees it is their safety that matters the most.

MOTIVATION BEHIND OHS MEASURES

Actions aimed at ensuring safety typically come down to the elimination of hazards at work. Work hazards are divided into two categories: those resulting from the work environment, and those occurring from the way in which work is carried out. Studies show that most workplace-related accidents are caused by employee behaviour (e.g. in Poland over half) (Gładysz 2011, p. 30). While an analysis of accident causes does not fall within the scope of this article, it is worth remembering that a number of factors may be involved; for example, construction projects are named among the environments that are most conducive to work hazards (Manu et al. 2014, p. 65).

Based on the structure of the causes of accidents or dangerous situations at work, employee involvement is highlighted as a crucial condition to ensure safety and effective implementation of OHS systems (Bartusik 2008, p. 121). In such systems as OHSAS (Occupational Health and Safety Assessment System, an international occupational health and safety management system specification), or other OHS management systems (e.g. HSG65, ILO-OSH 2001), the following key elements are identified for decreasing accidents: planning, implementation, evaluation, improvement

(Mrugalska and Sławińska 2014, p. 133). While these systems provide a number of required procedures, such as training, communication, and availability and distribution of information, rarely do they directly address the issue of motivating employees to comply with OHS rules, even though such motivation is considered to be crucial for their effective implementation.

In participatory ergonomics (PE), the analysis of a work system assumes people's involvement, regardless of their function, which is to increase their sense of responsibility and satisfaction with the job. Similarly, the CIMOP (Computer-Integrated Manufacturing, Organisation and People) system, used in production plants for evaluating computer-integrated areas for design purposes, offers an element of motivation to introduce and accept changes (Mrugalska and Sławińska 2014, p. 132).

A number of methods are used to support OHS observance, including the BAS system (autonomous safety system), which recognises employee involvement as a key factor for the development of OHS (good practice) (Danielewicz 2011, p. 2010). Many studies provide a number of specific techniques how to motivate people to a greater OHS compliance and involvement in its development and modification, discussing the factors that affect employees' participation and which are the cornerstone of work safety (Harris, Olsen and Walker 2012, p. 481).

Training (e.g. first aid training) seems to be an obvious course of action, as it increases awareness and consequently encourages avoidance of hazardous, particularly life- or health-threatening behaviours (Lingard, 2002, p. 263). However, as some authors have pointed out, while training may significantly contribute to an increase in knowledge, it has a smaller effect on the actual behaviour, and consequently, less of an impact on the health and safety of workers (Ricci et al. 2016, pp. 366-367).

Among the factors promoting improved safety, J. Onufer (2015, p. 171) names the following: autonomy in the workplace, support from superiors, participation in decision-making, teamwork, positive atmosphere at work, feedback, adequate pay, and continued employment. He also emphasises the importance of involvement and the sense of co-responsibility of all employees. Such involvement depends on a number of factors, such as knowledge, capability to engage with others in the work environment, perceptions, attitudes and behaviours, and actual involvement in OHS risk management (Meldrum, Hare, and Cameron 2009, p. 612).

The most frequently mentioned element conducive to the provision of safety is “safety culture” (Dester and Blockley 1995) or “safety climate” (e.g. Lingard, Wakefield, and Cashin 2011, pp. 34, 38), which is dependent on the approach of superiors in organizations, specifically in their understanding of safety concerns, and employees. Studies show that hazardous behaviours may be inspired by employee attitudes. H. Lingard (2002, p. 265) discusses a relationship between hazardous acts and employee beliefs (e.g. a highly attractive job always includes work hazards): approaches to work (e.g. work hazards cannot be avoided, and work safety has a negative effect on productivity); and behavioural intentions (e.g. taking risks, and ignoring procedures).

Similarly, K. Paap (2003, p. 198) points to the cultural choice of employees to intentionally forgo OHS rules, in an attempt to demonstrate their working-class masculinity. In her research Paap identifies what she terms “cultural rules”, axiomatic statements responsible for OHS non-compliance. One example of this is what she labels “Cultural Rule No. 1”, or “expect pain and take it like a man”. She draws attention to both employee and employer reasoning related to the disregarding of OHS guidelines, which is based on the common belief that following such guidelines will not result in higher efficiency and lower labour costs, and consequently, better wages. This view seems to be consistent with social observations particularly characteristic of smaller construction or logistics companies. In these enterprises, approval for exceeding work limits or lack of high-quality equipment is perceived as a sign of resourcefulness and efficiency.

Wadick (2010, p. 112) presents similar views and quotes studies which show that employees are aware of the danger and accept higher levels of risk “because it pays the bills”. Studies confirm that employee motivation has a significant effect on their approach to safety. If OHS procedures are implemented as a result of a top-down initiative, they tend to focus on the employer’s interest, including the financial one; worker participation in OHS management, however, ensures a more pro-employee approach (Harris, Olsen, and Walker 2012, p. 496), and allows OHS to actually fulfil its function of ensuring safety.

In conclusion, considering the most common causes of occupational accidents, i.e. employees’ errors or omissions, it can be concluded that worker involvement (participation) seems to be the key to ensure safety on-the-job. In order to achieve this, the following need to be implemented:

- training, communication of rules, information on procedures and measures;
- participation in developing work- and OHS-related rules, policies and procedures;
- employee autonomy in the workplace, support from superiors, feedback;
- teamwork and a positive atmosphere at work;
- adequate pay and continued employment.

The actual involvement of employees depends also on safety culture, as well as on knowledge and capability to engage, perceptions, attitudes and behaviours.

When applying support tools in OHS management, it is necessary to take into account the elements that may make the actual implementation of the procedures difficult. In the case of the construction sector the following typically hinder the implementation of OHS guidelines:

- paying attention mainly to work and OHS compliance of general contractors, and not of subcontractors (Wadick 2010, p. 109);
- reduced skills resulting from different categories of employees (highly skilled/core employees and contingent employees);
- reduced role of trade unions (see Paap, 2003, p. 201);
- focus on the formal aspects of OHS-related rules (Pawłowska 2002, p. 11);
- negative image of OHS inspectors/officers (Wadick 2010, p. 113).

In terms of the OHS cost-effect paradox, it is recommended to evaluate the outcomes expected by the employer separately from actions aimed at increasing safety. The main goal of OHS management is to secure the proper conditions in order to minimise work-related adverse events which might generate losses, i.e. situations which have a negative effect on employees’ health (Mrugalska and Sławińska 2014, p. 132).

Traditionally, OHS management is regarded to be effective when the number of work-related injuries or illnesses is reduced (Pawłowska 2002, p. 9). This directly translates into lowering the costs that are otherwise generated by inappropriate working conditions, including the following: costs of time lost, overtime, replacements, interruptions, material injuries/damage, medical care, or other benefits. Following this approach, OHS management is all about minimising losses due to a failure to ensure safety.

Many studies confirm that the use of programmes or systems aimed at improving safety and ergonomics has

a positive effect on work motivation, and consequently, on the company achieving its aims (Słowikowski 2004, p. 25). Researchers point to a number of benefits, such as improved working conditions, which in turn result in increased efficiency of employees, greater employee involvement in production-related processes, improved company image, and reduced turnover (Bartusik 2008, p. 136). The Job Demands-Resources (JD-R) model is based on the assumption that the well-being of employees (and consequently, their involvement) is influenced by OHS requirements specific for the given work environment and available workforce (Onufer 2015, p. 170).

RESEARCH AND RESULTS

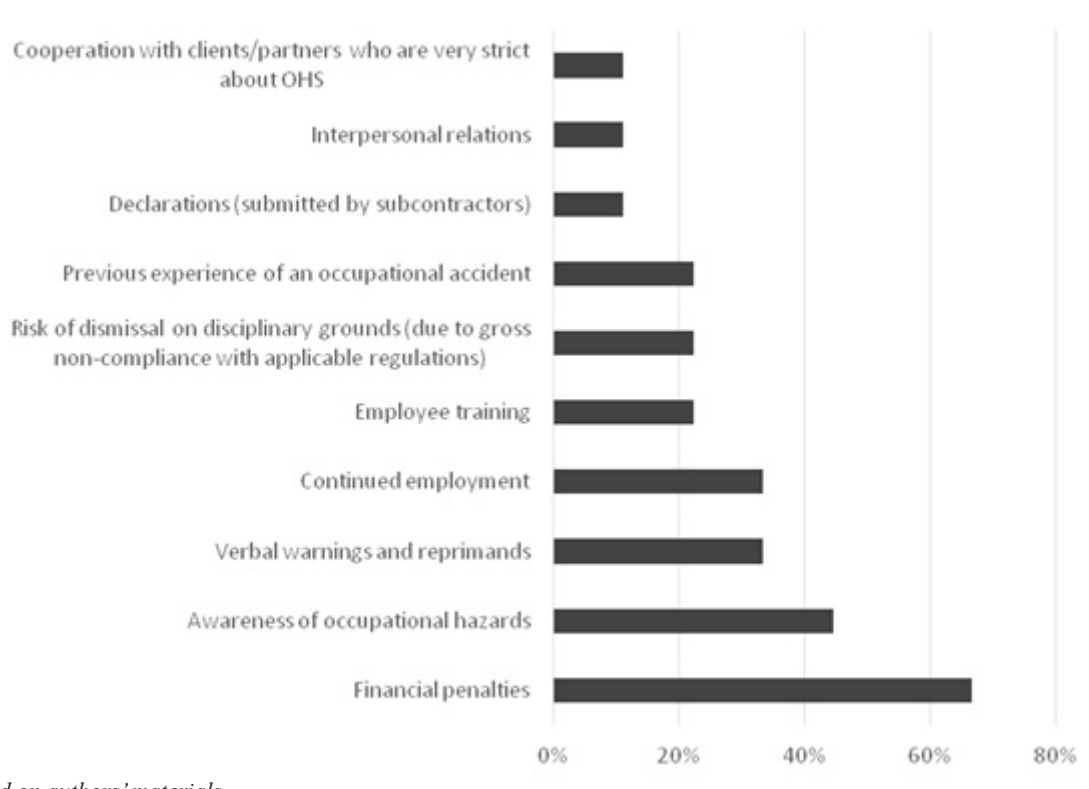
The research focused on the organisation of motivation system in selected construction companies in Poland. Its aim was to analyse what motivates employees to observe OSH rules, which OSH tools are applied, and what are the effects of their use. The data for this field research was collected between September and November 2016 by the means of structured interviews with employers and top managers of the selected companies. For the interviews a dedicated questionnaire was used. Nine construction companies

operating in Poland were studied using the questionnaire. Purposive sampling was applied based on the criterion of accessibility (in particular, based on professional contact) in order to ensure the availability of the data and reliability of the responses.

The questionnaire contained five groups of questions (with the total of 13 questions) regarding the company, relationship between motivation, observance of OHS rules, and the effect of OHS on employee motivation, motivation tools, and effects of programmes motivating employees to OHS compliance. Some study questions offered the possibility of open responses. Due to the scale of the study its results cannot be applied to a general population and an in-depth statistical analysis is not required. The results are presented with the focus on the structure of the responses and factors provided by the study participants.

In the first question the respondents were asked to name the factors, which according to them, are the strongest motivators for employees to abide by OHS rules. In most responses, possible financial penalties were identified as having a direct effect on employee motivation; indeed, this was identified as a stronger motivation than the awareness of occupational hazards. This corresponds to the previously discussed specific

Factors affecting employee motivation to OHS compliance



Source: Based on authors' materials.

work culture in the construction sector under which certain hazardous behaviours are allowed. Similarly, other motivating factors, also recognised as key by the employers, primarily included motivation through warnings or reprimands (with probable financial consequences), and continued employment or the risk of dismissal in case of non-compliance. Employee training or previous experience were also named; however, these last two motivators were not mentioned as often as the previously mentioned motivators.

One of the questions asked was about motivation methods actually applied by the employers. An informed and well-structured approach was reported by three of the study companies, while others used indirect forms of motivation. The respondents listed the following tools (apart from obligatory training or information actions):

- solutions in the form of financial programmes with elements for promoting positive behaviours (specific behaviours facilitating OHS included the reporting and implementation of new ideas, and providing support to other employees);
- financial solutions focused on negative behaviours; OHS compliance as a condition for bonus payment (e.g. performance or efficiency bonus);
- system of verbal praise in front of co-workers for an outstanding behaviour;
- giving precedence for OHS guideline observant employees over others in choosing the dates for time off (when preparing holiday schedules).

The answers to the question about how OHS contributes to work motivation were not clear. Most of the respondents (44%) pointed to employees' awareness as affecting their motivation in terms of concerns for their own safety and employers' care about personal protective equipment (its quality and availability). Otherwise the respondents talked about financial consequences (employees' pay being affected by their OHS compliance), which in fact is an example of a direct response to the way in which employees are motivated. In terms of employees' feelings related to safety or stability of employment, the positive impact of OHS measures was rarely reported.

According to the respondents (including those in whose case the use of motivating factors was informed and intentional), the implementation of motivational programmes or OHS support systems does not translate into direct economic results. Linking efficiency to OHS solutions was reported to be impossible, as the latter is affected by too many factors; similarly,

none of the companies pointed to a relationship, for example, between OHS changes and staff turnover, or an increased ease in recruiting new staff. Finally, it was also pointed out that for a vast majority of temporary or contract employees, work safety (understood both as stability of employment and OHS components) is not a priority when choosing an employer.

Interesting responses were provided on the questionnaires about the employers themselves and their motivation to maintain OHS systems and see to their effective functioning. When the respondents were asked not to focus on formal requirements, risks of non-compliance or consequences of occupational accidents, their main motivation turned out to be their cooperation with a client or a partner who strictly adheres to OHS rules. In such cases, whenever construction services are contracted, the respective OHS standards and restrictions are specified, while the behaviour and attitudes toward OHS standards are monitored. Such expectations enforce further actions and contribute to translating the internal rules and regulations into OHS-compliant behaviours of employees.

The employers also related their own motivation to the effects on the company. According to them, the implementation of OHS in practice resulted in the following:

- increased independence of individual teams;
- spontaneous division of employees into groups based on mutual trust (not only in terms of OHS), and improved internal cooperation (people manifesting risky behaviours were rejected by other team members out of their respect for OHS, which may have also been inspired by the motivation system);
- increased self-control and ability to respond to inappropriate behaviour.

These effects seem to indicate that there was a development of a certain work culture impacted by OHS standards, in which other spheres of work, such as quality or effectiveness, saw positive improvements.

The employers also identified a clearly demotivating factor in terms of OHS observance, i.e. excessive bureaucracy, due to more attention being paid to compliance to the formal regulatory prescriptions rather than to the actual safety. Concerns were reported, for example, regarding situations in which any OHS irregularity results in immediate cessation of all work, which had financial consequences. This makes employees more reluctant to report any incidents or inform employers of possible hazards.

DISCUSSION

In the analysis of the results it is worth coming back to the paradox mentioned in the introduction: OHS costs are typically incurred by entrepreneurs, while its benefits seem to be reserved for employees. As revealed by the study, financial penalties, rather than possible hazards, constituted the main motivator for the entrepreneurs. Employees seem to be afraid of the potential costs of their decisions not to adhere to OHS standards. This is also confirmed by what was reported with respect to OHS compliance and its effect on work in the form of financial consequences (related to the motivation system). The responses imply a certain loop here: OHS compliance is motivated by financial factors, while the positive impact of OHS on other areas of work depends on the applied motivation methods.

These results seem to confirm the observations of K. Paap (2003, p. 198) and P. Wadick (2010, p. 112), who point to cultural conditions of the motivation behind OHS. Its perception, as represented by studied entrepreneurs, is based on the same conviction, only that their desire to increase efficiency at the expense of OHS was replaced by a direct link between OHS and financial implications for employees (thus turning financial considerations into the main motivator).

Paradoxically, the client/partner's expectations were among the factors recognised by the employers as motivating, while the risk of consequences for the contractor due to OHS incidents and irregularities, or reporting of possible hazards was a demotivating factor. Thus, it is in the interest of both employer and employee, not only to follow OHS rules, but also to be able to demonstrate and prove their strict compliance.

The observed practice of clients/partners enforcing OHS compliance is consistent with conclusions of other researchers. In his study of OHS in outsourcing, J. Onufer (2015, p. 163) argues that outsourcers are first and foremost interested in cost reduction through increasing flexibility in certain areas of operation. However, as the responses presented above show, this may lead to OHS irregularities.

The concept of "safety capital" is described in the literature (Nunez and Villanueva 2011, p. 58) to denote the organisation's knowledge of OHS. This knowledge should bring further benefits in terms of employee protection. Safety capital should reflect both the human and structural capital, i.e. the knowledge and skills of employees, as well as the implementation of procedures and mechanisms. With the ever rising precarious nature of the human capital and the widespread use of subcontractors in the construction sector, building such capital

may prove to be a difficult task. Its development will therefore require for contracts to be appropriately managed, taking into account the need for the coordination of OHS compliance among subcontractors (Nunez and Villanueva 2011, p. 65); to this end, clients/partners will be forced to acquire the necessary coordination skills.

Based on the professional experience of one of the authors of the article and conclusions from the interviews, it seems that the key to the development of a safety culture and the involving employers in it is to convince them of the effects of OHS in practice for the entire organisation (particularly in the light of the growing popularity and significance of the concept of well-being (e.g. Absence Management 2016, p. 144). Therefore, further research should focus not as much on understanding the sources of motivation of both employers and employees, as on familiarization of both groups with the measurable outcomes of OHS in practice. The results regarding the effect of practical implications of OHS rules for promoting positive behaviours in groups of employees seem to confirm this trend.

CONCLUSION

The results of the study appear to be consistent with those presented by other research. However, its practical dimension is rather surprising; although entrepreneurs are aware of the significance of motivation and are familiar with examples of risky behaviour in the construction sector, they do not change their employees' attitudes, but rather they accept it and use financial motivators instead (i.e. the very factor which promotes hazardous behaviour).

Increased flexibility of resources (particularly in this industry) may lead to savings on safety, while financial repercussions are perceived as the main motivator for ensuring OHS. Consequently, if contractors (or subcontractors) and their employees are to adhere to OHS rules in practice, it is necessary to work on their approaches, either by raising the public awareness or by increasing their competence, and thus the significance of OHS officer employed by the client/partner. Thus, many researchers seem to be right when they argue that modification of employee approaches and the development of a safety culture are the keys to ensuring safety in practice, albeit not supported by the ever increasing market inclination towards flexibility of employment.

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Price Aspects of Brand Positioning in the Marketing Activities of Transnational Corporations

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Abstract: The article investigates price aspects of positioning brands in the activities of transnational corporations. The authors argue that the price has a significant impact on the process of brand positioning in different markets. Brands exist in different price segments. Transnational corporations often expand their portfolio of brands by creating both expensive and cheap brands. The authors highlighted advantages and threats in the creation and development of brands both in “high” and “lower” price segments of the market.

Keywords: price, brand positioning, marketing activities, transnational corporation

I. INTRODUCTION

The end of the twentieth and the beginning of the twenty-first centuries turned out to be a period of qualitative changes in the global economic framework, as well as a period of change in the theory and practice of company management. The external environment has become more flexible, fragile and complex. All the processes in the economic system have dramatically accelerated. Factors of globalization and technological progress made companies look for new competitive advantages. Under the circumstances, a basic requirement of a company to withstand heavy competitive pressure and take a strong position on the market has become a necessary and timely response to any changes in market conditions and consumer demand. This is especially true of transnational corporations (TNCs) that are traditionally considered to be market leaders, as they operate in different countries and, hence, in different marketing environments.

TNCs own global and international brands that compete in different price segments. The modern global economy is an economy of brands. The economic category “brand” takes on a new meaning in the process of internationalization and globalization. It is an expression of the interests of the company, and is a main source of profit in the long-run. From something as simple as a label on the product, the brand becomes a key element in formulating general corporate strategy.

Brands exist in different price categories either higher, or medium and lower. Their basic functions are identification of the company’s goods, maintenance of consumer loyalty, and to increase corporate profits. Price is one of the main criteria of market segmentation significantly affecting the positioning of goods. Corporations use mass substantially less, and only in relation to goods that have a global nature. This explains the need and relevance of research into pricing aspects of brand positioning in the practices of TNCs.

2. LITERATURE REVIEW

Issues relating to the creation of successful brands are discussed in the works of Casper J. Werkman and Henri Charmasson. Brands and advertising mechanisms are explored by David A. Aaker, Tim Ambler, and Rajeev Batra. Problems affecting brand management are touched upon by Gary Armstrong, Philip Kotler, Jean-Jacques Lambin, and Peter Doyle. However, little research has been undertaken to study the influence of prices, as part of marketing, on brand positioning in the relevant literature.

3. RESULTS

Leading global and international brands do not appear and exist on their own. They need purposeful systematic work on creation and development of the brand image, which forms the brand capital. The brand capital or brand value, according to the famous American researcher David Aaker, is determined by the degree of awareness and propensity of consumers to the branded product, the quality, attributed to the brand, associations raised by the brand and other assets, such as patents and trademarks, as well as influence of the brand on marketing channels of sales promotion (Aaker, 1995).

The value of the brand is an important economic result of the company effective work in the field of brand management. Western management practices show that a well-known brand is a valuable intangible asset of the company (Table 1).

A famous brand affects all elements of the marketing mix. The brand can be viewed as a part of the whole international marketing mix that includes such elements as product, price, promotion and distribution channels. So, the brand is an element of a company's commercial policy, it is also one of the tools of advertising, and it affects the pricing (brand price premium). A famous brand ensures intermediaries favour conditions in the market. Brand, under the current conditions of a developing global economy, begins to operate independently in the market, its price is established, and as a result, it generates added value.

The necessary elements of the brand concept are its components: verbal recognition and use, its graphic trademark, lastly, color and graphic solutions regarding packaging (design, type and size of packaging), which allow visual identification of the product and its brand, and lastly, the desired positioning of the brand in the market, which is influenced by price.

Table 1. Brand Value to Total Assets of Top-10 Companies (as of 2015)

Rank	Company	Brand value, mln. \$	Total assets, mln. \$	Intangible assets, mln. \$	Intangible assets to brand value, %	Brand value to total assets, %	Intangible assets to brand value, %
1	Apple	178,119	321,686	8,620	2.68	55.37	4.84
2	Google	133,252	147,461	19,716	13.37	90.36	14.80
3	Coca-Cola	73,102	90,093	24,132	26.79	81.14	33.01
4	Microsoft	72,795	193,694	21,595	11.15	37.58	29.67
5	Toyota	53,580	412,809	64,756	15.69	12.98	120.86
6	IBM	52,500	110,495	35,508	32.14	47.51	67.63
7	Samsung	51,808	149,116	12,706	8.52	34.74	24.52
8	Amazon	50,338	65,444	3,759	5.74	76.92	7.47
9	Mercedes-Benz	43,490	232,387	10,775	4.64	18.71	24.78
10	General Electric	43,130	495,692	82,270	16.60	8.70	190.75

Source: Calculated using data from internet resources.

The position of the brand in the market is its image in the minds of consumers. Positioning at the launch of a new brand defines the place that will be occupied by the brand in the minds of consumers. To find one's own vision of a new brand, a company must analyze the product positioning of the competitors. In the process of positioning of the new brand the enterprise might have two possibilities: either they will seek a free niche in the market, or they will deliberately try to break into the sector where there are competitors.

To select the type of positioning the company must analyze its own product, the products of its competitors, and consumer attitudes toward them. Thus, we can determine where it is necessary to direct the efforts of the company, either to modify the product, or the attitudes of the consumer toward the product, or to influence consumer motivation.

There are three types of positioning in the global market for goods (Werkman, 1974):

- objective, when the functional value of the product is important;
- psychological, when the ability of the brand and product to create “imagined” values is in the foreground;
- symbolic, when “symbolic” value of the product and brand leads to social differentiation.

Successful brand positioning in the market is impossible without deep understanding of the competitive environment, together with an analysis of the company's own capabilities. This necessitates conducting market research and an internal (management) audit of the company as an important stage in the design and development of brands.

When positioning a brand the company must decide whether it wants to make its brand the leading one, or to put it “with a number of others.” Current brand management involves the use of all elements of the marketing mix for brand product maintenance: pricing, the marketing system, and promotion of products.

In addition to those elements, it is necessary to periodically assess the perception of the brand, interviewing consumers, experts, watching the process of sales and, if necessary, make adjustments to the brand management plan of action. There is a need for monitoring two levels of competition in the market: branded goods competition in its product category, and information competition in the minds of consumers (awareness, brand knowledge etc.).

The company should clearly define their pricing policies with respect to the brand, i.e. conduct price

positioning and, therefore, determine the best channels for selling branded goods, and the most effective means of communication. If a company wants to position its brand as a quality and expensive one, the sale of the products cannot be high (e.g., branded cosmetics, perfumes, expensive accessories, jewelry, etc.).

Intensive marketing implies that the brand is aimed at a mass market, and in this case, the branded product should be available in almost all points of sale (drinks, chewing gum, cigarettes, food, detergents, etc.).

Due to the creation or acquisition of new brands the company can operate in different price segments, providing a steady demand from various consumers and improving its competitiveness (Charmasson, 2004).

In branding there is the principle of “positionality”, which suggests that it is impossible to deprive the company its position in the minds of consumers if it was the first one to take it, like, for example, the multinationals Coca Cola, and Xerox. This company usually receives the biggest profits in the industry, and its brands are sold at the highest price.

If the company is not able to be the first one (it lacks financial resources or it came to the market later than others), it should always be aware that you cannot start a frontal attack on the companies that already have leading positions in the market. If it has the desire to be first, it must first gain a foothold as a leader in another field, and then move to the desired market. Another option in gaining the leading brand position is to create a completely new product and become a leader because of it, or purchase a “luxury” brand that will immediately improve the company's image and attract new customers. In the global market there are the following examples of such purchases: TATA Motors acquired Jaguar Land Rovers; Geely bought Volvo; BMW acquired Rolls Royce; Volkswagen took over Bentley; and Lenovo bought the Motorola brand (its mobile phone sector). At the same time, transnational corporations create their own premium brands: Toyota Lexus, Nissan Infinity, Honda Acura (Kotler, 2016).

What are the benefits of TNC's movement up in the price segment?

Firstly, the corporation increases its prestige, and improves its image as a company that can produce quality products for demanding consumers.

Secondly, the improved image of the company results in an increase in the market price of its shares and correspondingly in an increased level of capitalization.

Thirdly, the risk of activity is reduced, as with the fall in demand at lower price segments, and conse-

quently, the company can “survive” due to the demand in higher price segments.

Fourthly, corporate profits increase. Wealthy consumers are willing to pay a significant price for well-known brands, gaining not only a quality product but also confirming their own social differentiation and social status.

Fifthly, the company, having a strong expensive brand, can take a series of measures that will allow it to increase revenue from the existing brands. First of all, the expensive brand can be applied to a wider target segment of consumers, geographic markets, or distribution channels. In Western practices, this action is called “brand stretching” (Aaker, 1995).

Undoubtedly, there is some risk in marketing an expensive brand. Consumers may not be willing to buy this brand because it belongs to the company that serves a mid-price segment.

In the process of brand management multinationals often face the situation when their brand does not fully meet the needs of the target market. There may be several reasons for that outcome: for example, the market is saturated with brands and consumers do not see much difference between them; goods are already being sold through retail trade networks, which are reluctant to buy expensive brands, preferring cheaper goods, etc.

Some brands can quickly and easily find themselves in the lowest price segments of the market. The most difficult thing in this case is not to damage the brand, particularly with regards to the quality of the product that it represents. The problem is that price reduction affects the perception of the user more than any other action associated with the brand.

Nevertheless, it should not be thought that the movement down is always very risky; skillful brand management in the lower segments of the market can bring the company a considerable income. There are a number of tools used to differentiate the core brand from its cheaper modification in the minds of consumers. Typically, consumers can distinguish between related brands from one another, even if one of them is of a lower quality grade or the quality is under criticism. The fact that consumers can adjust their perceptions of a brand’s various products is used, for example, by the transnational conglomerate Samsung, which operates both at the top end of the market (the Samsung Galaxy smartphones) and at the lower end (e.g. TV sets).

To reduce the risk of damaging the brand while creating cheap variants the new product should be separated from the previous category. The bottom line

is that consumers can differentiate product classes within a single brand identity. The risk of transferring a negative opinion about the product will be smaller if the type of goods having the same brand identity differ greatly (such as food and clothing).

Creating a new brand does not ensure the protection of the main brand of the company, and does not guarantee success either. For example, once the IBM Corporation created the Amber brand in order to successfully compete with other firms engaged in processing orders and dispatching goods by post. However, the idea was buried in two years. The IBM project would have been much more successful if the company had used its own brand, one of the most famous in Europe. Creating a new brand and building its credibility is an extremely difficult task (Ambler, 1996).

The simplest approach to brand “lowering”, i.e. its transition to a different market segment where it will be designed for the mass market consumer, is price reduction. Marlboro, Budweiser and Pampers belong to brands whose owners believe that there should not be a big margin given to price in a global market, characterized by strong competition and where the main sales are made through retail networks. Thus, they cut the price for their products, making them more competitive. This concept has been termed as “optimal price / quality ratio” (Batra, 2009).

Price is the primary means of positioning brands. A sharp decline in prices may give buyers a reason to doubt whether the product really differs from a product under a different brand, and may cause some consumers to conclude that its quality is not above the average.

Many brands are in the upper price segment of the market. Typically, these branded products have unique attributes. If the company makes a decision to lower the price, they should take steps to preserve consumers’ perception that the high quality of their products is different and better than the products of competitors. The difficulty in this case is to start competing with new prices without changing the positioning of goods. The essence of this policy of lowering prices while maintaining the quality perception is to convince retailers and customers that the quality remains the same.

Procter & Gamble, a transnational consumer goods company, for instance, reduced prices explaining it as part of a cost reduction program and a “new style of doing business.” The new pricing policy, according to the Procter & Gamble Co managers, would help reduce the cost of ordering, warehousing and storage. Thus, a price reduction was seen as a part of the corporate strategy (Lambin, 1997).

A very different behavior was exemplified by the Marlboro brand of Philip Morris International, in which the managers dramatically reduced the price of its main brand when faced with a decrease in its market share (Aaker, 1995). The move, in fact, though strategically correct was taken by retailers, customers and shareholders as a panic reaction, which further worsened the position of the brand. A sharp decline in prices was not logically justified, as in the case of Procter & Gamble, and buyers and retailers had to look for an explanation of what was happening. Of course, the Marlboro brand is still too stable and strong to be destroyed, but the corporation has suffered significant losses as a result of this action. If it is necessary to enter the market in the low-price segment without being a threat to major brands, a good step is to create a sub-brand - an additional line to the brand that exists in the higher price segments of the market.

If possible, the sub-brand must distance itself from the major brand. Associations with low quality goods might be transferred to the main brand. In the computer business, the companies like Hewlett Packard, Lenovo and Dell used sub-brands to enter the low-end market, which now accounts for the bulk of sales. Another example of this is the product lines of Hewlett Packard Pavilion, Lenovo IdealPad, and Dell Inspiron. These lines are characterized by lower prices than the other lines. They normally take some market share away from other lines as the opportunity to buy a cheap computer of a well-known brand is very attractive. When a sub-brand is created, it is imperative for companies to inform users that it does not have all the features of more expensive product lines.

It often happens that a sub-brand is used as a weapon in competition since switching consumers from expensive models to cheaper ones can occur not only among the products of one company, but also among products of different companies. Therefore, what seems like taking away the market share from the company's more expensive models is actually fighting competitors.

The risk for a major brand is significantly lower when the new sub-brand is qualitatively different from the major one. For example, Gillette shavers were traditionally positioned as high quality and innovative. Considering the growing market for disposable shaving machines as a critical market segment, the company released a series of products named Gillette Blue. The sub-brand added a lighter and more youthful image that contrasted with the traditionally masculine image of Gillette; it was a key point in distancing the new sub-brand from the main brand.

The name and logo of the sub-brand can influence its perception as a product for the lower market segments. Including the word IdealPad in the title, the Lenovo Corporation hints to customers that this series is designed for the low-end market. The names of product lines like Professional and Thrifty speak for themselves. This technique is widely used in the world of sports goods or musical instruments.

When working with sub-brands the question arises whether the individual characteristics of a particular product (e.g. belonging to the low-end segment) will be perceived by consumers as belonging to all the company's product lines. In other words, there is a danger that a consumer will form his/her opinion based on the last cheap model entering the market. In practice, it depends primarily on the main idea carried by the brand. The product itself is one of the ways to separate the sub-brand from the main brand. If the product is significantly different in its characteristics, methods of application, and users, the risk to the major brand is reduced.

When it is difficult to differentiate between the products, particularly when their key characteristics are generally indistinguishable, the problem becomes more serious. For example, laptops of Hewlett Packard Pavilion line have differences not significantly tangible to a majority of inexperienced users. In such cases, it becomes crucial to create a different identity, and for the company to carefully control symbols associated with the brand. Even different logos can help differentiate brands.

The focus on different market segments will not only give an opportunity for consumers to mentally separate products, but will also reduce the risk of brand "aging", as the consumers of the main brand are unlikely to get interested in the new proposal. Thus, a simplified brand can appeal to a younger audience, or focus on consumers in small towns and rural areas, leaving the core brand for major cities.

4. CONCLUSION

A successful, strong brand is today's "treasure" of a firm. The brand is an intangible asset of the company, the value of which often exceeds the value of the firm itself. Successful brand positioning in the marketplace is a strategic task of management as it affects the profitability of the transnational corporation in the future. Price factors have a significant impact on brand positioning. Thus, there are some advantages and risks in the creation and development of brands in "high",

“medium” and “low” price segments of the market. Managers of corporations must take the characteristics of these market segments into account when developing and implementing marketing strategies, and must promptly react to the changes that may occur in the consumers’ perception of brands.

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The Economics of Tourism in Egypt: Three Reasons for the Fall of the Tourist Flow

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Abstract: The aim of this paper is to analyse the reasons for the decline of the tourist flow to Egypt. This study shows three reasons for the decline over the past years, which are: the instability of state power (the revolution in January 2011 and the coup in July 2013); terror attacks in 2015 and 2016; and a decline in the level of customer service in the period from December 2011 to December 2016 at two Egyptian hotels. Previously, there have been many publications about the decline of tourism revenues in Egypt. These publications link the decline in tourism revenues to the reduction of the tourist flow. However, they do not provide analysis of the reasons for the decline. The methodology and results can be useful for the the analysis of threats and sources of the tourist flow in other countries. The revolution, the coup, the terror attacks were obvious reasons for the decline of the tourist flow. The findings of the study seem to suggest that customer satisfaction was unchanged despite a decrease in the level of service.

Keywords: tourism, tourist flow, Egyptian hotels, tourism revenues, customer satisfaction, the threat of terror attacks, level of customer service

I. INTRODUCTION

The publications (Novikov, 2016a; Novikov, 2016b) present the analysis of the economic situation of the hotel business in Egypt. The data refer to Egypt at the beginning of autumn 2016. The author of the articles (Vladimir Novikov) shows which Hurghada hotels are preparing to receive Russian tourists. He also names hotels that have been closed due to unprofitability. The author does not analyze the reasons for the closure of the hotels; he only states the facts. For example, the author writes that the cause of the “difficult situation”. Egyptian hotels are in the decrease of tourist flow from Russia and Europe. The article does not give the reason for the decline in tourist flow to Egypt.

2. PROBLEM FORMULATION

It is hypothetically assumed in this study that the main reasons for the decline of the tourist flow are: the revolution of 2011, the threat of terrorism 2015-2016, the decline of the service level.

2.1 Anecdotal Evidence

Egyptian hotels reject all claims of tourists. They claim that hotels have been changed for the better. Mr. Ahmed, Senior Director of Sales, Sunny Days Hotels and Resorts, said “There are much fewer tourists in the country, so the competition grew between hotels. We are fighting for old customers and looking for new areas where we can bring tourists. That is why it is important for us to have a high level of service”. (Novikov, 2016a)

The senior manager of the hosting service of the four-star King Tut Aqua Park Beach Resort Hotel, and the five-star Sphinx Aqua Park Beach Resort Hotel, believes that there is nothing to change and improve in the activities of the hotels. According to him, everyone has been and is ready to receive tourists from Russia (Novikov, 2016b)

A resident of Moscow spoke about his stay at the five-star Royal Grand Sharm Hotel in July 2016: “It was not like the case of five-stars before. Today, I give it “three stars” for service!” (Frishko, 2016).

There have been negative reviews about the Sphinx Aqua Park Beach Resort Hotel. For example, one Russian-speaking tourist, expressed dissatisfaction with the monotonous diet. (Ibid.)

A tourist from Belarus considers the service at the King Tut Hotel to be appropriately priced. However, the same respondent commented that the major flaw was that there was not enough fruit and there was no broad choice of cuisine. (Novikov, 2016b)

At the beginning of June 2016 tourists from Ukraine stayed at the four-star Rehana Sharm Resort (Sharm El-Sheikh). They were very upset with the food and service. In particular, the rooms were not cleaned and there was a lot of garbage on the beach. (Frishko, 2016)

2.2 Methods

The purpose of the study is to find the reasons for the decline of tourist flow to Egypt. Standard research methods were used to prove or disprove the hypothesis and achieve the objectives of the studies. The study was performed in four phases between October 2011 and December 2016. First, the study’s author reviewed the tourists’ opinions about the four-star King Tut Aqua Park Beach Resort Hotel and the five-star Sphinx Aqua Park Beach Resort, based on their stays hotel between October and December 2011. Second, the author visited these hotels and recorded the qual-

ity of service in December 2011. Third, the author monitored customer satisfaction surveys pertaining to the King Tut Aqua Park Beach Resort Hotel and the Sphinx Aqua Park Beach Resort Hotel for the period between January 2012 and December 2016. (www.TopHotels.Ru, 2016) And finally, at the end of 2016 the study’s author: performed analysis of revenues of the Egyptian tourism; visited the aforementioned hotels, recording the quality of the service in December 2016; and performed statistical research and completed the verification of the statistical hypotheses.

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3. PROBLEM SOLUTION

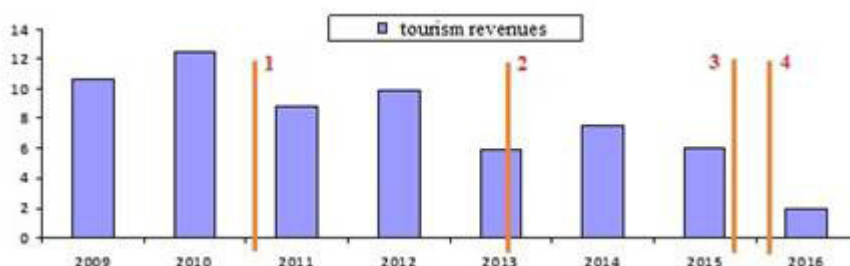
3.1 Analysis of Egyptian Tourism Revenues

Figure 1 shows data from different sources on the income of tourism in Egypt from the beginning of 2009 to the end of 2016. Indicated in the figure are four major incidents in Egypt during the period: (1) the revolution in January 2011 (www.svr.su, 2011); (2) the coup in July 2013 (www.relaxic.net, 2013); (3) the terrorist downing of a Russian aircraft in October 2015 over the Sinai (www.stuki-druki.com, 2015); and (4) the terror attack in Cairo in January 2016 (www.vesti.ru, 2016).

Figure 1 shows a decrease in the income of the tourism industry in two cases:

- after the revolution in January 2011 there was a 29.6% reduction in tourism revenues in 2011 compared to 2010;

Figure 1. Tourism revenues in Egypt in billions of dollars (www.relaxic.net, 2013)



- after the terror attacks in 2015 and 2016 there was a 67.2% reduction in tourism revenues in 2016 compared to 2015.

Does Figure 1 suggest that the coup in July 2013 led to the decrease in revenues in tourism? No. The information shown in Figure 1 does not give an answer to the question about the connection between the coup and the total income of the tourism industry. However, there had been a temporary closure of about 165 hotels in July and August 2013 due to the lack of tourists (www.tourbus.ru, 2014). Income from tourism fell 64.7% (www.rbc.ru, 2014) in July-September 2013 compared to July-September 2012. In other words, there was a decrease in revenue associated with the July coup. The total revenues were approximately 40% for 2013 compared to 2012. Therefore, there are three incidents of decrease in tourism revenues in Egypt, which can be associated to the revolutions and terrorist attacks in the period between 2009 and 2016. The calculations indicate that terror attacks (vertical lines 3 and 4 in Figure 1) reduced income more than a revolution or a coup.

Vladimir Novikov writes that the reason of “difficult situation” in Egypt is the decrease of tourist flow from Russia and Europe [1, 2]. Can we associate the decrease in the income of the Egyptian hotels in 2016 compared to 2015 (67.2%) exclusively with the lack of Russian tourists?

For comparison, the situation in the tourist market in Turkey was considered. Here, there also was a ban on travel of Russian tourists to Turkey. Charter flights between Russia and Turkey were discontinued after November 2015 because the Turkish air force shot down a Russian bomber along the Turkish-Syria border (www.svali.ru, 2015). Statistics show a decrease in revenues in the amount of 16.5% in the first quarter (January to March) of 2016 compared to the first quarter of 2015 in the tourism sector of Turkey (www.

tourism.interfax.ru, 2015). The decline in revenue compared to the previous year amounted to 35.6% from April to June 2016 (www.vedomosti.ru, 2016). The decrease in revenues compared to 2015 amounted to 32.7% from July to September 2016 (www.svali.ru, 2016). Economists believe Turkey’s income from tourism in 2016 to fall by a quarter was due to the reduction of foreign markets (www.ria.ru, 2016). It seems clear that terrorist acts and the resulting lack of tourists from Russia decreased the income from tourism in 2016 in both countries, 67.2% in Egypt and 25% in Turkey. The income from tourism in Egypt, however, dropped 2.69 times more than the income from tourism in Turkey. What is the reason of this great difference? There are two reasons that explain the difference: in Egypt, there was a decline in overall customer satisfaction, and a fall in the level of service at Egyptian hotels. Customer satisfaction and the level of service level at two Egyptian hotels is analysed in the following sections.

3.2 The Analysis of Customer Satisfaction

Publications (Novikov, 2016b; Frishko, 2016) present very divergent opinions given by tourists and hotel administrators (the four-star King Tut Aqua Park Beach Resort and five-star Sphinx Aqua Park Beach Resort Hotel) about the service. Therefore, in response to the differences in the assessments of service, hotel administrators began closely monitoring customers’ opinions about the King Tut Aqua Park Beach Resort Hotel. The opinions given between October 2009 and December 2016 were analysed. Figure 2 shows the results of the monitored costumers’ satisfaction about the King Tut Aqua Park Beach Resort Hotel. The numbers, derived from customer satisfaction serveys carried the following values: 5 (excellent); 4 (good); 3 (satisfactory); 2 (less than satsifactory); 1 (poor); 0 (very poor).

Figure 2 shows the dyanmics of change in levels of customer satisfaction. The scores given by tourists

Figure 2. Customer satisfaction ratings for the King Tut Aqua Park Beach Resort Hotel (<http://tophotels.ru>)

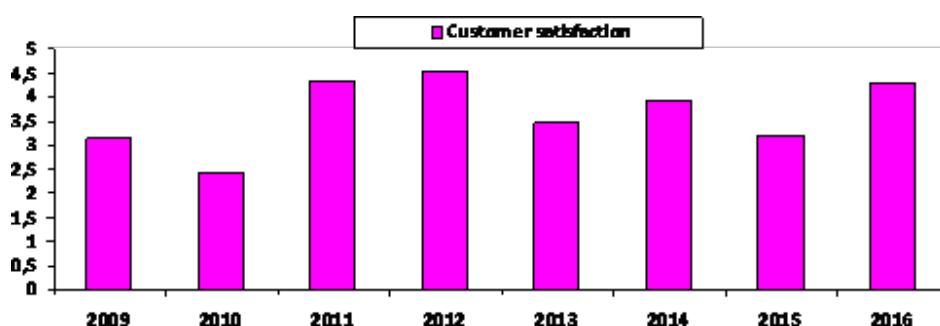


Table 1 Data for the Verification of the Statistical Hypotheses

№	Year	Number of ratings, n_i	The expected value, \bar{X}_i	The standard deviation, S_i
1	2016	15	4.30	0.68
2	2015	28	3.18	1.32
3	2013	27	3.46	0.97
4	2011	43	4.32	0.90

Data for the verification of the statistical hypotheses: 113 Customer satisfaction ratings (the King Tut Aqua Park Beach Resort Hotel, October-December of each year, <http://tophotels.ru>)

in October-December of each year have been used. A total of 255 customer surveys were processed for the statistics. The figure indicates an increase in customer satisfaction immediately after the two terrorist incidents in Egypt: customer satisfaction grew by 44% in 2011 compared to 2010, after the revolution in January 2011; customer satisfaction grew by 26% in 2016 compared to 2015, after the terrorist attacks in 2016. Figure 2 does not establish a clear relationship between the coup in July 2013 and the 2015 terrorist with customer satisfaction.

Therefore, the verification of statistical hypotheses about the average customer satisfaction scores in the years of important incidents in Egypt was conducted. The goal of the verification was to find out whether there is a statistically significant change in the level of customer satisfaction during the years 2011, 2013, 2015, and 2016.

3.3 Verification of Statistical Hypotheses about the Equality of Customer Satisfaction Scores

The F-test was used for the verification of statistical hypotheses. This test is based on F-statistics, which represents the ratio of two variances (*Business Statistics*, 2009a: pp. 3-11). In the study, the following assumptions for one-way ANOVA were adopted: (1) The dataset consists of 4 random samples of 4 general populations. (2) All the general populations had a normal distribution. Additionally, the standard deviations of the populations were identical. That is, $S_1 = S_2 = S_3 = S_4$. This allows for the use of the standard statistical tables for hypothesis testing.

Two hypotheses were employed, the null hypothesis and the research hypothesis. In this study, the null hypothesis is applied to the F-test in the one-way analysis of variance claims that 4 populations (rep-

resented by the four samples), and all have the same mean value. The research hypothesis claims that they are not all the same; that is, at least two populations' means are different.

The Null Hypothesis: $H_0: \bar{X}_i = \bar{X}_j$ (the means are all equal). In fact, the null hypothesis is that all populations are identical (from the point of view of the statistical distribution). That is, the difference in the means are not statistically significant in different years. Customer satisfaction scores do not depend on the revolution, the coup and terror attacks in the general population. The changes in means occur by chance in accordance with this hypothesis.

The Research Hypothesis: $H_1: \bar{X}_i \neq \bar{X}_j$ (the means are not all equal at least for one pair of variances). The research hypothesis claims that the means of the four populations are not equal. In other words, the difference of means is not the result of random fluctuations. That is, changes in means are statistically significant. Customer satisfaction scores depend on the revolution, the coup and terror attacks in the general population.

Further calculation includes number of the general populations (number of occupational groups), $k = 4$ (four). The total sample size is represented as follows:

$$n = n_1 + n_2 + n_3 + n_4 = 43 + 27 + 28 + 15 = 113.$$

The grand average of the 4 samples \bar{X} :

$$\bar{X} = (n_1 \times \bar{X}_1 + n_2 \times \bar{X}_2 + n_3 \times \bar{X}_3 + n_4 \times \bar{X}_4) / n$$

$$\bar{X} = (43 \times 4.32 + 27 \times 3.46 + 28 \times 3.18 + 15 \times 4.3) / 113 = 3.83$$

The number of degrees of freedom are here: $k - 1 = 3$. The between-sample variability for one-way analysis of variance \bar{G} :

$$\bar{G} = [n_1 \times (\bar{X}_1 - \bar{X})^2 + n_2 \times (\bar{X}_2 - \bar{X})^2 + n_3 \times (\bar{X}_3 - \bar{X})^2 + n_4 \times (\bar{X}_4 - \bar{X})^2] / (k-1)$$

$$\bar{G} = (10.32 + 3.70 + 11.83 + 3.31) / 3 = 9.72$$

The degrees of freedom are indicated by $n - k = 113 - 4 = 109$.

The following is the within-sample variability for one-way analysis of variance \hat{S} :

$$\hat{S} = [(n_1 - 1) \times (S_1)^2 + (n_2 - 1) \times (S_2)^2 + (n_3 - 1) \times (S_3)^2 + (n_4 - 1) \times (S_4)^2] / (n - k),$$

$$\hat{S} = (783.82 + 311.26 + 273.03 + 258.86) / 109 = 14.93$$

F-statistics are indicating the extent to which the sample averages differ one from another (the numerator) with respect to the overall level of variability in the samples (denominator). F-statistics for one-way ANOVA are indicated as follows:

$$F = \bar{G} / \hat{S},$$

$$F = 9.72 / 14.93 = 0.65$$

Is this large enough to indicate significant supplier differences? A statistical table is needed.

In the study, the degrees of freedom are $k - 1 = 3$ (for between-sample variability), and $n - k = 109$ (for within-sample variability). The critical value for testing at the 1% level, found in the F-table is ~ 3.95 (*Business Statistics*, 2009a: Tables 15.2.2 – 15.2.5).

The Result of the F-test

To test the null hypothesis the F-statistic (0.65) was compared to the F-table critical value (3.95). Since the F-statistic was not larger, the result was not found to be significant. There was no reason to accept a research hypothesis. The null hypothesis was accepted. The result (at the level of hypothesis testing 1%) was accepted from the point of view of the statistical distribution all four of the general population is identical.

It was determined that the observed differences among the sample averages could be reasonably caused by the random chance alone. This suggests that the decision will be correct in approximately 99% of the cases and incorrect in a mere 1% of cases. In this sense, the decision-making process had an accurate, controlled probability. (*Business Statistics*, 2009b: p. 75) At the 1% level of hypothesis testing, the following result can be accepted: all four of the general populations are identical (from the point of view of distribution).

In accordance with the recommendations of the research (*Business Statistics*, 2009b: p. 11), it is strongly indicated that customer satisfaction scores did not depend on the revolution, the coup and terror attacks in the general population. Customer satisfaction scores have been constant for several years. The result is highly statistically significant (1%). Thus, it can be concluded that the decrease of the tourist flow in Egypt was not related to customer satisfaction. The service level in Egypt, related to four and five star hotels will be analysed in the following section.

3.4 Comparative Analysis of Levels of Service between December 2011 and December 2016

A comparative analysis of the levels of service was conducted for the four-star King Tut Aqua Park Beach Resort Hotel and the five-star Sphinx Aqua Park Beach Resort Hotel. The hotels are located on the same site and share a complex, have a common management, use the same area for sunbathing, swimming, recreation, and a number of services. Thus, analysis of the levels of service was carried out simultaneously. The analysis of the level of service level was performed in paired data by a nonparametric procedure: the sign test on the differences was being used. (*Business Statistics*, 2009a: pp. 24-32) Once again, two hypotheses were used:

The Null Hypothesis: The null hypothesis claims that just as many units go up (comparing the paired data values X and Y) as down in the population. Any net movement up or down in the sample would just be random under this hypothesis. The difference in the level of service between December 2011 and December 2016 is not statistically significant. In accordance with this hypothesis, the movement of quality up or down happened by chance.

The Research Hypothesis: The research hypothesis claims that the probabilities of going up and down are different. In accordance with this hypothesis, the movement of quality up or down happens not by chance. The difference in the level of service at the King Tut Aqua Park Beach Resort Hotel and the Sphinx Aqua Park Beach Resort Hotel between December 2011 and December 2016 is statistically significant. Table 2 shows main indicators of the quality of service level, which can be fixed. A value of "1" was assigned to the indicator if it is implemented fully. A value of "0.5" was assigned to the indicator if it is implemented partially. A value of "0" was assigned to the indicator if it is not implemented.

Table 2 Comparative Levels of Service in December 2011 and December 2016

№	Indicator of customer service	2011	2016	Comment
1	the sense of a “relationship” between the guests and staff	1	0	
2	problems were quickly solved	1	0	the phrase “wait for 5 minutes” was common in 2016
3	guests were accommodated quickly	1	0	“I couldn’t finish drinking coffee before being accommodated” in 2011; “I was able to swim in the sea for 40 minutes before I was accommodated” in 2016
4	additional payments for the best room were not required	1	0	“the reception staff asked for an additional \$30” in 2016
5	repairs were done in the rooms	0	0	
6	the staff took tips for housekeeping	1	1	“it was my initiative”
7	the food was available to guests all day long	1	0.5	“in 2016 it was 3 times a day only”
8	tablecloths at the restaurant were changed 3 times a day	1	1	
9	ice cream was served with every lunch	1	0.5	“there were 3-5 kinds in 2011, and only 3 kinds in 2016”
10	free fruit was available all day long	1	1	
11	there was recreation for adults	1	1	
12	there was recreation for children	1	1	
13	participants of recreation programs received prizes	1	0.5	in 2011 “there were prizes for diving, and riding on a camel. But the guests had difficulty getting prizes in 2016”
14	there was aqua aerobics	1	0	
15	there was a water park (4 tracks)	1	1	
16	there were towels on the beach	1	1	
17	there were mattresses on the beach	0	0	
18	complementary fresh juices were available on the beach	1	0	
19	there was free sauna	1	1	
20	there was free Wi-Fi	1	1	
21	there was an English-speaking staff	1	1	
22	there were polite bartenders	1	0	“one bartender on the beach was rude in 2016; tourists complained to management twice a week”
23	there were wealthy clients	1	1	

Table 3 Data for Statistical Analysis for the Sign Test on the Differences in Use

Y	0	0	0	0	0	1	0.5	1	0.5	1	1	0.5	1	0	1	1	0	0	1	1	1	0	1
X	1	1	1	1	0	1	1	1	1	1	1	1	1	1	1	1	0	1	1	1	1	1	1

Source: (*Business_Statistics, 2009a: pp. 24-32*)

Table 4 The Modified Sample for Statistical Analysis

Y	0	0	0	0	0.5	0.5	0	0	0	0
X	1	1	1	1	1	1	1	1	1	1
Y - X	minus	minus	minus	minus	minus	minus	minus	minus	minus	minus

The procedure of statistical hypothesis testing included three steps, two statistical reformulations (steps 1 and 2), and the analysis (step 3):

(1) A new table, Table 3, was formulated. A new dataset was created for this table from Table 2 based on survey data from the King Tut Aqua Park Beach Resort Hotel and the Sphinx Aqua Park Beach Resort Hotel. Table 3 shows the data for the statistical analysis of the level of service level by a “X” nonparametric procedure in the two paired samples. Row “X” contains values for 2011. Row “Y” contains values for the year 2016.

(2) The modified sample contains indicators that have only differences (see Table 4). The modified simple size is $m = 10$. Rows “Y” and “X” contain the difference between the values in 2016 and the values in 2011. The word “minus” in the rows represents a declining level of service. Table 4 shows that the number of indicators that have decreased (the value in the string “Y-X” is “minus”) is 10 units, related to a five-year interval between the two samplings, the first in December 2011, and the second in December 2016.

(3) The limits for the “sign test” are 1 and 9 for $m = 10$ and at the level of hypothesis testing 1%. (see *Business Statistics, 2009a: Table 16.1.1, p. 27*) Since the number 10 falls outside the limits (i.e. it is more than 9), the null hypothesis is rejected and it can be concluded that the result is statistically significant. The research hypothesis is accepted. The level of customer service for 2016 is significantly different from the level in 2011 at the hotel complex consisting of the King Tut Aqua Park Beach Resort Hotel and the Sphinx Aqua Park Beach Resort Hotel.

Based on the statistics, it can be deduced that the level of customer service decreased over the period

between December 2011 to December 2016. This constitutes the third reason for the decline in tourist flow. It was incorrect when the senior manager of the two hotels indicated there was nothing to do to improve in the hotels. (Novikov, 2016b)

Representatives of travel agencies from the Ukraine argue that the hotel service in Egypt is not what it used to be. (Frishko, 2016) Faced with a decrease in the tourist flow from Russia and Europe, some of the hotels started to implement cost savings plans. Obviously, this has lowered the quality of services provided. The result is highly statistically significant (1%). That is why, the result suggests that the outcome will be correct in approximately 99% of the cases and incorrect in 1% of cases only. In this sense, there is indicated a decision-making process with accurate, controlled probability. (*Business Statistics, 2009b: p. 75*)

3.5 Discussion

The purpose of the study is divided into several parts. First, it was revealed that during the period of 2009-2016 there were three events that were related to a decrease in tourism revenues in Egypt: (1) The revolution in January 2011 reduced revenues in the amount of 29.6% in 2011 compared to 2010; (2) The coup in July 2013 reduced revenues in the amount of 40% in 2013 compared to 2012; (3) Terror attacks in 2015 and 2016 reduced revenues in the amount of 67.2% in 2016 compared to 2015.

Regarding the terror attacks, an increased attention has been paid to security in some hotels in Egypt. For example, a hotel representative of the Sea Gull Hotel gave information that the hotel had increased the number of surveillance cameras in the corridors. (Novikov, 2016b) Employees of the in-hotel security

service are located at the entrances and outside the buildings 24 hours a day. Two stationary police posts were also built on hotel grounds.

Unfortunately, there are questions which have not been definitively answered by this research. For example, to what extent was the decrease in revenues of the Egyptian tourism in 2016 due to terrorism? Was the decrease in revenues, in part, a result of a fall in the level of customer service? What is the correlations, if any, between the hotels investing and security and the withdrawal of customer services provided? Perhaps these questions will be the basis for further research.

Second, it has been demonstrated that changes in customer satisfaction among tourists is not statistically significant. This indicator does not depend on revolutions, coups and terror attacks.

Third, the thesis on the worsening of the service level was confirmed in the literature. This is the third of the reasons responsible for the decline of the tourist flow.

For example, Novikov (Ibid.) writes that many two and three star hotels went out of business due to the intensified competition for the declining numbers of tourists. Hotels, such as El Tabia, La Perla, Les Rois, Ramoza in Hurghada, were closed in 2016. These were hotels where the service level had always been lower than in the four and five star hotels. The Turkish media wrote that cheap hotels could not compete and were put up for sale (www.mk-turkey.ru, 2016).

Are the results of this research reliable?

Disproving the results of this research will require results that are more statistically significant. This means that researchers need to interview respondents several times more than in this study. This does not guarantee that the results will be different. However, attempts to both replicate or refute these results could result in a study with higher precision.

As previously stated, the results are highly statistically significant (1%). That is why, the results suggest that, the outcome will be correct in approximately 99% of the cases and incorrect in 1% of cases only. In this sense, the methodology was reasonably accurate, with a controlled probability. The seemingly counter-intuitive finding that customer satisfaction was unchanged despite a decrease in the level of service will be addressed in a following study.

4. CONCLUSION

The goal of this study was achieved. It is based on an examination of information sources and statistical analysis. Previously, it was hypothetically assumed that the main reasons for the decline in the flow of tourists were: the revolution of 2011, the threat of terrorism 2015-2016, and the decline in the level of customer service.

First, the study's findings establish that the sources of decrease in the tourism revenues, stemming from the decline in the flow to Egypt: the instability of state power (the revolution in January 2011 and the coup in July 2013); terror attacks in 2015 and 2016; the decline of the Service level in the period from December 2011 to December 2016.

Second, it was demonstrated that customer satisfaction does not depend on revolutions, coups, terrorist acts. The result is highly statistically significant.

Third, the findings established that the level of customer service decreased during the period between December 2011 and December 2016, at the two hotels in question, and that this was a third reason for a decline in the tourist flow. The result is highly statistically significant.

There are left remaining other possible tasks for further research: What is the interconnectivity between customer satisfaction and the level of customer service? Within the tourism sector, how can hotels achieve a balance between investments in security and customer service?

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Model of the Knowledge Value Chain in Strategic Alliances: Conditions of the Knowledge Flow between Companies

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Abstract: The purpose of this article is to provide a complementary approach of knowledge value chain management and the organizational chain of knowledge within strategic alliances. This paper explains a synthetic approach to integrated models of the knowledge value chain in strategic alliances. It combines the knowledge value chain, an enterprise value chain, and a knowledge chain. There is a large body of literature focusing on the crucial role and importance of knowledge management and the issue of its transfer between companies in the effective management. However, publications showing the model of knowledge transfer within cooperation, as well as focusing on the determinants of efficient flow of knowledge are rare. This article presents the characteristics of key aspects of knowledge management in a strategic alliance in the context of value chains of partner companies, as well as knowledge chains and knowledge value chains. On the basis of data retrieved from various sources, a model of knowledge transfer between companies in strategic alliance is proposed. An important finding is that integration of the value chain, knowledge chains and knowledge value chains of enterprises increase the efficiency of knowledge transfer. Moreover, key factors that determine the companies mutual learning process in alliances have been identified. The approach proposed is potentially an effective strategic method for creating superior value and knowledge-based competitive advantage in alliances.

Keywords: strategic alliance, knowledge transfer, inter-partner learning, knowledge value chain

I. INTRODUCTION

Strategic alliances are perceived universally as strategies formulated and carried out together by enterprises in order to achieve bilateral objectives and develop their own resources, as well as those which were produced as part of the alliance. From this point of view, strategic alliances can be treated as one of the effective ways to develop knowledge-based resources that are a crucial source of competitive advantage. It results from a strategic orientation to knowledge management. In fact, the knowledge value chain (KVC) and the organizational chain of knowledge (knowledge

chain - KC) can assist an organization to better manage its knowledge resources, from which the company creates value and competitive advantage (Najmaei and Sadeghinejad, 2009). Neither of the approaches (KVC and KC) is common in knowledge management literature, creating a conceptual gap.

Contemporary conditions for competition determined by phenomena associated with the processes of globalization, liberalization of social and economic life, the internalisation of operations of companies, or the Internet revolution, pose new competitive challenges for businesses. One way to gain new sources of com-

petitive advantage and enhance sustainable competitive advantage is making an alliance with another company (including the competitor) and searching for key competencies and knowledge-based resources. Literature pays considerable attention to the importance of knowledge resources in the creation and development of strategic alliances (Connel and Voola, 2007).

Dealing with competitive challenges through strategic cooperation is not a simple task that can be easily planned and implemented. Therefore, the issue of the functioning of strategic alliances should be examined from the perspective of sources of competitive advantage of alliances under the conditions of the contemporary knowledge-based economy. Most studies in the field of strategic alliances rely on the basic concepts of the value chain and competitive knowledge, and links these issues have with other new issues in the discipline of knowledge management. It is widely recognized that integrating the fields of knowledge management and strategic management is possible. As a result, the range of competitiveness conceptualization based on the value of knowledge has increased. This perspective synthesizes the competitive capabilities of alliances with the techniques of knowledge management (Najmaei and Sadeghinejad, 2009).

2. KNOWLEDGE VALUE CHAIN MANAGEMENT IN STRATEGIC ALLIANCES

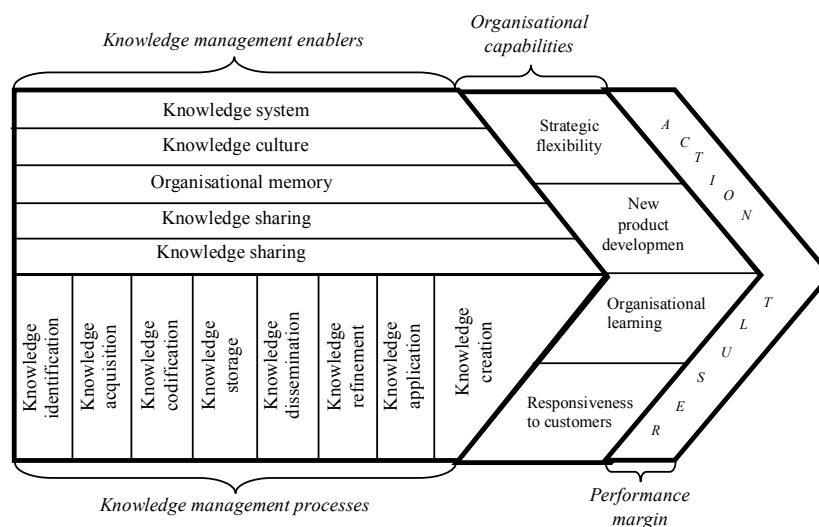
The level of competitiveness of the knowledge-based economy is determined by intangible competencies and skills, which generally are built on the basis of

potential knowledge. These resources can be divided into three groups: specific skills (key differentiation factors that are difficult to duplicate), key competencies (which are competitively necessary), and routine competence (preventive measures to stay in the market game) (Eustace, 2003; Lee and Yang, 2000).

Key skills and competencies of an enterprise are the basis of its value chain and can be effectively developed through participation in a strategic alliance with the use of the knowledge value chain. It is identified as a causal link between knowledge management initiatives and the results of operations, enabling the development of core and distinctive competencies to enhance the ability to compete. The chain of knowledge is defined as the ability to recognize, predict and act on the market based on a four-part model consisting of an inner consciousness, internal reactions, the external trigger, and external consciousness. These activities integrate internal resources with external changes, giving rise to the creation of knowledge-based competitiveness, because this knowledge can be translated into a resource that is high flexibility. The chain of knowledge must be included in the formulation of strategies and must be integrated with the value chain model (Carlucci, Marr and Schiuma, 2004; Spinello, 1998).

The use of the knowledge value chain model in the operation of strategic alliances can help to strengthen the agreement and improve knowledge transfer. Knowledge value chain model (see Figure 1) is analyzed on the basis of knowledge management processes (identification, acquisition, codification, storage, dissemination, improvement, application, and

Figure 1. Knowledge Value Chain



Source: Wang and Ahmed, 2005, p. 323.

knowledge creation), as well as areas of knowledge management (system of knowledge, knowledge culture, organizational memory, and sharing and imitation of knowledge) (Wang and Ahmed, 2005).

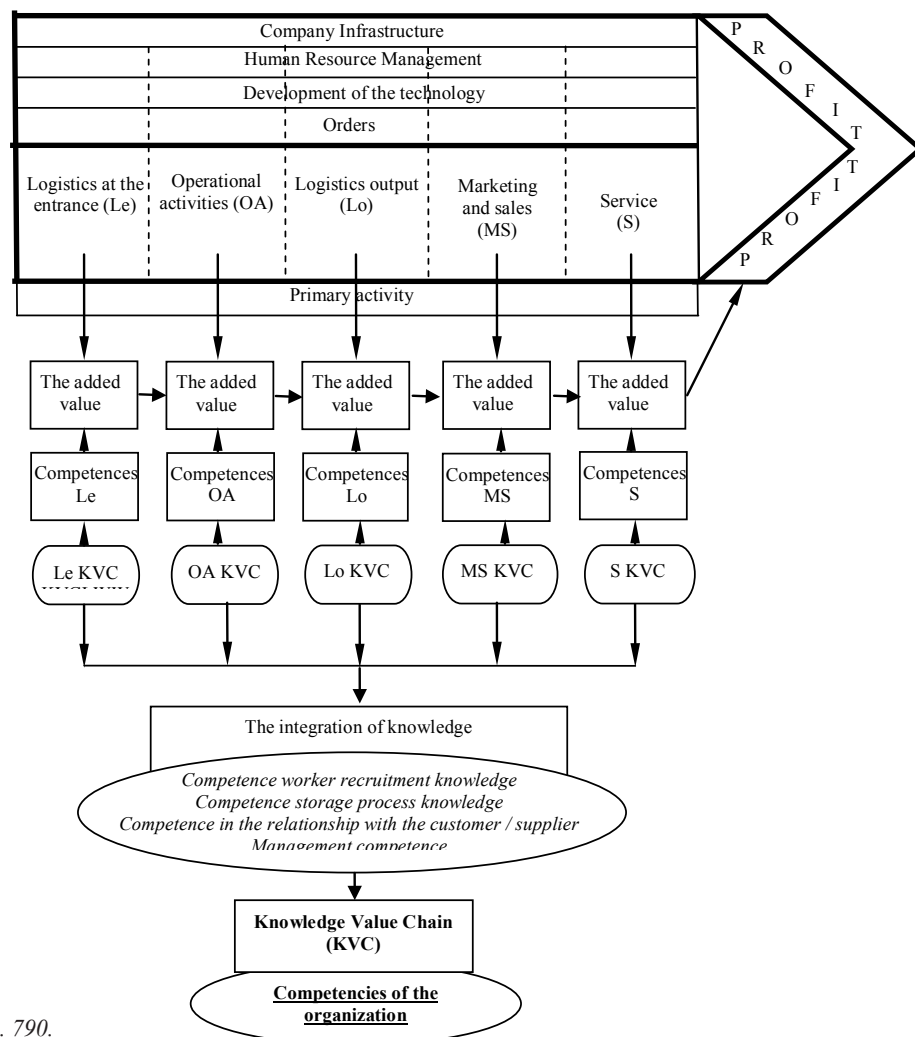
Knowledge management increases the flexibility of strategic management, and a knowledge management system functions in the form of a chain of knowledge enabling the company to run smoothly. From the point of view of the management of knowledge value chains, strategic alliances need to be carefully managed, and require a common structure, culture and management systems. Another model of knowledge value chain focuses on three of its major links: knowledge creation, dissemination, and implementation, which may lead to more favorable results. At the same time, a knowledge chain defined in such a way describes the relationship

between the company's value chain and its components (cells) more precisely. The relationships between the company value chain, the knowledge chain, and the knowledge value chain are presented in Figure 2.

This model can also be associated with the knowledge value chain model described previously (see Figure 1), particularly in the context of creating competitive advantages within the framework of making strategic alliances. Therefore, the conceptualization of the knowledge chain and the knowledge value chain is suitable for the development of alliances aimed at creating intangible competencies and competitive capabilities in a variety value chain cells of partner companies.

Strategic alliances must be equipped with knowledge chains, which should be matched carefully. Companies who are strategic allies must strive to

Figure 2. The Relationship between Organizational Value Chain, the Knowledge Chain and the Knowledge Value Chain



Source: Lee and Yang, 2000, p. 790.

make full use of the knowledge value chain elements in order to strengthen cooperation and quickly achieve bilateral competitive capabilities. In addition, the knowledge value chain facilitates knowledge transfer and sharing of knowledge, which helps to improve the relationship between the alliance partners (Najmaei and Sadeghinejad, 2009).

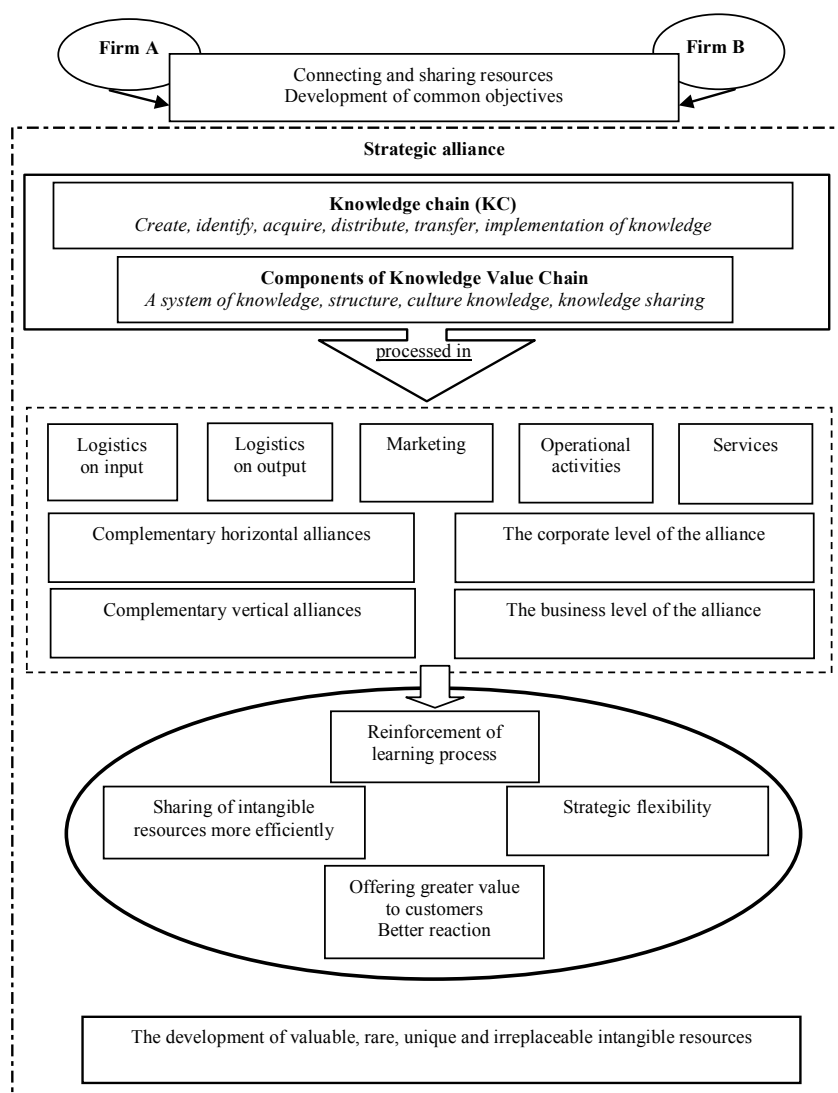
3. INTEGRATION MODEL OF THE KNOWLEDGE VALUE CHAIN, THE KNOWLEDGE CHAIN, AND THE VALUE CHAIN FOR ENTERPRISES

One of the main objectives of planning strategic alliances and the management of such alliances is to share organizational resources, especially those based

on knowledge. These resources allow companies to create common, more advanced competencies that are valuable, rare and unique. Therefore, strategic alliances are intended to create cumulative and bilateral value that exceeds the value created by each of the partners individually. At the same time, creating these basic and indigenous skills (key resources) requires a comprehensive alliance management mechanism on the basis of the value chains of the allies.

The knowledge chain characterized previously as a process of knowledge creation, dissemination, transfer, and implementation of knowledge in an alliance must be properly planned, formulated, implemented and managed by various organizational activities based on the knowledge value chain. It includes - in addition to the basic functions of organizational knowledge

Figure 3. The Integrated Model of the Knowledge Value Chain in the Context of a Strategic Alliance



Source: Najmaei and Sadeghinejad, 2009, p. 306.

management – knowledge of the enterprises, to include such issues as the organizational cultures, their organizational structures, and technical infrastructure. Thus, the knowledge chain is included in the knowledge value chain. This approach is a strategic way to create superior value and a knowledge-based competitive advantage derived from the alliance (Najmaei and Sadeghinejad, 2009).

Figure 3 presents a synthetic and integrated model of the knowledge value chain in a strategic alliance. It combines the knowledge value chain, the value chains of enterprises, and the knowledge chain. At the same time, the model indicates effective methods for achieving the results of cooperation, involving a high degree of synergy, and from this point of view, the model can serve as a strategically valuable approach for the creation and operation of strategic alliances. Conceptualization of the model gives rise to a search for sources of competitive advantage based on knowledge in terms of the knowledge-based economy.

4. DETERMINANTS OF EFFICIENT FLOW OF KNOWLEDGE BETWEEN COMPANIES IN A STRATEGIC ALLIANCE

Three main areas could be pointed out that determine the efficient flow of knowledge between partners and determine effective management of knowledge transfer in a strategic alliance (Chung-Jen, 2004):

Attributes of knowledge can be reduced to the distinction between explicit and tacit knowledge. This is based on the determination of whether knowledge can be codified, passed from one person to another, presented verbally, or systematically documented and recorded. Tacit knowledge is personal, often referring to the context of the situation in which it is used. This knowledge can present problems of communication difficulty in formal communication. By contrast, explicit knowledge is transferred in a formal and systematic way. The effectiveness of knowledge transfer may be affected by attributes of knowledge. For example, a strategic agreement regarding the transfer of technology aimed at the exchange of tacit knowledge and experience (competencies and skills) is more likely to end in failure than those relating to the formal exchange of technological ideas. This is due to the fact that an attribute of knowledge related to the production process or technology is hidden (implicit) in character; therefore, its transfer between employees or cooperating companies is extremely difficult. The

extent to which the capabilities and capacities are codified and formally registered has a significant effect on the rate of transfer of this knowledge. Explicit knowledge is easy to gain from an alliance and can possibly be quickly learned and used, as it can be communicated in a formal and systematic way. On the other hand, tacit knowledge is mainly personal and contextual; hence it is difficult to formalize and communicate. Therefore, partner companies should take more effort and time to transfer tacit knowledge (hidden, undisclosed).

Features of the alliance specify, inter alia, the form of the agreement, the scope of implementation, the main objectives, and other key characteristics. Alliance features also determine the speed and efficiency of the knowledge flow between the cooperating companies. Both, in the case of capital relations (joint venture, joint investments, capital ties), and agreements based on contractual partnerships (licenses, agreements on cooperation in the field of R&D, marketing, and production): the selected form of cooperation directly affects the outcome of the alliance and possibilities to achieve the objectives of each party of the agreement. It can be concluded that capital agreements tend to stabilize and persist for a longer period of time due to the large commitment of capital and resources of allies. This reduces opportunistic behavior of particular partners, and also creates higher costs for leaving the alliance. For this reason, this type of agreement can be seen as providing more effectiveness in discovering and learning new knowledge, because the participants can actively engage allies in sharing competencies and maintaining cooperation and commitment, all of which promotes better interaction. Generally, capital cooperation agreements can lead to better knowledge transfer between partners, although they are more expensive. This kind of cooperation means a partial loss of autonomy, closer interaction with the alliance partner, and requires a greater commitment of resources or takes a larger investment risk. Therefore, before making a decision about the conclusion of such an agreement managers should consider whether it is necessary to cooperate in this form.

It should also be noted that different forms of alliance may be suitable for different knowledge transfers. Capital alliances are more adequate for the transfer of tacit knowledge, while technological contracts are suitable for explicit knowledge transfer and the transfer of personnel includes the articulation of tacit knowledge. Effective long-term technological transaction agreements are more likely when the technology (which is the subject of the agreement or contract) is unique, and

knowledge is more clear and formally specified. Closer interaction bonds implied by the capital agreement are suited for the transfer of tacit knowledge (transfer of such knowledge will be more difficult in the case of long-term free cooperation agreements). Therefore, the companies whose aim is to exchange knowledge of this type should consider capital agreements, e.g. joint ventures. On the other hand, the nature of formal and codified explicit knowledge promotes ease of transmission, and therefore needs less communication tools in the process of its transfer. Thus, equity contracts that allow closer interaction between firms are less effective in relation to the transfer of explicit knowledge. Alliances based on loose cooperation agreements will be more suited to acquiring this type of knowledge.

Knowledge absorption skills refer to the company's ability to absorb and replicate new knowledge from external sources. These skills are the result of a long process of knowledge and investment accumulation in the company. Therefore, sustainable development of the ability to absorb knowledge in a company is a prerequisite for the effective use of knowledge in the environment. A higher level of absorptive capacity can contribute to improving the company's ability to use external sources of knowledge (especially technical and specialist). Companies with a high level of absorption capacity can better identify the applicability of new knowledge acquired from other companies and use it in the development of innovative operation of strategic partners and the entire alliance. Acquisition of knowledge from external sources and organizational learning skills are difficult or even impossible without such absorption capacity of the company.

A variety of factors have an impact on the ability of a company to absorb knowledge: organizational, technological, and human resources. What should be pointed to, among others, is the importance of organizational culture, technological and capital capacity of enterprises declaring their willingness to cooperate, trust, and the significance of structural, strategic and cultural adjustment of partners. Enterprises seeking to gain knowledge and learn from others using strategic alliance, must recognize that mutual trust is the basis for cooperation. Opportunistic behavior and inflexibility often leads to failure of the alliance. Therefore, companies should first precisely perform the procedure of selection of alliance partners, and then act fairly towards them during the implementation of the objectives of the agreement. Companies are more likely to acquire knowledge from outside if they have better ability to absorb knowledge. If companies are trying to gain knowledge from their partners in the framework

of cooperation or an agreed framework, they should communicate with each other without problems and assimilate new knowledge more effectively. Partner companies need to constantly seek ways of improving upon the initially defined scope of work.

In the context of alliance management, the learning process between partners concerns the extent to which companies will form a regular and repetitive pattern of procedures to promote the transfer of knowledge. The exchange of knowledge and information becomes easier the longer the agreement unfolds and the acquisition of knowledge about the partner and a reciprocal or complementary learning process supports the knowledge and information transfer, and contributes to improving the management of the alliance. As firms learn about their alliance partners, they learn how to interface and communicate with them. This type of learning involves the process rather than the content of learning (that is, inter-learning), which allows partners to revisit and revise their expectations of one another, and to gain a deeper understanding of their counterparts. There are three reasons supporting the claim that inter-partner learning fosters alliance success (Tjemkes, Vos and Burgers, 2012):

- **relationship openness** is supported by inter-partner learning, and is the extent to which firms are willing to share information more openly. Extensive communication contributes to meaningful and timely information sharing. Increased openness also helps partners to work together more efficiently, increases awareness of their particular interests, and encourages alliance management;
- **transfer of tactic knowledge** is predicated on inter-partner learning, which in turn motivates parties to participate and openly share valuable knowledge. It reduces the difficulties implicit in the transfer of tactic knowledge. Moreover, it helps firms to acquire individual viewpoints and to develop a common language to teach how to make the alliance work;
- **reduced risk of exchange hazards** is defined as a decrease in the likelihood of opportunistic behavior, conflicts of objectives, free-riding behavior, instances of appropriation, and spill-over concerns. Informal feedback mechanisms provide firms with signals about one another's conduct. It also allows to openly share strategic intents, resources and knowledge of alliance partners.

The organizational learning process through the exchange and transfer of knowledge within the framework of strategic alliances can be analyzed at four levels, including the different motivations of partner

Table 1. Key Aspects of the Companies' Mutual Learning Process in the Alliance

Specification	Description
1. Competitive cooperation	<p>a) some companies may consider the internalisation of rare skills as a primary benefit of international cooperation;</p> <p>b) where acquisition of knowledge and the organizational learning process are seen as a goal, then the termination of cooperation should not be seen as failure; the same length and the stabilization of the alliance can't be unambiguously considered as a success;</p> <p>c) asymmetry in the learning process leads to the change in the relative competitive position and advantage of allies already outside the structure of the alliance; therefore, some companies may themselves be seen both as competitors and allies.</p>
2. Knowledge and bargaining power of the partners	<p>a) asymmetry in the learning process causes a change in bargaining power within the alliance: successful learning can result in „the limitation period” of the original contract and, in extreme cases, can lead to patterns of unilateral rather than bilateral partner dependence;</p> <p>b) formal structure may only have a marginal impact on the patterns of inter-partner learning process and the negotiating bargaining power of the firms;</p> <p>c) the company, which is aware of the existence of the relationship between the exchange of knowledge (inter-partner learning), bargaining power in the process of „transaction of knowledge” and the competitiveness will perceive the alliance as a race to knowledge.</p>
3. The intentions of the partners as a condition for the exchange of knowledge	<p>a) objectives of partner companies, in terms of inter-partner learning and knowledge acquiring, may be referred to as the internalisation of activity, concentration of resources or survival;</p> <p>b) the intent of internalisation is going to be more important in the case of a company that sees competitiveness on the basis of competencies, expertise and skills rather than on the basis of the offered product, and which are looking for more opportunities to cover the lack of skills than offset the failure (loss);</p> <p>c) imperative of survival is in principle the asymmetry in the learning process.</p>
4. Transparency of the process of knowledge acquiring	<p>a) lack of clarity and transparency in the transfer of knowledge implies the asymmetry of the learning process: some of the skills can be inherently more clear than others;</p> <p>b) transparency can result from organizational design of the areas of partners' interaction, the structure of common tasks and protection of individuals.</p>
5. Availability of knowledge	<p>a) asymmetry in the availability of the partner's knowledge implies asymmetry in the learning process - in this respect, some of the companies may be more open than others;</p> <p>b) openness in terms of access to knowledge is a function of skills, capabilities and disclosure of items.</p>
6. Conditions of enhancing alliance knowledge	<p>Whether the learning process strengthens itself autonomously (i.e. whether the company can ultimately - without further input from the partner - improve, strengthen its skills at the same rate and extent as an ally), depends on the depth and scope of the process of knowledge exchange that took place in the alliance; strengthening the competence, experience and skill determines the possibilities of the future liberation from dependence on the partner, and finally determines the discipline of actions, which is necessary for further continuous improvement of the company's abilities and knowledge.</p>

Source: Drewniak, 2004, p. 230.

companies and the range of potential benefits. These are listed as follows (Contractor and Lorange, 1988; Doz, 1996; Gulati, 1999; Gupta and Mishra, 2000; Simonin, 1997):

- an ability to use the acquired knowledge in planning and management of other agreements in the future;
- the process of mutual learning, leading to the creation of joint enterprise value;
- a learning perspective together with the alliance partner, especially when the allies start a new business or acquire and develop new capabilities;
- the opportunity to learn from a partner without integration of its activities.

There are six aspects of the mutual learning process of partner companies, including their characteristics, shown in Table 1.

The learning process should not be seen as a motive for the creation of strategic alliances, but as a determinant of the alliance management process, as the acquired knowledge is crucial for the evolution of an agreement. Strategic alliances can generate knowledge that can be used by the parties of the agreement to strengthen their own strategy, not related to the areas of operation of the alliance. Competencies of the strategic alliance, formed in this way constitute an autonomous agreement value, resulting from the transfer of a partner's skills. This value can bring unilateral benefits to companies in the future. This knowledge can be used in fulfilling tasks other than those within the alliance, such as improvement of products, or to gain new markets. This resource is a value that the company would not have received without the participation in a strategic alliance.

5. CONCLUSION

Today's management environment (the progressive processes of globalization, the rapid progress of technology, an increase in the intensity of competition in all areas, the precipitous rate of shortening of product life cycles, and the accelerating changes in buyers' needs) force us to pay special attention to the learning abilities in a knowledge-based economy. These abilities are crucial determinants of the development of enterprises. Contemporary business activities are characterized by a high degree of intense competition, and having knowledge-based resources is seen as a key means of obtaining and maintaining a competitive advantage. At the same time competitive conditions

make companies act unilaterally, thus attempting to build a competitive advantage based on their own sources of knowledge. This bears a substantial risk, however, and may not achieve the desired objectives. While starting and continuing cooperation between enterprises under the strategic alliances allows and improves significantly the partners' ability to quickly acquire missing knowledge. Additionally, these alliances bring competencies and learning needed in order to strengthen their competitiveness, while benefiting the alliance as a whole. For companies, SMEs in particular, with limited financial resources, a home country focus, and a small geographic base, international activity through strategic alliances with other companies can be a significant step in their development. Most of them lack the resources required for engaging in overseas activities, and therefore cooperative activities with other companies gives firms the opportunity to acquire scarce resources (Lu and Beamish, 2001; Kirby and Kaiser, 2003). In fact, internationalization begins with exports, moving to joint ventures and licensing, and then to wholly-owned subsidiaries, potentially increasing the scope of management knowledge and investment (Pollard, 2001). SMEs can acquire these resources by cooperating with other internationalising SMEs. The partners can use their scant resources more efficiently, divide risks and costs of entry in foreign markets, share and obtain new information, and learn new skills (Nummela, 2002). On the other hand, Kirby and Kaiser (2003) opine that alliances are not without their problems. The choice of the alliance partner is critical to success and conclude that, given the limited resources of SMEs, they need assistance to enable them to select a suitable alliance partner.

The integrated knowledge value chain model presented in this paper can be used for the effective management of knowledge transfer in a strategic alliance through the integration of value chains and chains of knowledge of cooperating companies. The use of this knowledge value chain model in the operation of strategic alliances can help to strengthen the understanding of the agreement and improve the knowledge transfer. Companies must also know which knowledge is desirable, identify what should be protected, implement the critical success factors of the knowledge transfer, and understand how these factors influence the effectiveness of knowledge transfer in the alliance. It seems that successful networks of alliances are an exemplification of successful knowledge transfer. Knowledge-based alliance networks constitute a subject requiring more in-depth research in the future.

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Submissions (Author Guidelines)

Abstract

The title of the paper ought to be clear, concise and accurate. The abstract should have maximum 250 words and its structure should be as follows: Paper objectives – stating the main aims of the research; what is it about and why is it important. Previous research on the subject – what prior research concepts, or experiences is the paper trying to build on? How does the paper relate to other researches in this field?). Perspective – what perspective was used to capture the research evidence? What were the main methods employed (e.g. field work, survey, case study), Conclusions/results – underline the main results and conclusions from the conducted research, present evidence or experiences; make sure that results are clear, precise and justified).

Keywords: Minimum 5 and maximum 7 keywords or short phrases, which are not included in the title

1. Introduction (Times New Roman 12, Bold)

The paper must provide the details of the work to readers. It should be divided into sections, each with a heading, so that a reader can follow the logical development of the work.

The paper must follow the clear answers pattern based on the following scheme:

1. Stating the problem.
2. Research on the subject done so far by other people (references, overview)
3. Presentation of your own conducted research, including: research perspective, research subject matter, research objectives, methodology, solutions;
4. Presentation of your own new results/conclusions;
5. Indications for the further research;

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