

**BUSINESS AND NON-PROFIT
ORGANIZATIONS FACING INCREASED
COMPETITION AND GROWING
CUSTOMERS' DEMANDS**

Volume 14

Edited by

Adam Nalepka, Anna Ujwary-Gil

Reviewers:

Barbara Błaszczyk, Józefa Famielec, Anna Fornalczyk, Marta Gancarczyk,
Grażyna Leśniak-Łebkowska, Marek Lisiński, Mieczysław Morawski,
Halina Pickarz, Kazimierz R. Śliwa

Proofreading:

Bogna Zakrzewska-Skorupka

Cover design:

Mariusz Kałyniuk

Cover photo:

Fotolia.com

© Copyright by Wyższa Szkoła Biznesu – National-Louis University in
Nowy Sącz and Fundacja Upowszechniająca Wiedzę i Naukę “Cognitione”
(2015, Vol. 14)

ISBN: 978-83-65196-17-0

eISBN: 978-83-65196-21-7

Typeset:

Wydawnictwo i Drukarnia Nova Sandec

Printing and Binding:

Wydawnictwo i Drukarnia Nova Sandec
ul. Lwowska 143, 33-300 Nowy Sącz
e-mail: biuro@novasandec.pl

This publication was co-financed by



CONTENTS

Introduction	5
--------------------	---

I. BUSINESS AND NON-PROFIT ORGANIZATIONS AS THE OBJECT OF RESEARCH

1. Epistemological Dilemmas in Management Research Olaf Flak	9
2. The Signs of Organizational Pathology in Companies Wholly Owned by the State Treasury – The Identification and the Analysis of the Causes of the Phenomenon Studied Jerzy Choroszczak	23
3. The System of Early Recognition of Changes in the Environment in the Opinion of Senior-Level Managers Janusz Bąk	39
4. The Process of Creativity in the Light of the Research Based on the ‘Icedip’ Model in the Selected Organizations of Creative Industries Mieczysław Morawski, Barbara Violetta Szalko	53
5. Conditions of Organization and Performance of the Training Services Companies Iwona Małgorzata Kutzner	67

II. MODERN TOOLS FOR BUSINESS AND NON- PROFIT ORGANIZATIONS MANAGEMENT

6. Instruments of the Marketing Mix in Non-Governmental Organizations – the Results of Empirical Research Wioletta Kwak	81
7. Application of Lean Management Methods and Techniques in Non-Production Departments of Selected Enterprises –Results of the Study Mateusz Podobiński	97
8. The Business Model of a Start-up Company Anna Ujwary-Gil	111
9. Importance of Accountability in Supporting Management Innovation Joanna Wojcik-Bubala	123

III. FINANCIAL ASPECTS OF ORGANIZATIONAL MANAGEMENT

10. The Operation Models of Municipal Companies of Local Public Transport Krzysztof Wąsowicz	135
11. Weighted Coefficient Model for Bank Investment Portfolio Optimization Mykhailo Kuzheliev, Igor Britchenko, Maksym Zhytar	149
12. Talent Management Based on Statistics. The Moneyball Perspective Daniel Gajda, Michał Bartoszewicz	163

IV. BUSINESS AND NON-PROFIT ORGANIZATIONS – GLOBAL AND REGIONAL ASPECTS

13. The Analysis of Polish Economy’s Transformation to Knowledge Based Economy on the Basis of Knowledge Assessment Methodology Justyna Sokołowska-Woźniak	179
14. The Study of the Relative Efficiency of Selected Commune Offices Located in Nowy Sącz, Limanowa and Gorlice Poviats Piotr Czarnecki, Robert Szarota, Dariusz Woźniak	191
15. Conditions and Possibilities of Creating a Communication System with the Public by Public Administration Institutions Marcin Flieger	207
16. Identification of the Urban Municipalities of the Małopolska Region in Terms of Changes in the Real Estate Tax Rates in Business Activities of Enterprises in the Period 2010-2015 Krzysztof Drabek	223
17. The Impact of Operational Programme Innovative Economy on the Growth of Innovativeness of Industrial Companies Agnieszka Mazurek-Czarnecka	233

INTRODUCTION

We are happy to present the next volume of this regularly published scientific monograph. The 14th volume brings an analysis of current phenomena and processes taking place in business and non-profit organizations. It points at new conditions in which organizations are established and then function. It also provides an attempt at explaining what determines the way organizations function in a dynamic market. The book also analyzes strategies applied by the surveyed organizations in order to achieve and maintain competitive advantage in the world of increased competition and growing customers' demands. The book is divided into the following thematic sections which constitute the construction base of this monograph: business and non-profit organizations as the object of research, modern tools for business and non-profit organizations management, and finally financial aspects of organizational management, and business and non-profit organizations – global and regional aspects.

The first part includes articles presenting problems of organization, as the research object. Hence, considerations on fundamental dilemmas faced by management occupy an important place ; conditions and possibilities of creating a communication system with the public by public administration institutions; the signs of organizational pathology in companies wholly owned by the state treasury and conditions of organization and performance of the training services companies.

In the second part we find articles referring to the tools used in management and other areas. The following concepts have been discussed: instruments of marketing mix in NGOs in the light of the implementation of the marketing strategies of the organization and their role in creating value for stakeholders; application of lean management methods and techniques used in non-production departments.

In addition, reference is made to the popular concept in recent years, i.e. the concept of the business model examined in the context of creating value for the customer and the organization, and also its to accountability and

innovation management. The last article in this section refers to the study of the role of creative approach, to constituting added value in the organization, of employees working in small creative businesses of Lower Silesia.

The third section is a collection of articles related to financial aspects of managing organizations. Presented here is an interesting article on the usage of statistics in sport clubs players management and its possible transfer to talented employees management, as well as those discussing the operation models of municipal companies of local public transport and weighted coefficient model for bank investment portfolio optimization.

The monograph ends with considerations related to global and regional aspects of the functioning of the economy and the organization. Noteworthy is the article related to the analysis of Polish economy's transformation to knowledge based economy on the basis of knowledge assessment methodology. Another, concerns the study of the relative effectiveness of selected commune (gmina) offices located in Nowy Sącz, Limanowa and Gorlice Poviats. Finally, two articles focus on the identification of urban municipalities of the Małopolska region, in terms of changes in the real estate tax rates in business activities and the impact of Operational Programme "Innovative Economy" on the growth of innovativeness of industrial companies.

We wish to express gratitude to the Authors of these articles, whose contributions shaped this monograph. We also thank all the Reviewers for their willingness to share their expert knowledge and experience with the Authors, along with substantive support. We believe, this commendable effort and cooperation results in attention to the high quality of the publication.

Adam Nalepka, Anna Ujwary-Gil

I.
BUSINESS AND NON-PROFIT
ORGANIZATIONS AS THE OBJECTS
OF RESEARCH

EPISTEMOLOGICAL DILEMMAS IN MANAGEMENT RESEARCH

Olaf Flak*

Abstract

Building knowledge about management processes depends on several aspects which are necessary to be taken into consideration during any research in that field. In the paper such theoretical dilemmas of creating knowledge about activities in management area can be found: specification of borders of scientific cognition, the perspectives of questions and expected answers, the differences between quality and quantity approaches, a choice of a research method, the possibilities of the verification of the hypotheses, conducting inference and the borders of an explanation in management science.

Keywords: *epistemology, facts, qualitative approach, quantitative approach, mixed method, reasoning.*

1. Introduction

If knowledge about management is scientific, it should complete the general definition of science which is understood as a competent system of phrases possible to be justified, which is used to gain and order, in some respects, the learnings about the determined field (Keller, 2010, p. 37). The knowledge is being created by examining the world, but this kind of studying is a cognitive process. Cognition is a state of information on a given matter (Marsden, 2012, p. 163). At the same time study and cognition always have some subject (Woleński, 2000, p. 172). There are also processes going on between an object and a subject (Lee & Cassell, 2013, p. 123). They are called cognitive activities which cause certain epistemological dilemmas (Woleński, 2000, p. 172).

The aim of the paper is to present the most important epistemological dilemmas in the research within management studies such as: specification of borders of scientific cognition, the perspectives of questions and expected answers, the differences between quality and quantity approaches, a choice of a research method, the possibilities of the verification of the hypotheses, conducting inference and the borders of an explanation in management science. The research method was developed through the analysis of the

* Ph.D., Assistant Professor, Department of Radio and Television, University of Silesia, ul. Bytkowska 1b, 40-955 Katowice, e-mail: ja@olafflak.com.

literature resources in management studies, philosophy and the methodology of science. Due to the theoretical character of the paper no research hypotheses were stated or verified.

2. Cognition in academic studies

In management studies and many other academic disciplines an epistemological approach derived from the analytic philosophy is accepted. Russels epistemology intended to be a combination of logic and natural cognition because the structure of the logic language is isomorphic with the structure of the world (Voordijk, 2009, p. 715). While Moore focused on the epistemological matters of human perception (Woleński, 2000, p. 151), the relation of the consciousness of subject to object was in the center of other scholars interests (Hofer, 2005, p. 98).

Husserl claimed that the right theory of cognition cannot be naturalistic and it cannot as well be built over the philosophy, which was another maneuver of the naturalists (Husserl, 2008, p. 44). Ingarden (1971) was also an adherent of phenomenology but the one called realistic phenomenology. He was in favor of the theory of cognition totally independent from the outside conditions (Ingarden, 1971, p. 391). Husserl (2008) described the same phenomenon by these words: *I can admittedly consider what kind of being it is and in what relation its way of existence is to the others, (...) and I can (...) lead to watching the watching itself, in which the given being is constituting (...). But the whole time now I am moving on absolute ground: this observation is something absolute and it stays like this until it lasts (...)* (Husserl, 2008, p. 44).

Midgley (2003) refers to Popper and claims that the basis of any epistemological actions is determining objects in a given reality with certain features: [an] event must be an observable event; that is to say, basic statements must be testable, inter-subjectively, by observation (Midgley, 2003, p. 80). The word event has been used by Popper as one kind of fact which is possible to be recorded. This statement means that every event must be possible to be observed and what follows the basic statements must be intersubjectively verifiable through an observation. The result is that to call the cognition of the organizational reality academic it has to be considerably divided from the observer (researcher) (McGuire, 1986, p. 5).

Another approach to cognition – rationalism – combines the cognition and empiricism and results in an approach that cognition is possible to be done by senses (Fawcett et al., 2004, p. 206). Such simplification would suggest that in both approaches the way of cognition is limited to the one of aforementioned (Gottfried, 2007, p. 27). It is not so because to every psychic experience, on

the way of phenomenological reduction, refers a pure phenomenon showing its immanent essence (taken individually) as an absolute fact (Husserl, 2008, p. 59).

However, all sensual impressions cannot be treated alike in the perception of reality (Deutsch, 2007, p. 57). It is an irrefutable fact that the people are small creatures with some inaccurate and incomplete channels by which they gain the full information about the outside world (Deutsch, 2007, p. 57).

Summarizing, there are many different approaches to human cognition. Management science is based mostly on empiricism. This fact has a great impact on other issues in management epistemology. Firstly, it is necessary to understand the essence of a phenomenon or an object which is going to be examined. Secondly, it is also about setting the components and relations between them. Thirdly, the synthesis of these elements and their relations must occur to make an entirety that becomes a conceptual object to research.

3. Questions and answers

The cognition in academic management studies is made by questions asked in a specific language (Midgley, 2011, p. 3). Wittgenstein claimed that the solution or a complex description of the world is correct and can be made by the logical analysis by reaching elementary sentences (Gottfried, 2007, p. 125). Wittgenstein assumes that the language is used for building the sentences about the world of facts (Day, 2005, p. 631). At the same time he creates a uniform logic structure. Wittgensteins logic is a logic of sentences and predicates. Logical sentences are associated with logic atomism by Russell (Gottfried, 2007, p. 125).

There are certain assumptions hidden in every question (Bendixen et al., 2004, p. 70). They are hidden in the sentence part and as well as in the concepts and the basic words referring to them in that part. If the assumptions are true (the idea of the truth is not the subject of this paper) then we accept the question as appropriate or, otherwise, accurate (Przybyłowski, 2002, p. 155).

In the context of the considerations about the languages influence on building academic theories in management studies it is worth to show the influence of the conventionalism on research results (El-Diraby, 2012, p. 54). Popper wrote that if someday it turned out that the researchers doing the observation cannot reach the agreement concerning the basic sentences it would result in a discomfiture of language as the means of common communication. The new Babel tower would come into existence: the scientific discoveries would turn into an absurd. (Gottfried, 2007, p. 117).

Similarly as Gottfried (2007), Popper considered conventional character of the basic sentences trying to investigate if they can be accepted or rejected to the same extent. Poppers basic sentences also had different names according to

the authors of the concept. Schlick was talking about the observative sentences. Carnap and Neurath called them the protocol sentences (Gottfried, 2007, p. 116).

These sentences should have the status of findings, not academic theories. Carnap added one more feature: the basic sentences are entitled to the conventional components as well as to components based on an observation (Gottfried, 2007, p. 116).

This raises consequences for an inference in management studies. Namely, there cannot be a complete certainty about the truth of the sentences predication based on the organizational reality. Additionally, Popper denied the possibility of accepting synthetic (general) sentences, which causes the necessity of avoiding generalization in management studies (Gottfried, 2007, p. 116). It can be concluded, that every synthetic sentence (generalization) is assumed to be less probable than the basic sentence.

4. A qualitative and quantitative approach

The next field of dilemmas consider a dominant approach in epistemology of management research. There are two main options: a qualitative or quantitative approach. In management studies it is believed that a positivist paradigm is characterized by the quantitative research methods and an imperative paradigm by the qualitative ones (Koźmiński & Latusek-Jurczak, 2001, p. 31). The qualitative approach in management studies has already a few decades of history (Blackler et al, 1983). During the recent years its meaning has been raised in the literature (Lee, 1992, pp. 87-94). Some authors emphasize the real importance of the qualitative methods in academic research on organization (Cassel et al., 2006, p. 5). The qualitative methods are not better from the quantitative ones, they are just different (Cassel et al., 2006, p. 5).

In the interpretative approach the researcher (...) is some kind of an interpreter of the meanings (...).(Koźmiński & Latusek-Jurczak, 2011, p. 31). The main stress is made on an interpretation of the phenomena in the organizational reality (Dilley, 2004, p. 128). The description itself is not so important anymore (Gordon, 2011, p. 173) and the discovery of truth about an organization is not possible (Koźmiński & Latusek-Jurczak, 2011, p. 30)

The quantitative approach makes the identification of the causes of phenomena more difficult (Woźniak, 2010, p. 8). It is also a ground for a conflict between management studies and so-called economic praxis (Edmondson et al., 2007, p. 1155).

In the qualitative approach a measure of quality of the research is the control of subjectivism by an intensive autoreflection of the researcher (Dilley, 2004, p. 130) who is aiming at the division of his own feelings from the feelings of an organization members he tests (Koźmiński & Latusek-

Jurczak, 2011, p. 31). However, this sentence suggests that in the interpretative approach there is a hidden contradiction (Fawcett et al., 2014, p. 202). On one hand, the interpretation is subjective as the word interpretation itself indicates. Previously the authors said that the researcher (...) recognizes the tested reality subjectively (Koźmiński & Latusek-Jurczak, 2011, p. 31).

What is interesting, the representatives of the qualitative approach blame positivists for seeking the truth. Despite the assumptions of objectivity the real impediment was perception of reality in a subjective way. However, the same scientists propose applying a more subjective research method – an interpretative qualitative approach (Malina et al., 2011, p. 60).

The qualitative approach can apparently mean a description of a given phenomenon with the omission of any numbers or statistics. However, it is not so, but it is more about the multidisciplinary and multi-perspective approach, based on a deep interpretation of the phenomena (Cassell et al., 2006, p. 161).

The empirical data set can be explained by infinitely many internally consistent but mutually exclusive theoretical interpretations (Heller & Życiński, 2011, p. 195). There are strong voices in the current state of art that are in favor of the quantitative methods (Krogh et al., 1994, p. 53). Woźniak (2010) refers to meteorology, which also works on the phenomena that are difficult for conceptualization, especially for modelling and where the quantitative approach is commonly developed (Woźniak, 2010, p. 9).

It is worth quoting that in management studies cases of combining these two different epistemological attitudes appear seldom. Each of these methods (approaches – authors note) *requires (...) different type of sensitivity and a different workshop. (...) The image we get by studying different theories of organization seems broken into two parts: objective and subjective. (...) There is no connection between them and there is no synthesis* (Koźmiński & Latusek-Jurczak, 2011, p. 31).

However, it is also worth stressing that the division of the scientific matters, generally speaking, into qualitative and quantitative is not right and if we surrender to it, we may start making a lot of harmful simplifications (McGuire, 1986, pp. 6-8). As an attempt of connection of both approaches a mixed method (Tashakkori & Teddlie, 2010), described further in the paper, has arisen in management studies.

5. Research methods

Within the approach of research there is a necessity of choosing an appropriate research method. The creation of knowledge depends on the techniques of collecting, analyzing and interpreting data and the way they are implemented (Pinsonneault & Kraemer, 1993, p. 78).

The research method usually strongly depends on an accepted scientific theory explaining the given phenomenon (Adam, 2007, p. 104). The choice of a research method is not only a technical matter (meaning the research technique – authors note), but also an expression of philosophical beliefs. It is mainly about supporting a positivist approach or being its opponent (Bryman, 2008, p. 161). The research method should also not disturb performing actions provided for this method (Grzybek, 2006, p. 23).

In the current state of art for management studies there is an approach to empirical research to be found and it is called a mixed method (Molina-Azorin et al., 2012, p. 426). Its aim is to combine two often contradictory research methods – qualitative and quantitative (Zachariadis et al., 2013, p. 865), as well as a reversion to the observation as a basic research method (Symonds & Gorard, 2010, p. 121). The mixed method is defined as a method in which the researcher applies quantitative and qualitative methods, techniques, approaches and research ideas alike (Mkansi & Acheampong, 2012, p. 133). Applying the mixed method concerns all stages of the research process (Abowitz & Toole, 2010, p. 108).

Creswell and Plano Clark (2007) write about the mixed method using the following words: The mixed method is a research idea based on philosophical assumptions and on the information gathering techniques alike. (...) As a method, the mixed method focuses on gathering, analyzing and combining the data gained from the qualitative and quantitative perspective concerning the same phenomenon. (Creswell & Plano Clark., 2007, p. 5)

Azorin and Cameron provide a few definitions of the mixed method formulated by different scholars. The mixed method is defined as:

- a research approach which contains at least one qualitative and one quantitative method (Greene et al., 1989, pp. 255),
- such research approach where tested phenomenon is treated in a qualitative and quantitative way (Tashakkori & Teddlie, 1998),
- as above, but additionally the language of description is qualitative and quantitative alike (Johnson & Onwuegbuzie, 2004, p. 15),
- a qualitative-quantitative integrated approach for gaining data as well as analysis within one phenomenon (Plano, 2005).

Summarizing the dilemmas concerning the use of qualitative and quantitative approach as a base for creating the research method in management studies, it can be stated that the most appropriate approach is the mixed method. Such epistemological standing, intentionally chosen from the presented options, gives an opportunity to observe the organizational reality with the highest accuracy and honesty.

6. Verifying knowledge

The effect of applying a research method is a verification of the knowledge about the world that is usually based on hypotheses testing (Bartunek et al., 1993, p. 1363). At this point Feyerabend's beliefs on seeking the knowledge about the world are worth quoting: A hypothesis, that universally important and imposing rules of cognition and action exist, is a special case of belief whose influence extends much further than the field of academic disputes (Onfray, 2010, p. 330).

A verification theory of meaning with the roots in the Vienna Circle has still a strong influence on the way of verifying the hypotheses in management studies (Nodoushani, 2000, pp. 73-74). This theory proclaimed that determining whether a sentence is true or false can be conducted by the method of empiric verification. However, Quine stated that our claims about the outside world stand not individually but collectively before the tribunal of sensation experience (Nowaczyk, 2008, p. 89).

Popper made the researchers think about the matter of existence of the formation which seems not to exist, namely the probabilistic hypotheses (Dolby, 1998, p. 230). The probabilistic hypotheses are often a subject of verification in the works in management studies. Popper accepts that science needs such hypotheses (Dolby, 1998, p. 230).

Typical hypotheses in management studies are the casual hypotheses. Otherwise it can be said that (...) the sense of the sentence is specified by its empiric verifiability (Heller & Życiński, 2011, p. 185). It means that they include an assumption about the influence of one phenomenon on another. Then the phenomena are usually called depended variables. Czakon (2010, p. 10) calls the hypotheses, assuming casual links – strong and the statistical links (which talk about the coexistence of the phenomena – authors note) – half-strong. A choice of the way of formulating the hypotheses, referring to the accepted research approach or the research method, must be then preceded by the choice of the knowledge verification method in management studies.

7. The inference

The inference is a mental process during which we reach the acceptance of the next sentence (the conclusion) on the basis of the recognition of certain sentences (the premises) as real (Wieczorek, 2005, p. 47). The inference is closely related to the concept of logical implication. The inference is correct only when the conclusion follows logically from premises (Wieczorek, 2005, p. 47). However, there is a question: can the inference be used to create the knowledge in management studies?

There are two ways that scientific statements may be evaluated from the epistemological point of view. The first one assumes the reference to the standards of a given scientific discipline. The second one assumes reaching the philosophical roots lying at the basis of the formulation of a given statement (Adam, 2007, p. 93).

The deductive inference, progressive and regressive alike, takes place on the ground of formal logic (Przybyłowski, 2002, p. 159). Woleński (2000) writes that epistemology deals with the material truth and the logic with the formal truth. However, it seems that both truths should not be demarcated with some artificial borderline. The formal truth, proved by logic rules, can also be a material truth. It can be like this when the condition of material veracity of premises is met. The formal logic is then, in some sense, a tool to use the epistemological effects (Woleński, 2000, p. 181).

Faber and Scheper (2003) write that the belief that formal logic can be used to infer about the surrounding world is based on assumptions that in the reality there are certain indisputable rules and laws (Faber & Scheper, 2003, p. 137). A question can be asked, when the rule of the inference is reliable. So, when and only when the premises are true, the introduced conclusion based on this rule is also true (Bocheński, 1993, p. 79).

If so, can the inference in management studies occur only on the basis of the rules of logic thinking? Quine undermined the role of the deductive inference in seeking the nature laws. He had two serious objections. First, he thought that deducted laws describe casual correlations rather in a given context of events and not the generality of a given type of phenomena. Second, the nature laws are always based on certain assumptions. Without them they can appear as totally untrue (Faber & Scheper, 2003, pp. 137-138).

Czakon (2006) writes, referring to Popper, that to draw conclusions about some phenomenon, the existence of many confirming phenomena is not enough and the conclusion is not valid already. He touches also the immemorial problem of inductive inference, strictly speaking, an incomplete induction. (Czakon, 2006, p. 9) Popper himself did not claim that, and his interpreters are reserved towards uncritical adoption of superiority of the falsification rule over verification (Popper, 2002).

Deutsch (2007) gives an argumentation by Russell for the fact that induction itself cannot be a justification for any conclusion (Deutsch, 2007, p. 57). What is more, the repeating results of observations, not only cannot justify the theories, but there is something more. The biggest mistake – as the author says a fundamental notional mistake – is that the inductive extrapolation of facts cannot lead to rising of new theories. The induction yet has no verification power but so far the illustrative one (Czakon, 2006, p. 9). The reason is clear:

the extrapolation of the observation results is not possible without revealing the explanation of the phenomenon (Deutsch, 2007, p. 59).

According to Deutsch the claim that the new theory results from the generalization of the effects of conducted observations is wrong. He believes also that the veracity of theory can be proved thanks to systematically repeated observations is neither true (Deutsch, 2007, p. 59). However, if we want to understand the true nature of knowledge and its place in the structure of reality we have to accept the fact that the inductionism is entirely untrue. No scientific reasoning and in fact no proper reasoning of any nature surrenders to the inductionist description (Deutsch, 2007, p. 60). In management studies such reasoning is also impossible to be conducted. This view is crucial for treating the inference in management studies. That is why the knowledge in management studies always bears the marks of being probable in the way Popper understands (Popper, 2002).

8. Explanation

The last dilemma closes all effort in the research: can every conclusion that is a result of inference and claiming something about the organizational reality be an explanation of a phenomenon in management studies (Hassell, 2002, p. 186)? It should be remembered that every explanation in social studies must be set in a certain context (Faber a& Scheper, 2003, p. 141).

White and Takets (1996) opinion may be quoted here: The difference between it is and it may be assumed that it is really huge. That is why the epistemological claims do not say anything about the world as such, but about the one we know (White & Taket, 1996, p. 50).

While explaining the phenomenon we choose the theory which should contain three features. It should be based on an empiric data, be as simple as possible and as conservative as possible (fixed – authors note) (Creath, 1998, p. 110). That the seeking for such theory (originally – the first rule) always contains antinomy in it. It means that such theory must be complete to some extent and agreed among the persons sharing it. And this again assumes something which should exist earlier – the theories (rules) to fix that first theory. And so on. (Valone, 1988, p. 87).

To summarize, it is worth saying that the explanation means such a kind of reasoning which is based on indication of argument for the sentence defined as true. A sentence to explain is an *explanandum* and a set of explaining sentences – *explanans*. Any sentence telling about a fact can act as an *explanandum*. An *explanans* may be constituted by sentences expressing (...) laws or regularities or sentences claiming a phenomenon of a fact or group of

facts alike (Przybyłowski, 2002, p. 165). That is why not all facts collected together and made by inference create a real explanation.

9. Conclusion

The epistemologic dilemmas in management science consider seven main areas. Firstly, there are many different approaches to human cognition. Additionally, management science is mostly based on empiricism which is the area of other issues and dilemmas in management epistemology. Secondly, the cognition of management is made by questions asked in a specific language. This raises consequences for an inference in management studies. Thirdly, there is a strong division of scientific cognition into qualitative and quantitative approach. Fourthly, in both approaches there is a need of choice an appropriate research method. It can be stated that the most appropriate approach is the mixed method. Such epistemological option gives an opportunity to observe the organizational reality with the highest accuracy and honesty. Fifthly, knowledge verification is based on the way of formulating the hypotheses, referring to the accepted research approach or the research method. Sixthly, in management science reasoning is very difficult and sometimes impossible to be conducted. That is why the knowledge in management studies always bears the marks of being probable in the way K. Popper understands (Popper, 2002). Seventhly, an explanation in management is always constructed by sentences expressing laws or regularities, but there is no place for the certainty.

Being conscious of these choices in management studies gives the chances for theories (formulated by different scholars in different time – authors note) meeting the requirements to a further extent than ever before and these are: accuracy, cohesion, generality, simplicity and fruitfulness (Krzyżanowski, 1992, p. 251)

Any choices will be made in the field of epistemology of management studies it is worth remembering that ...science is not common sense, and its most basic ideas and frames of reference require development through complex intellectual processes which involve not only interpretations of observation but also theoretical and partly philosophical conceptualization (Parsons, 1968, p. 429).

References

Abowitz, D.A., & Toole, T.M. (2010). Mixed method research: fundamental issues of design, validity and reliability in construction research. *Journal Of Construction Engineering And Management*, 128(3), 203-210.

- Adam, M. (2007). Two notions of scientific justification. *Synthese*, 158, 93–108.
- Azorin, J. M., & Cameron, R. (2010). The application of mixed methods in organizational research: a literature review. *Electronic Journal of Business Research Methods*, 8(2), 95-105.
- Bartunek, J.M., Bobko, P., & Venkatraman, N. (1993). Toward innovation and diversity in management research methods. *Academy of Management Journal*, 36(6), 1362-1373.
- Bendixen, L.D. & Rule, D.C. (2004). An integrative approach to personal epistemology: a guiding model. *Education Psychologist*, 39(1), 69-80.
- Blackler, F.H.M. & Brown, C.A. (1983). Qualitative research and paradigms of practice. *Journal of Management Studies*, 20(3), 349–365.
- Bocheński, J.M. (1993). *Współczesne metody myślenia*. Poznań: Wydawnictwo W drodze.
- Bryman, A. (2008). Of methods and methodology. *Qualitative Research in Organizations and Management: An International Journal*, 3(2), 159-168.
- Cassell, C. & Symon G. (2006). Taking qualitative methods in organization and management research seriously. *Qualitative Research in Organizations and Management: An International Journal*, 1(1), 4-12.
- Cassell, C., Buehring, A., Symon, G. & Johnson, P. (2006). Qualitative methods in management research: an introduction to the themed issue. *Management Decision*, 44(2), 161-166.
- Creath, R. (1998). Quine and the limit assumption in Peirce's theory of truth. *Philosophical Studies*, 90, 109–112.
- Creswell, J.W., & Plano Clark, V.L. (2007). *Designing and conducting mixed methods research*. London, Thousand Oaks: Sage.
- Czakon, W. (2006). Łabędzie Poppera - case study w badaniach nauk o zarządzaniu. *Przegląd Organizacji*, 9, 6-10.
- Czakon, W. (2010). Zasobowa teoria firmy w krzywym zwierciadle. *Przegląd organizacji*, 4, 8-12.
- Day, R.E (2005). Clearing up “implicit knowledge”: implications for knowledge management, information science, psychology, and social epistemology. *Journal Of The American Society For Information Science And Technology*, 56(6), pp. 630–635.
- Deutsch, D. (2007). *Struktura rzeczywistości*. Warszawa: Prószyński i S-ka.
- Dilley, P. (2004). Interviews and the philosophy of qualitative research. *The Journal of Higher Education*, 75(1), 122-130.
- Dolby, R.G.A. (1998). *Niepewność wiedzy*. Warszawa: Wydawnictwo Amber Sp. z o.o.
- Edmondson, A.C & Mcmanus, S.A. (2007). Methodological fit in management field research. *Academy of Management Review*, 32(4), 1155–1179.
- El-Diraby, T. E. (2012). Epistemology of construction informatics. *Journal Of Construction Engineering And Management*, 138(1), 53–65.

- Faber, J. & Scheper, W.J. (2003). Social scientific explanations? *Quality & Quantity*, 37, 135-150.
- Fawcett, B. & Hearn, J. (2004). Researching others: epistemology, experience, standpoints and participation. *International Journal of Social Research Methodology*, 7(3), 201-218.
- Krogh, G., Roos, J. & Slocum, K. (1994). An essay on corporate epistemology. *Strategic Management Journal*, 15, 53-71.
- Gordon, W. (2011). Behavioural economics and qualitative research – a marriage made in heaven? *International Journal of Market Research*, 53(2), 1-16.
- Gottfried, G. (2007). *Teoria poznania*. Kraków: Wydawnictwo WAM.
- Greene, J., Caracelli, V. & Graham W. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, 11, 255-274.
- Grzybek, S. (2006). Prawa metodyki w sensie ogólnym i praktycznym. *Przeгляд Organizacji*, 11, 22-26.
- Hassell, L. (2007). A continental philosophy perspective on knowledge management. *Information Systems Journal*, 17, 185–195.
- Heller, M., & Życiński, J. (2011). *Pasja wiedzy*. Kraków: Petrus.
- Hofer, B.K. (2005). The legacy and the challenges: Paul Pintrich's contributions to personal epistemology research. *Educational Psychologist*, 40(2), 95–105.
- Husserl, E. (2008). *Idea fenomenologii*. Warszawa: PWN.
- Ingarden, R. (1971). *U podstaw teorii poznania*. Warszawa: PWN.
- Keller, A. (2010). *Wprowadzenie do teorii poznania*. Kraków: Wydawnictwo WAM.
- Koźmiński, A.K., & Latusek-Jurczak, D. (2011). *Rozwój teorii organizacji*. Warszawa: Wolters Kluwer.
- Krzyżanowski, L. (1992). *Podstawy nauk o organizacji i zarządzaniu*. Warszawa: PWN.
- Lee, B. & Catherine, C. (2013). Research methods and research practice: history, themes and topics. *International Journal of Management Reviews*, 15, 123–131.
- Lee, J. (1992). Quantitative versus qualitative research methods - two approaches to organisation studies. *Asia Pacific Journal Of Management*, 9(1), 87-94
- Malina, M.A., Nyrreklit, H.S.O. & Selto, F.H. (2011). Lessons learned: advantages and disadvantages of mixed method research. *Qualitative Research in Accounting & Management*, 8(1), 59-71.
- Marsden, A. (2012). Ontology, epistemology, and some research proposals. *Journal of Mathematics and Music*, 6(2), 161–167.
- McGuire, J.B. (1986). Management and research methodology. *Journal of Management*, 12(1), 5-17.

- Midgley G.(2003). Science as systemic intervention: some implications of systems thinking and complexity for the philosophy of science. *Systemic Practice and Action Research*, 16(2), 77-97.
- Midgley, G. (2011). Theoretical pluralism in systemic action research. *Systemic Practice and Action Research*, 24(3), 1–15.
- Mkansi, M. & Acheampong, A.E. (2012). Research philosophy debates and classifications: students' dilemma. *Electronic Journal of Business Research Methods*, 10(2), 132-140.
- Molina-Azorin, J.F., Lopez-Gamero, M.D., Pereira-Moliner, J. & Pertusa-Ortega, E.M. (2012). Mixed methods studies in entrepreneurship research: applications and contributions. *Entrepreneurship & Regional Development*, 24(5–6), 425–456.
- Nodoushani, O. (2000). Epistemological foundations of management theory and research methodology. *Human Systems Management*, 19, 71-80.
- Nowaczyk, A. (2008). *Filozofia analityczna*. Warszawa: PWN.
- Onfray, M. (2010). *Antypodręcznik filozofii*. Warszawa: Wydawnictwo Czarna Owca.
- Parsons, T. (1968). Social interaction. *International Encyclopedia of the Social Sciences*, 7, 429-441.
- Pinsonneault, A. & Kraemer, K.L. (1993). Survey research methodology in management information systems - an assessment. *Journal of Management Information Systems*, 10(2), 75-105.
- Popper, K. (2002). *The Logic of Scientific Discovery*. Oxford: Routledge Classics.
- Przybyłowski J. (2002). *Logika formalna z ogólną metodologią nauk*. Gdańsk: Wydawnictwo Uniwersytetu Gdańskiego.
- Symonds, J.E. & Gorard, S. (2010). Death of mixed methods? Or the rebirth of research as a craft. *Evaluation & Research in Education*, Vol. 23, No. 2, pp. 121-136.
- Tashakkori, A., & Teddlie, C. (1998). *Mixed Methodology. Combining Qualitative and Quantitative Approaches*. London, Thousand Oaks: Sage.
- Tashakkori, A., & Teddlie, C. (2010). *Handbook of Mixed Methods in Social & Behavioral Research*. London, Thousand Oaks: Sage.
- Valone, J. J. (1988). Against epistemology: A constructive look at Adorno's Deconstruction. *Human Studies*, 11(1), 87-97.
- Voordijk, H. (2009). Construction management and economics: the epistemology of a multidisciplinary design science. *Construction Management and Economics*, 27, 713-720.
- White, L. & Taket, A. (1996). The end of theory? *International Journal of Management Science*, 24(1), 47-56.
- Wieczorek, K. (2005). *Wprowadzenie do logiki*. Warszawa: PWN.
- Woleński, J. (2000). *Epistemologia. T. I*. Kraków: Wydawnictwo Ureus.
- Woźniak, K. (2010). Problem pomiaru w naukach organizacji i zarządzania. *Przegląd Organizacji*, 4, 7-11.

Zachariadis, M., Scott, S. & Barrett, M. (2013). Methodological implications of critical realism for mixed-methods research. *MIS Quarterly*, 37(3), 855-879.

THE SIGNS OF ORGANIZATIONAL PATHOLOGY IN COMPANIES WHOLLY OWNED BY THE STATE TREASURY – THE IDENTIFICATION AND THE ANALYSIS OF THE CAUSES OF THE PHENOMENON STUDIED

Jerzy Choroszczak*

Abstract

This paper discusses the identification and analysis of the pathological phenomena in fairly specific organizations, namely companies wholly owned by the State Treasury. The long-term and diverse dysfunctions that affect these organizations more often than private enterprises cause a considerable wastage of organizational resources of companies wholly owned by the State Treasury. The result of development of organizational pathologies involves difficulties in the functioning and growth of companies wholly owned by the State Treasury, as well as the decrease of competitiveness when compared to private enterprises.

This paper identifies such organizational pathologies developed in companies wholly owned by the State Treasury as negative empowerment, resistance to the change syndrome, identification with object of possession or management resulting in the lack of delegation of authorities, organizational attention deficit syndrome, responsibility decline syndrome, theft of company's property, hackwork combined with mental incapacitation of employees and making a series of irrational decisions by the executives, often to the detriment of the company.

Keywords: *organizational pathology, state treasury, causes, companies.*

1. Introduction

Despite the privatization processes ongoing for years, the public sector still has a great importance for the national economy as evidenced by the fact that it produces about 20% of GDP. Over 1700 economic entities still belong partially or completely to the State Treasury. More than 100 companies are wholly owned by the State Treasury.

* Ph. D., Assistant Professor, Department of Management, Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu -National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: jchorosz@wsb-nlu.edu.pl

The main objective of this paper is to identify and analyse negative pathological phenomena occurring in companies wholly owned by the State Treasury and an attempt to answer the basic question, namely how to counteract these phenomena. Another important question for which the author tried to find the answer in this paper is as follows: what are the reasons for the formation and development of pathological phenomena in companies wholly owned by the State Treasury.

Several large companies wholly owned by the State Treasury have been included in the research. Names of these entities have not been given due to quite edgy subject matter. Research and the conclusions drawn were carried out based on the analysis of audit reports, press releases as well as direct interviews conducted among employees of companies wholly owned by the State Treasury. In addition, conclusions of conducted research were enriched with knowledge and experience of the author who has worked in companies wholly owned by the State Treasury.

2. The essence of organizational pathology

The term pathology derives from the Greek language where *pathos* means suffering and refers to the science of disease conditions and, in a broader sense, drawbacks of the phenomenon or activity. Organizational pathology is understood as a state of prolonged and significant dysfunction as well as abnormality in operation of the organization that has strong destructive influence on the functioning of the organization and prevents the organization from implementing its objectives. Kieżun (2012, p. 16) defines an organizational pathology as relatively permanent incapacity of the organization, which results in the wastage exceeding the limits of social tolerance. In this respect, the pathology is the opposite of efficiency of performance understood as minimizing the wastage. Definition quoted above emphasizes the cause and effect relationship of the pathology, namely considerable mismanagement caused by the constant and continuing for over a long period incapacity of the organization performance.

This understanding of the concept of pathology also includes the phenomenon of social behaviour of individuals and specific groups contrary to the values and norms of the culture (Kozak, 2009, p. 23). Indication of organizational pathology is its long-lasting dysfunction, disorganized work and harmfulness having destructive impact on ordered internal structure of the organization (Laszczak, 1999, p. 14). Wastage, which is the effect of organizational pathology, is the result of not a single action or mistake, but the effect of the accumulation of numerous repetitive actions – wrong and harmful for the organization, intentional or not. What is very characteristic in

the case of the pathology is the fact that the organization often does not realize that it is being “digested by diseased condition”. Just as in the case of the disease that often has no external symptoms, so in the case of the organization affected by pathological phenomena there are often no direct symptoms of malfunctioning. It is only after some time that the crisis occurs which is often already advanced and, consequently, is difficult to be brought under control.

The pathology understood in such a way whose main symptom is a considerable wastage of resources, is in contradiction with the guiding principle of the organization operation, which is to maximize profits and minimize costs. The pathology persisting for a long time – like untreated disease will inevitably lead to weakening and destruction of the organization from the inside and ultimately to its bankruptcy.

The crisis triggered by the presence of pathological phenomena in the organization features a different character, which is dissimilar to sudden, often explosive and unexpected crisis defined by A. Mitroff, a classic of crisis management theory. In the case of organizational pathology the crisis is the condition the company is already accustomed to and accepts, and what is more, the company does not try to take action against the crisis because it does not consider the situation in which it finds itself a crisis. In this case, it is about maximizing its own particular interests, profits of employees or groups of employees of a given economic entity, even at the cost of actions leading to the degradation of the economic or social system. Therefore, it involves highly harmful destructive organizational and economic processes aimed at achieving goals not approved by the external social system (Dyoniziak & Slabon, 1997, p. 15). This may lead to the snowball effect if these processes are not eliminated in time or fixed by means of changes in the organization – destructive processes may gradually increase, accumulate and even result in the self-destruction of the organization, and moreover, lead other well-functioning systems into the crisis.

A similar concept, and in opinion of some authors even equal to the concept of organizational pathology, is the concept of dysfunction understood as the disruption of the efficient operation of the organization, which in a longer term may lead to the development of pathological phenomena in the organization. Stocki (2005, p. 49) indicates the identity of the concepts of the pathology and dysfunction, showing that the pathology is any dysfunction in the organization, which makes it impossible to achieve realistic goals designated for the organization and consistent with the social welfare in the planned time and with specified resources.

The organization affected by the pathology is a *sick* organization that cannot fully exploit its potential, strengths and opportunities inherent in the environment. In an era of fierce competition in the market such situation sooner

or later will lead a weakened organization to its collapse. Private companies, for which the main determinant of good condition and *health* is the amount of profits and the level of costs, while the verifier of usefulness is the client and competition, cannot afford to develop pathological phenomena.

The situation is slightly different when it comes to state-owned enterprises which in addition to economic goals, also achieve political and social objectives and for which the environment is more friendly in comparison to private enterprises.

For the purpose of this article the following author's definition of organizational pathology was adopted: it is a long-term situation "latent" of the crisis, including highly harmful, not accepted by the environment actions, intended to implement the particular interests of certain groups of internal stakeholders, harmful from the point of view of the development objectives of the organization.

3. Organizational pathology vs *healthy organization*

In order to fully understand the essence of organizational pathology, it is also crucial to analyse the concept of "healthy organization". From the point of praxeological view it can be stated that a healthy organization is the one whose components contribute to the success of a wider whole as well as there is complete harmony of integration and cooperation between all components of the organization. Therefore, each of the separate units of the organization must remain in close connection with the other.

According to Cooper and Cartwright (1994, pp. 462-463), a healthy organization is distinguished by the financial success, physically and mentally healthy workforce able to maintain good health and satisfactory work environment all year long, as well as organizational culture, especially in periods of market volatility and changes. Authors pointed out the following features of a healthy organization: low stress level, high level of commitment and work satisfaction, lower than the national average level of morbidity, absence and fluctuation, good industrial relations and rare strikes, good level of work safety (BHP).

Healthy organization is the organization that managed to maintain the balance between high level of satisfaction of the owners, clients, employees and other stakeholders, balance between working and private life of employees as well as balance with the environment thanks to a high level of adaptability. The health status of this type of organization is boosted by achieved successes, it creates high quality of working life, and thus influences high quality of life of its employees. Healthy organization is the organization efficient in terms of both internal and external aspects, it copes well with changes generated by the

environment and makes the use of opportunities offered by this environment. The basic form of efficiency is effectiveness, which means that healthy organization is the organization effectively striving to achieve its objectives.

Beckhard (1998, p. 36) indicated, among others, the following features of healthy organization:

- it has a clear sense of purpose, while management is based on a vision of the future,
- it has an effective system of identification used for obtaining up-to-date information,
- it ensures wide internal access to information,
- communication is characterized by openness,
- team management is applied as a dominant mode of work,
- it respects customer service (both internal and external),
- payment systems are correlated with work and support individual development,
- employees are evaluated according to their performance and implementation of objectives in respect to improvement of efficiency,
- it expresses visible recognition for innovation and creativity as well as has high tolerance for various thinking styles and ambiguity of different things,
- its policy reflects respect for tension occurring between family life and work requirements.

4. Specificity of companies wholly owned by the State Treasury

The State Treasury companies are a type of companies set up by the Minister of State Treasury at the request of the founding body, namely director of state-owned company, work council or on their own initiative. On the one hand, such companies are subject to general rules laid down by the provisions of the commercial companies code, while on the other hand, they have quite specific characteristics that distinguish them as compared to other companies – private ones. The source of specific characteristics of such companies is the shareholder – the State Treasury. In companies wholly owned by the State Treasury the State owns 100% of the shares and has full control over them.

Initially, the legal form of the company wholly owned by the State Treasury was supposed to be a transitional form of the organization preparing state-owned enterprises for privatization. The unlimited time of the functioning of companies wholly owned by the State Treasury was established on the basis of the passed act on commercialization (Czerwińska, 2002, p.5).

The Supreme Court, which has repeatedly commented in one of its resolutions on companies wholly owned by the State Treasury (In the resolution of 19 May 1992, III CZP 49/02 (OSNCP 1992, No. 11, item 200) stated that the

transformation of state-owned enterprise into joint-stock company or private limited company is in the Polish legal system the transformation of state legal entity, governed by special provisions. This transformation is characterized by the fact that:

- there is no incorporation of the company, but the transformation of the state enterprise as legal entity into another legal entity, that is the company wholly owned by the State Treasury,
- there is no change of the owner of the enterprise and owner of the capital. The only entity is the State Treasury,
- there is no transfer of the property by the State Treasury as a non-cash contribution, but by the virtue of a special provision the property of the enterprise becomes the property of the company.

Once the transformation of the state enterprise into general partnership is completed, the State Treasury shall have powers and duties of the financial and corporate character against the company.

The property of the state enterprise becomes the property of the company. The sum of the share and reserve capital is equal to funds in the possession of the state enterprise. Under the law, employees of commercialized economic entity become employees of the company and have the opportunity to gratuitous acquisition of 15% of the shares owned by the State Treasury, as well as those people who provide the company with raw materials.

In the case of the company wholly owned by the State Treasury, the State Treasury brings an exclusive contribution to the entity of the commercial law and transfers into it specified assets for the ownership or dependent possession which are nationwide property. The company wholly owned by the State Treasury ceases to act on behalf of the State Treasury, but having legal entity must act on its own behalf, although with the use of nationwide assets. Acting on its own behalf from a legal point of view is certainly not an action on behalf of the State Treasury, and therefore is not an action on behalf of the legal entity appointed to represent widely understood economic interests of the Nation. When appointing the company wholly owned by the State Treasury it is of course assumed that acting on its own behalf, companies wholly owned by the State Treasury will strive to carry out the mission of the State Treasury, i.e. representing the national interest. It seems that this assumption is the source of various problems and scandals which are associated with different companies wholly owned by the State Treasury and their privatization.

By analysing the overall functioning of companies wholly owned by the State Treasury it can be stated that with the constantly decreasing number of companies wholly owned by the State Treasury, their assets decreased from 7776,7 million PLN in 2012 to 3407 million PLN in 2013 and looking at a longer, five-year term one can notice the trend of steady reduction of assets

of companies wholly owned by the State Treasury. Noteworthy is also the gradually declining net financial result of companies wholly owned by the State Treasury and declining sales revenues as well as negative results from the sales. Companies with the highest total revenues in the group of companies wholly owned by the State Treasury in 2013 were: Pharmaceutical Centre CEFARM, The Polish Baltic Shipping Company S.A., Construction Industry Company CHEMOBUDOWA-KRAKÓW S.A. (Ministry of State Treasury, 2013, p.24).

Companies wholly owned by the State Treasury present themselves negatively in comparison with the sector of enterprises in terms of net profit margin (in %). In 2013 net profit margin for companies wholly owned by the State Treasury amounted to -2.9%, whereas that for the sector of enterprises was at the level of 4.3%. (Ministry of State Treasury, 2013, p.24)

A positive manifestation of the economic situation of companies wholly owned by the State Treasury compared to generally negative tendency in finances of these entities is the increase of equity, which was reported in 57 companies wholly owned by the State Treasury, including the largest growth in the company Spa Krynica-Żegiestów S.A. due to the increase of the share capital by approx. 60%.

Summary of the main economic and financial indicators is presented in the table below:

Table 1. Basic economic and financial indicators of companies wholly owned by the State Treasury

Economic and financial indicators/year	2013	2012	2011	2010
Net revenues from sales (in million PLN)	3424	6233	9335	19352
Net financial result (in million PLN)	70,8	127	166,7	1608
Total assets (in million PLN)	3407	7776,7	8436,3	26082,2
Equity (in million PLN)	1985	5225	5931,2	19432,8
Total amount of liabilities (in million PLN)	1422	2551,4	4300,1	3966,8
Sales result (in million PLN)	-100,3	-301,5	-99	-65,5
Operating cash flow (in million PLN)	79	29,7	174	286
Employment	12800	23000	40400	61987
Number of companies wholly owned by the State Treasury	102	113	168	246

Source: Information on the economic and financial situation of companies supervised by the Ministry of State Treasury in 2013, 2012, 2011 and 2010.

5. Symptoms of the pathology in companies wholly owned by the State Treasury – analysis of the phenomenon

Quite difficult financial and economic situation of companies wholly owned by the State Treasury is in most cases determined largely by the inner

pathological factors developed in these entities, which hinder development and competitiveness of companies wholly owned by the State Treasury in the market.

By analysing the functioning of companies wholly owned by the State Treasury, based on reports from held audits of companies wholly owned by the State Treasury, press releases as well as own observations acquired during many years of work in various positions in companies wholly owned by the State Treasury, the author of this paper identified several evident symptoms of organizational pathology occurring in companies wholly owned by the State Treasury. Such pathological symptoms include:

- 1) Negative empowerment. Kieżun stated (Kieżun, 1997, p. 18) that negative empowerment consists in changing the main objective of the organization to the side objective, and also means such a change of objectives that the middle objective becomes the main objective if it all leads to wastage of resources in the social scale, exceeding the limits of acceptable tolerance. Negative empowerment in case of companies wholly owned by the State Treasury concerned the following situations:
 - the organization does not implement functions founded in the social division, focusing solely on activities profitable only from the point of view of its particular interest;
 - there is a tendency to reduce the span of control in the organization, thus increasing the number of executive positions;
 - the implementation of tasks in the organization which do not contribute directly to achieving objectives or main objectives. They may be inadequate to the intended objectives and go beyond these objectives or may even be contrary to them;
 - unjustified, excessive growth of auxiliary units (service, advisory) and regulatory (superior) in the organization;
 - imbalance between the primary and secondary functions of the enterprise value chain, excessive growth of the secondary functions at the expense of the primary functions;
 - activities of the company become more and more *alienated* and self-oriented, remaining detached from the reality and trends in the environment in which this organization operates. There is an increasing gap between expectations of the environment and objectives of the enterprise;
 - formation of *lofty* and conservative attitudes among employees of regulatory and executive units;
 - excessive emphasis on stressing formal authority of the power;
 - empowerment of such forms of the organization operation as control and council. Carrying out the control becomes *art for art's sake*. Once the control is completed, conclusions concerning corrective actions in the organization are often not drawn or simply ignored.

- 2) Resistance to change syndrome. The implementation of deeper changes very often encounters strong resistance in companies wholly owned by the State Treasury. Organizational change, especially in a large scale is treated as a “necessary evil” violating the so desirable status quo in companies wholly owned by the State Treasury. Such a change very often raises strong resistance of employees, particularly if it is going to involve infringement of the interests or influence of particular groups or individuals. Organizational culture in companies wholly owned by the State Treasury is not targeted at permanent changes. It is more conservative culture basing on the adoption of defensive attitude against changes in the enterprise with the state capital. The adoption of defensive attitude by employees results in the implementation of the assumptions of the organizational changes, but without conviction and greater commitment, and very often without an understanding of the essence and need for changes.
- 3) Identification with the object of possession or management resulting in the lack of delegation of authorities. Senior executives in companies wholly owned by the State Treasury very often do not delegate or delegate to a small extent their authorities to employees. They deal with the current operational issues and do not have time for planning development strategy, namely analysis of the key development factors. An example of such situation can be personal operating planning and organizing the promotional trip by the director himself, including preparation of materials for this trip. The result of this situation is overwork of the executives and engagement in solving minor problems, while problems of greater importance for the enterprise remain unsolved or postponed for later on. In this case managers often have a problem with division of tasks for those with the key importance and those which are less important, and for this reason they choose random tasks for implementation. This situation may be the result of small conceptual competences of senior executives who by dealing with operational tasks and personal involvement in solving easy problems try to hide their shortcomings in management skills.
- 4) Organizational attention deficit syndrome is characterized by the lack of proper selection, ordering and determining the importance of information from the environment; no perception of functioning of organizational units in the context of strategic vision by executives. The effect of such pathology is the failure in internal management system in relation to the increase in the number of decision-making problems; taking numerous uncoordinated actions; wastage (and even theft) of resources; instability and impulsivity of actions with no consequence in their completion; using chaos to achieve personal goals; formation of a “camarilla” having access to the decision maker.

- 5) Responsibility decline syndrome. In companies wholly owned by the State Treasury avoidance to take responsibility is very frequent, shifting responsibility to another employee, hunting for the party guilty of mistakes other than oneself. Employees faced with imprecisely defined tasks shift responsibility for these tasks to each other. Responsibility decline syndrome can apply to the employee who, e.g. when going on vacation does not transfer crucial and important cases or issues to his co-employee or does not inform his superior about these issues. This syndrome can also apply to the superior who, favouring the *laissez-faire* approach, applies the do whatever you want principle to his subordinates. Responsibility decline syndrome may also result from employees neglecting their tasks and duties.
- 6) Theft of company's property. Unfortunately, thefts happen and meet with general acceptance in companies wholly owned by the State Treasury. Noteworthy is the pathological case of a certain company wholly owned by the State Treasury where the chairman of this company was widely reviled in the organization for the fact that he detected company property theft perpetrated by a group of employees. What is more, the remaining group of employees who had not been involved in the theft were dissatisfied with the fact that, by the virtue of their duties, they themselves had no opportunity to steal any property of the company.
- 7) Hackwork combined with mental incapacitation of employees. Unfortunately, in companies wholly owned by the State Treasury, retaining employees in the same positions for many years does occur which fosters mental incapacitation of employees in accordance with the principle: only executives can think; employees do not understand the point of their work; thought patterns inheritance; confusing tradition with former period of glory.
- 8) Taking often irrational, or even absurd decisions; no effect of learning from mistakes. It very often happens in companies wholly owned by the State Treasury that new undertakings and projects are launched without due recognition of the reality, without providing source of financing, without recognizing reliability of partners and without adequate safeguard of the company's interests in contracts. A frequent phenomenon in companies wholly owned by the State Treasury is conclusion of contracts containing grossly inflated prices, placement of orders for unnecessary goods and services, acceptance and payment of invoices without documentation of performed work; making donations and sponsorship in the situation of constantly deteriorating financial condition of the company. An example of irrational decisions can be the decision taken by the board of management of one of the company's wholly owned by the

State Treasury where the contract required the company to pay a law firm a monthly lump sum stand by also in situations where no actions were carried out. The fees amounted to 186,660 PLN.

A similar contract was concluded by the same company with another law firm based in Warsaw where a monthly lump sum *for standing-by* amounted to 15,000 PLN; payments amounting approx. to 132,000 PLN were realized to date. When describing this situation it should be pointed out that throughout the duration of the contract the company provided full time employment for the entire staff: three experienced legal counsels and eight other lawyers, including three with completed legal traineeship.

Another example of irrational decisions incorrectly taken many times in companies wholly owned by the State Treasury can be decisions concerning payment of anniversary prizes and a number of donations of very large sums of money in the situation when companies noted increasing losses.

As previously mentioned, the drawback of companies wholly owned by the State Treasury was taking irrational decisions concerning contracts whose value was significantly different from the market rates for similar services. For example, the same natural person received respectively 60,000 PLN and 40,000 PLN for two training sessions on accounting policy held in a certain company wholly owned by the State Treasury. The contract in the amount of 27,000 PLN was concluded with an HR consulting company for the recruitment of the president of the management board in one of the subsidiaries. The president appointed with the recommendation of this company was dismissed after three months of work.

Wrong or even absurd management decisions in companies wholly owned by the State Treasury often relate directly to the supply and cost management system. An example of pathology of decisions in these areas are decisions taken in one of companies wholly owned by the State Treasury for ordering production of mailboxes for the amount of over 11 million PLN in the situation when the company already had in stock a supply of such boxes to last for over a year.

In case of companies wholly owned by the State Treasury the irrationality of decision-making and the lack of learning from wrong decisions is often repetitive and concerns a long time horizon, which is especially painful in terms of profitability of companies wholly owned by the State Treasury. In addition, wrong decisions often concern large sums of money, which further reflects negatively on the functioning of companies wholly owned by the State Treasury.

- 9) The lack of will to cooperate between departments of the organization and the occurrence of strong antagonisms and interdepartmental as well as interpersonal conflicts. In companies wholly owned by the

State Treasury, the object of this research, the frequent phenomenon partially associated with the previously described negative empowerment is the implementation of their own particular interests by individual departments. Conflicts that occur in companies wholly owned by the State Treasury often have a long-term, or even chronic and destructive character. Companies wholly owned by the State Treasury very often resemble a wasps' nest where everyone is fighting against everyone, while quarrels and denunciation, as well as conspiring against co-employee, are the best ways to get rid of an inconvenient colleague from work. The organization is a field for the constant inner struggle and implementation of one's own particular goals, rather than collective and organizational ones. Of course, this lack of cooperation, which undermines foundations of the organization will cause chaos and indiscipline in the organization as well as hinder the implementation of strategies of the organization. It will also absorb the attention of senior executives who instead of focusing on conceptual work, implementing strategic goals and acquiring external resources to achieve these goals, will have to accept an uncomfortable role of an arbitrator in disputes between employees.

6. Conclusion

Numerous organizational pathologies are present in companies wholly owned by the State Treasury that will hinder organizational functioning and result in significant and long-lasting wastage of organizational resources. Organizational pathologies in companies wholly owned by the State Treasury very often have complex, systemic and diverse nature.

The following reasons for this state of affairs can be pointed out:

- errors in the management of companies wholly owned by the State Treasury such as: the lack of vision and reactivity; poor current control; over-reliance on fixed internal procedures and rules that have worked in the past, but which are inadequate for the changing environment; bureaucracy and excessive formalism of actions; not recognizing relation between organizational expenditures and results; shortening time horizon of decision-making; undertaking projects without a reliable assessment of effectiveness and profitability as well as proper safeguard of the company's interests; leniency in relation to acquired helplessness and simulated work of employees.
- weak and not very active ownership supervision. As confirmed by the audit carried out by the Supreme Audit Office (NIK, 2009, p. 22) in companies controlled by the State Treasury their economic and financial situation was not monitored and analysed regularly

and sufficiently, as well as clear criteria for assessing situation of companies had not been determined. The lack of these activities facilitated actions to the detriment of companies and promoted development of pathological situations. Supervisory activities focused mainly on the formal and not substantive aspects of the supervision such as appointment and dismissal of members of the company's bodies and approval of accounts and reports of companies. In addition, weakness of the supervisory boards may be indicated by the fact of frequent personal changes in councils and weak quality control of the supervision carried out by the Ministry of State Treasury and Ministry of Economy.

- strong, often opportunistic influence of numerous trade unions in relation to executives of companies wholly owned by the State Treasury. Trade unions in companies of the State Treasury have a strong influence and support which they use more often to maintain the status quo in the organization rather than to support organizational changes, particularly of the restructuring nature, which result in the reduction of full-time employments.
- frequent changes of boards of management in companies wholly owned by the State Treasury that are motivated by political and economic reasons. It often takes place that precarious situation of members of the board of management in companies wholly owned by the State Treasury is not conducive to the implementation of profound and courageous organizational changes that would suppress organizational pathologies. Short terms of boards of management and sudden dismissals of members of the board of management do not create favourable conditions for planning and implementing long-lasting strategy and continuity of the enterprise policy. Often, after the change of the board of management, successors choose and implement completely different direction of strategic development. Sometimes in order not to run afoul of strong trade unions, board members of companies wholly owned by the State Treasury avoid making unpopular decisions, turn a blind eye to irregularities which further strengthens organizational pathologies. The fight of more courageous chairmen against pathologies very often resembles tilting at windmills or a lonely fight of an individual against everybody where, after some time, the chairman is dismissed and the system he fought against remains unchanged or returns to the baseline.
- the lack of a clear long-term ownership policy of the Ministry of State Treasury in relation to companies under its supervision.

It seems that the main way to combat organizational pathologies in companies wholly owned by the State Treasury is simply to carry out the privatization of these entities. The less political determinants in the functioning of companies wholly owned by the State Treasury, the more effective

fight against organizational pathologies. Another important way to combat organizational pathologies is to increase activity of the supervisory boards which should be strong base supporting members of the management board in the fight against organizational pathologies.

References

- Beckard, R. (1998). *Zdrowa organizacja*. In: F. Hesselbain, M. Goldsmith, R. Beckard (Eds.), *Organizacja przyszłości*. Warszawa: Bussines Press.
- Cooper, C. L., Cartwright S. (1994). Healthy mind: Healthy organization – A proactive approach to occupational stress. *Human Relations*, 4(47).
- Czerwińska, E. (2002). *Jednosobowe spółki skarbu państwa*. Warszawa: Kancelaria Sejmu – Biuro studiów i ekspertyz.
- Dyoniziak, R., Słaboń, A. (1997). *Patologia życia gospodarczego*. Kraków: Akademia Ekonomiczna w Krakowie.
- Kieżun, W. (1997). *Sprawne zarządzanie organizacjami*. Warszawa: SGH.
- Kieżun, W. (2012). *Patologia transformacji*. Warszawa: Wydawnictwo Poltext sp. z o.o.
- Kozak, S. (2009). *Patologie w środowisku pracy. Zapobieganie i leczenie*. Warszawa: Diffin
- Laszczak, M. (1999). *Patologie w organizacji. Mechanizmy powstawania. Zwalczanie. Zapobieganie*. Kraków: Wydawnictwo Profesjonalnej Szkoły Biznesu.
- Stocki, R. (2015). *Patologie organizacyjne – diagnoza i interwencja*. Kraków: Oficyna Ekonomiczna.

Others

- Ustawa z 30 sierpnia 1996 r. o komercjalizacji i prywatyzacji (Dz. U. 2013.216 j.t. z późn. zm.).
- Najwyższa Izba Kontroli. (2009). *Informacja o wynikach kontroli sprawowania nadzoru właścicielskiego w spółkach z większościami udziałem Skarbu Państwa*. Warszawa.
- Ministry of State Treasury. (2002). *Informacja o sytuacji w wybranych spółkach skarbu państwa i przedsiębiorstwach państwowych*, Warszawa.
- Ministry of State Treasury. (2010). *Informacja o sytuacji ekonomiczno-finansowej spółek nadzorowanych przez ministra skarbu państwa w 2010 r.* Warszawa.
- Ministry of State Treasury. (2011). *Informacja o sytuacji ekonomiczno-finansowej spółek nadzorowanych przez ministra skarbu państwa w 2011 r.* Warszawa.

- Ministry of State Treasury. (2012). *Informacja o sytuacji ekonomiczno-finansowej spółek nadzorowanych przez ministra skarbu państwa w 2012 r.* Warszawa.
- Ministry of State Treasury. (2013). *Informacja o sytuacji ekonomiczno-finansowej spółek nadzorowanych przez ministra skarbu państwa w 2013 r.* Warszawa.

THE SYSTEM OF EARLY RECOGNITION OF CHANGES IN THE ENVIRONMENT IN THE OPINION OF SENIOR-LEVEL MANAGERS

Janusz Bąk*

Abstract

The problem of early recognition systems is still insufficiently explored by researchers on the grounds of the management studies, and the overview of the literature of the subject reveals the scarcity of empirical papers which would attempt to identify and describe systems occurring in organizations. With regard to the above, it is necessary to intensify works in this area so that in subsequent research of the organizational phenomenon that early recognition is, it could be possible, on the one hand, to learn more about their structure and functioning in an organization, and on the other hand, to improve research instruments enabling their measurement. This paper's aim is to present the findings of the research attempting to identify the early recognition system with regard to its four aspects: the functional, the process, the instrumental and the structural one.

Keywords: *early recognition system, survey of enterprises, SME sector, opinions of senior-level managers.*

1. Introduction

The conditions of the environment of contemporary organizations, characterized by volatility and implying the uncertainty of decision-making situations, lead to a change in the role and the expected manner of the strategic management functioning. It requires new tools supporting information and decision-making processes in the area of planning and strategic control which would provide strategic information. The efficiency and effectiveness of strategic management and, what follows, an ability of an organization to survive and develop in the long run, are determined by the capability to recognize future opportunities and threats in advance. The conditions allot new tasks to management theoreticians and practitioners who should orient their activeness towards the description, building and improvement of Early Recognition of Changes in the Environment (ERS). The overview of the

* Ph.D., Assistant Professor, Department of Economics, Management and Marketing, Institute of Economics, Sociology and Philosophy, Cracow University of Technology, ul. Warszawska 24, 31-155 Cracow, e-mail: januszbak@pk.edu.pl.

literature on the subject reveals the scarcity of empirical works which would attempt to describe the ERSs occurrence in organizations. The issue of early recognition is an area explored empirically to a minor extent and range, which, in consequence, has revealed the lack of measurement instruments that would enable researchers to examine this organizational phenomenon.

The aim of this article is to present the findings of the research which attempted to identify the early recognition system with regard to its four aspects: the functional, the process, the instrumental and the structural one.

2. The definition and the structure of the system of early recognition of changes in the environment

The early recognition system is a special kind of information system focused on the anticipation of changes occurring in the organization's environment and the reduction of uncertainty related to it, as well as on informing senior-level managers about them in such advance so that it could be possible to undertake adequate actions enabling them to avoid strategic surprises; the specific character of the system consists in orienting the processes of information processing towards the perception and interpretation of weak signals being the symptoms of changes, substantiated in the form of future opportunities or threats; the system is a tool supporting strategic management (the planning and strategic control systems functioning in organizations) in terms of information by providing information reducing uncertainty of decision-making situations and enabling to take decisions leading to better adjustment of the organization and the environment, and therefore guaranteeing the survival and development of the organization.

The system methodology (Sienkiewicz, 1988; Gharajedaghi, 1999) points out to four aspects of the systems requiring separate identification. In the area of the system static, it is the structural aspect (it orders the system defining its components and relationships among them), and in the area of the system dynamics these are the following aspects: the functional one (defines the results of the system operations, indicating the goals, functions and implemented tasks), the process one (defines the sequence of activities leading to the realization of its functions), the instrumental one (it identifies the key tools supporting the activities).

The basic aim of the ERS is the systematic provision of information concerning anticipated changes to senior-level managers, which may enable taking more rational decisions in the strategic management process. The goal is accomplished via the identification of long-term changes in the environment and the analysis of their impact on the organization early enough to secure the time necessary to take adequate decisions. In addition to the basic goal, related to the structural functioning of the formalized system, it is necessary to indicate

an additional goal which is connected with the creation and internationalization of a culture supporting and stimulating the commitment of entities to the information processes related to receiving and analyzing weak signals.

The goals defined above are realized by the functions which focus on three areas: the perception of weak signals (the diagnostic function), the interpretation of weak signals (the prognostic function), the flow of information and communication of future opportunities and threats (the information function).

Considering the fact that the ERS is in fact a specific kind of the organization's information system, the informative function should be considered the basic function, arising directly from the main goal. It is responsible for the implementation of the whole cycle of information management and it is to ensure the proper flow of information. The diagnostic function is another function, and it is related to the recognition of events in the environment with regard to the planned activities in the context of identifying the symptoms of future changes in the environment. It is implemented by unfocused observation of the environment in order to search for the symptoms of changes, as well as the observation focused on already collected information, aiming to particularize and acquire additional information in order to sharpen the semantic field of the signals accumulated before. The last function is the prognostic function which is connected with the projection of presumable or most probable future behavior or state of the objects in the environment which are considered important. It implements the tasks of the projection of the direction in which the environment will develop and change, the assessment of the influence of the described events on the situation of the organization and the identification of the main implications for the decision-making process.

Within ERS we can distinguish two phases constituting its process character: the first is related to the perception of weak signals and the other to their interpretation. We can divide them into five categories of activities. In the perception phase (obtaining information) it is scanning in search for weak signals and monitoring their evolution, and in the interpretation (processing) phase it is forecasting potential opportunities and threats and assessing their implications. The entirety is coupled by communication which creates an interactive system processing information inside and obtaining and passing information to the outside.

All the activities implemented within ERS require the use of tools supporting information processes. There are two basic categories of them: information technology and analytical methods. Information technology is to ensure an effective access to information valuable from the point of view of the goal of the system, as well as to improve communication serving the interpretation and dissemination of information. Analytical methods support the processes of systematizing, analyzing and interpreting information and

those are methods from the area of strategic analysis (such as scenario methods, Delphi analysis, war gaming, jigsaw method).

The structural aspect concerns relations which occur between the system elements and the way of linking them, as well as ordering the entirety expressed in an organizational solution within which activities are implemented. We can talk about two dimensions of structuring: universally understood elements fulfilling the system functions and their connections, regardless of the fact of the occurrence of formal structures, as well as solutions within organizational structures which are postulated and possible to be applied. The ERS components are: a detector which searches for and accumulates weak signals, processes them initially and passes the information regarded relevant; an assessor which checks the information received from the detector, processes it and correlates it so that it could be used to inform about potential opportunities/threats; an effector informs about potential opportunities/threats and initiates actions which are necessary to be implemented; communication networks constitute information links among the key elements with regard to the effectiveness of the whole system functioning, because they are responsible for the transmission of information (Bağ, 2011).

3. The research methodology

Studying the ERS is a difficult task since, as the existing works implemented in this area show², the ERS usually adopts the form of the system of informal activities which are not reflected in the organizational documentation (organizational statute, organizational chart, job analyses of individuals and organizational units, duties and responsibilities of positions) and constitute the practice of managers' activities. The tasks related to gathering strategic information can be dispersed in organizations on various levels and in various functional areas, and the weight of their interpretation concentrates on senior-level managers. Therefore, it is necessary to study the "symptoms" of the system and based on it conclude on the system itself. With this in mind, the perspective of familiarizing oneself with the opinions of senior-level managers concerning the issues related to the realization of the early recognition of changes in the environment in the organization they manage, was adopted in the research³.

The outlined research problems and the present research maturity in the area of the research into the ERS indicated the adoption of such a

2 The research conducted by the Academy of Competitive Intelligence in the United States showed that formal early recognition systems occur marginally. In less than 3% of the studied firms totally formalized and systematic activities are conducted, in the next 63% only a few components of the system occur, and in more than one-third there are no formalized systemic solutions (Gilad, 2004)

3 Such an approach to study organizational phenomena is presented in the area of early recognition by, among others, Day & Schoemaker (2006), Kirschkamp (2006), Hough & White (2004).

research approach within which the ERS is treated as a latent variable and is a superior construct measured by means of a set of subordinate indicators being observable variables and describing this system in the structure of the organization's operations. The research tool based on the managers' opinion should indirectly enable drawing conclusions on the ERS aspects and was constructed in such a way that individual positions of the scales assessed the ERS constituents assuming that the more intense the actions are, the more intense the recognition and the more mature the ERS is, and, in consequence, the bigger the probability to recognize potential opportunities/threats is.

In the conducted empirical research⁴, which was of closed and categorized character, the adopted objective was an attempt to identify the ERS in the adopted research aspects. The survey population were organizations (of micro, small and medium-sized enterprises – 262 entities) which were distinguished in the ranking of most innovative enterprises in Poland – Kamerton Innowacyjności (Tuning-fork of Innovation). They implement product, as well as process, organizational or marketing innovations, and thus they are entities which, by identifying future changes in the environment (a weak signal), recognize in advance potential opportunities and threats related to it (the early recognition system) and use them, changing in this way (in terms of product, process, organization or marketing) to use them (opportunities) or eliminate them (threats). The choice of such a research frame was dictated by the author's conviction, confirmed in the literature (Christensen & Anthony, 2004), that innovative organizations handle the recognition of changes better, therefore, they have to have ERSs "installed" and developed. In the effect of the efforts related to reaching respondents effectively, 65 surveys were conducted – 25% of the adopted population (micro-enterprises – 18%, small enterprises – 36% and medium-sized enterprises – 21%).

Considering the non-formalized character of the system and quite often unaware actions contributing to early recognition, the research instrument was built of such scales of measurement which, on the basis of the respondents' opinions, will identify the ERS. The measurement tool in the survey was a structured, closed survey questionnaire and a telephone interview was the data collection technique. The interviews were conducted with senior-level managers⁵ who are involved in strategic management, and thus in the ERS functioning, and at the same time are the recipients of the "products" of this system". The questionnaire was built of statements being the scale positions constituting the indicators of various aspects of the system. While constructing it, the limitations arising from the adopted measurement technique, as well as

⁴ The survey was conducted at the turn of the years 2010/2011.

⁵ In micro and small enterprises, in most cases those were actively managing owners of firms, in medium-sized enterprises those were members of top management, at least directors.

the complex character of the research subject were considered. With the above in mind, the measurement tool had to be maximally transparent, so that it could facilitate the communication between the respondent and the researcher in the situation when the respondent had no access to the measurement instrument. The measurement consisted in reading individual statements to the respondents, which they assessed by means of a 7-point Likert agreement scale (Burns & Bush, 2000, p. 318): 1 - strongly disagree, 2 - disagree, 3 - somewhat disagree, 4 - neither agree or disagree, 5 - somewhat agree, 6 - agree, 7 - strongly agree)⁶.

4. Identification of aspects of the early recognition system

When identifying the early recognition system in the research aspects regarded important, namely the functional one, the process one, the instrumental one and the structural one, an attempt was made to show that early recognition systems are “installed” and used for the needs of strategic management, and it is possible to identify in organizations the individual aspects of the system: the functional, process, instrumental, structural one. Not being mature and fully developed, early recognition systems take the form of non-formalized systems, and very often they are unaware. It leads to the lack of commitment of the whole organization and basing the system functioning on actions taken by managers for whom it is the practice of everyday work for the organization. Organizational documents *explicite* do not reveal the occurrence of the systems in organizations, it is not possible to find units or positions responsible for them, procedures describing the actions, dedicated tools or resources allocated in the budget. In spite of this, the managers’ opinions enable to identify the system and on that basis to conclude whether the actions related to the early recognition of potential opportunities and threats are implemented in organizations.

The functional aspect

It defines the results of the system operation, indicating aims, functions and tasks it implements. In this sense, the ERS should recognize potential opportunities and threats in advance and support strategic management. The aim is accomplished via the realization of the following functions: the diagnostic one (perception of weak signals), the prognostic one (interpretation of weak signals) and informative one (processing of information), substantiated with detailed tasks.

In the surveyed organizations the managers express their opinion (Figure 1) that they recognize potential opportunities and threats early enough. 86% of

⁶ The justification for choosing a Likert-type scale is basing the research found in the literature on the aforementioned scale, and for the adoption of the 7-item scale was the respondents’ preference for uneven scales. (Kirschkamp, 2000, p. 87).

the respondents claim that they implement the main goal of the ERS functioning expressed in obtaining information conveyed by weak signals in advance.

The average rating of the capability of early recognition of potential opportunities and threats is on the level of 5.54 (on the 7-item scale) with a standard deviation of 1.071 and a median of 5.50.

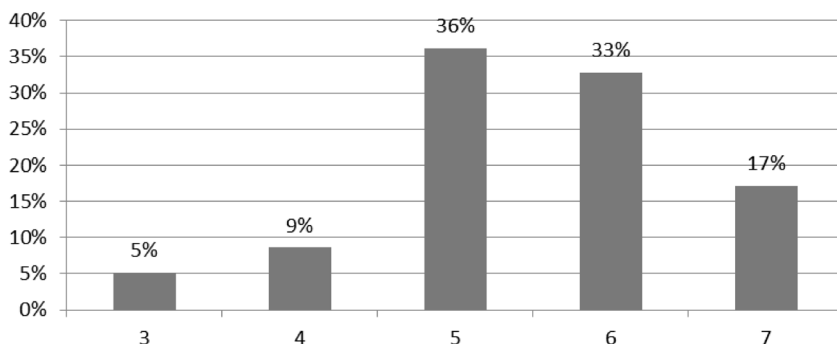


Figure 1. A capability of early recognition of potential opportunities and threats⁷
Source: own study based on the survey results

In the managers' opinion, the results of the early recognition system functioning are useful, therefore, they are intensely used by them in strategic management to modify long-term plans (strategies). 97% of the respondents declare (Figure 2) the use of this information. The average rating of the intensity of the use of this information is at the level of 5.93 (on the 7-item scale), with a standard deviation of 0.997 and a median of 6.00.

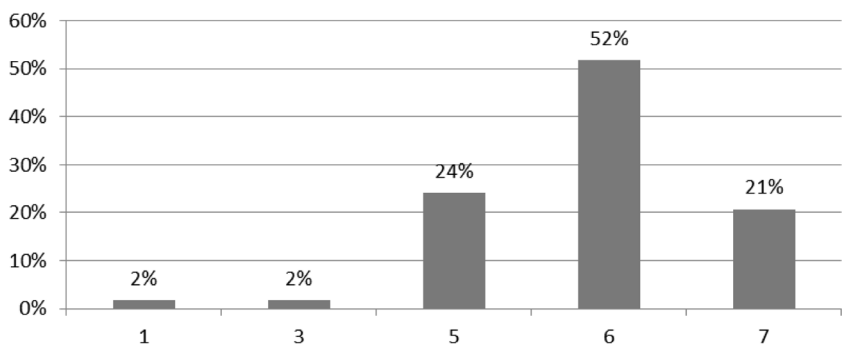


Figure 2. Intensity of the use of potential opportunities and threats for the modification of long-term plans⁸
Source: own study based on the survey results

⁷ Position of the scale: We manage to recognize potential opportunities and threats significant for the *Organization* early enough.

⁸ Position of the scale: We use recognized potential opportunities and threats in *the Organization* to modify long-term plans.

The above identification of the functional aspect enables to assert that the surveyed organizations achieve the aim of the early recognition system functioning manifested in the early recognition of potential opportunities/threats and their use in the strategic management of the organization.

The process aspect

It is substantiated with activities leading to the implementation of the functions mentioned before. The activities are related to the perception and interpretation of weak signals and have been defined as scanning, monitoring, forecasting, assessing, and communication which couples them.

The surveyed organizations, in the respondents' opinion, implement the activities related to the perception of weak signals, manifested, for example, in obtaining information about potential opportunities and threats with various frequency from various sources.

87% of the respondents declare (Figure 3) that they obtain information about potential opportunities and threats from external – personal sources (customers, suppliers, consultants, etc.). The average rating of the frequency of scanning of those sources has the level of 5.84 (on the 7-item scale) with a standard deviation of 1.441 and a median of 6.00.

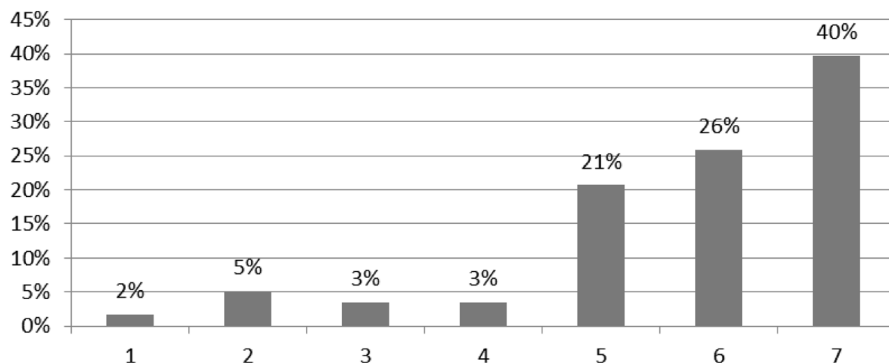


Figure 3. The frequency of the perception of weak signals – external – non-personal sources⁹

Source: own study based on the survey results

87% of the respondents also declare (Figure 4) that the sources of this information are external – non-personal (the Internet, periodicals, external data bases, etc.). The average rating of the frequency of scanning of those

⁹ Position of the scale: Customers, suppliers, contractors, external consultants, etc. are very often a source of information useful to recognize potential opportunities and threats.

sources is at the level of 5.99 (on the 7-item scale) with a standard deviation of 1.228 and a median of 6.00.

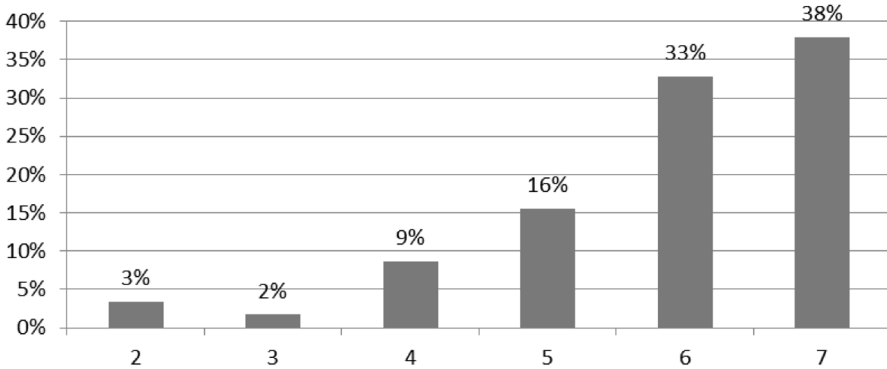


Figure 4. The frequency of the perception of weak signals – external – non-personal sources¹⁰

Source: own study based on the survey results

In the area of the interpretation of weak signals, managers declare the implementation of activities related to that, manifested, for example, in conducted discussions on potential opportunities and threats.

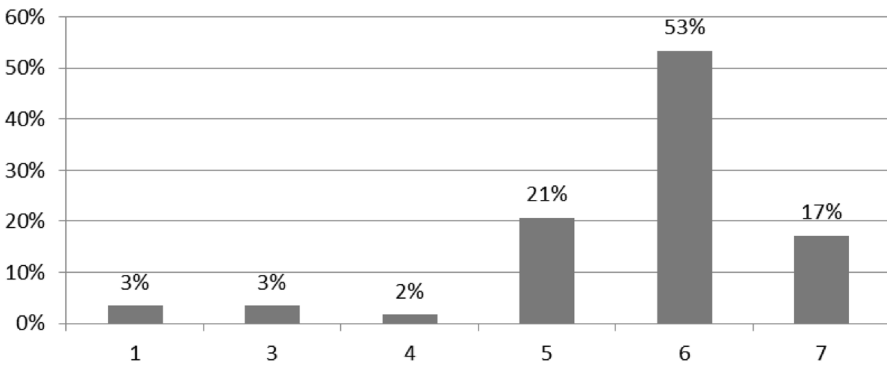


Figure 5. The intensity of interpreting weak signals with entities inside the organization¹¹

Source: own study based on the survey results

¹⁰ Position of the scale: Periodicals (including trade journals), the Internet, external databases are very often a source of information useful to recognize potential opportunities and threats.

¹¹ Position of the scale: We intensely discuss potential opportunities and threats inside the Organization.

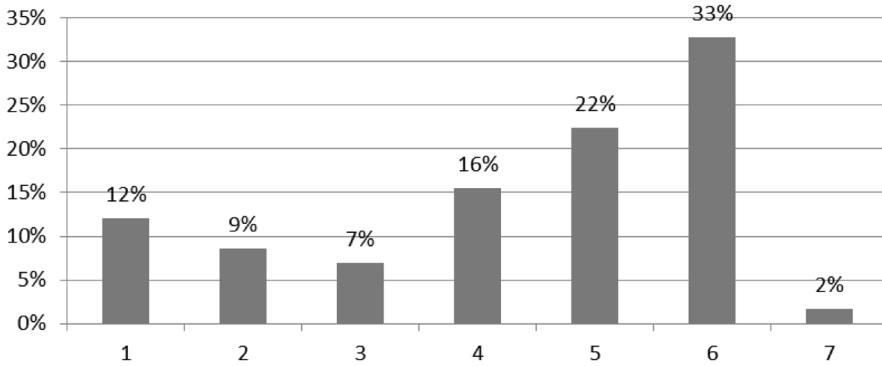


Figure 6. The intensity of the interpreting weak signals with entities from the outside of the organization¹²

Source: own study based on the survey results

91% of the respondents declare (Figure 5) that within the organization intense talks concerning potential opportunities and threats are conducted. The average rating of the intensity of those talks is at the level of 5.75 (on the 7-item scale) with a standard deviation of 1.226 and a median of 6.00.

On the other hand, 57% of the respondents declare (Figure 6) that intense talks concerning opportunities and threats are conducted with people from the outside of the organization. The average rating of those discussions has the level of 4.41 (on the 7-item scale) with a standard deviation of 1.885 and a median of 5.00. The above identification of the process aspect shows that in the managers' declarations, organizations implement processes related to the perception and interpretation of weak signals.

The instrumental aspect

It becomes substantiated with instruments supporting the implementation of the system tasks in the form of analytical methods of IT information and communication tools. Taking into consideration the fact that information processes are implemented within the system, organizations have to apply varied analytical methods enabling the synthesis of the received information. At the same time, they significantly extend the possibilities to access relevant information about the environment supplying the analytical processes, owing to an easier access to information with the use of various IT information and communication tools. In the organization there are both the mentioned IT tools and analytical methods.

¹² Position of the scale: We intensely discuss potential opportunities and threats with people from the outside of the Organization.

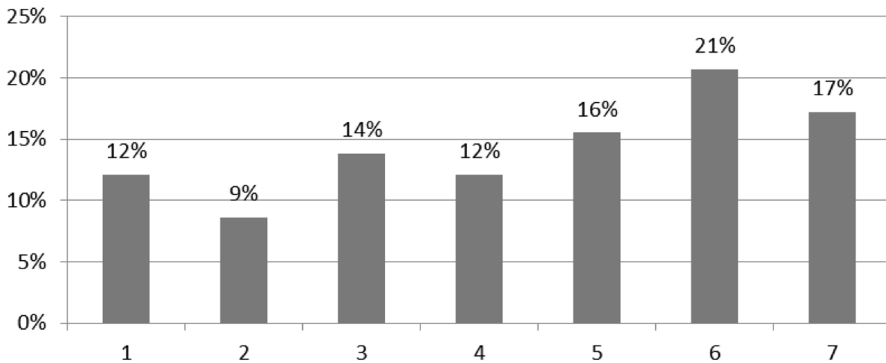


Figure 7. Tools in the ERS¹³

Source: own study based on the survey results

The obtained survey results reveal that in the surveyed organization varied tools supporting the ERS are applied, but the intensity of their use is different. More than a half (54%) of the surveyed managers declare (Figure 7) that in the organizations they manage the tools are applied with a various level of intensity. At the same time, one in three respondents (34%) declares that the support of tools in the process of recognizing potential opportunities and threats is insignificant (or none). The average rating in this area is 4.38 (on the 7-item scale), with a standard deviation of 2.03 and a median of 5.00.

The above identification of the use of tools within the system shows that instruments supporting the system are used in organizations to various extent and range. However, in spite of a relatively easy and cheap access to IT information and communication tools and the managers' knowledge about different analytical methods, they do not apply them sufficiently and treat them more like “gadgets” rather than a normal operational work tool supporting tasks within the early recognition system.

The structural aspect

It is expressed in the relations occurring among individual elements of the system and the manner of linking them. In addition, it is manifested in the formalization of the system within the organizational structure, showing to what extent aims, tasks, assigned responsibilities and allocated budgets are formally defined.

In the surveyed organizations, employees are involved in the system functioning to a small extent. Only in one in three organizations (31%), the

¹³ Position of the scale: Analysis of information about potential opportunities and threats in *the Organization* is very intensely supported by analytical tools (scenario, war gaming, etc.) and IT information and communication tools (blogs, instant messengers, information management systems, etc.).

level of delegating tasks related to obtaining weak signals can be regarded intense (Figure 8), but in over a half (56%), the responsibility for those tasks is concentrated on individuals (usually on senior-level managers). The average rating in this area is 3.43 (for the 7-item scale), with a standard deviation of 1.887 and a median of 3.00.

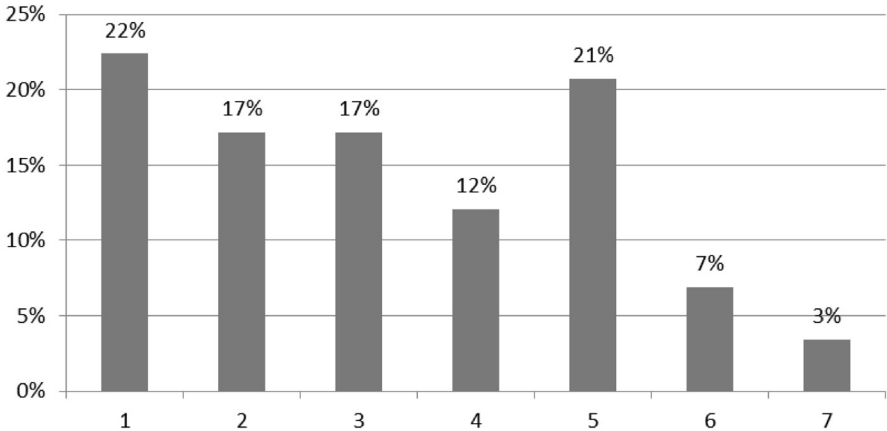


Figure 8. Delegation of tasks in the ERS¹⁴

Source: own study based on the survey results

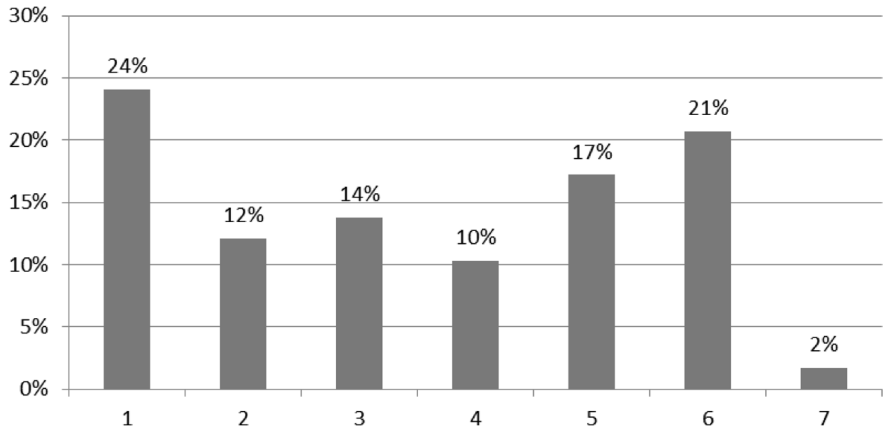


Figure 9. Level of the ERS formalization¹⁵

Source: own study based on the survey results

¹⁴ Position of the scale: All employees in *the Organization* are responsible for searching for information about potential opportunities and threats.

¹⁵ Position of the scale: In *the Organization*, obtaining and analyzing information about potential opportunities and threats is totally formalized (tasks, budgets, responsibilities).

In every second firm (Figure 9), managers assess the system as non-formalized, and only one organization declares full formalization of the system. The average rating of the level of formalization is 3.59 (for the 7-item scale), with a standard deviation of 2.039 and a median of 3.5.

The above identification of the structural aspect, based on the managers' declarations, enables to assert that early recognition systems in the surveyed organizations are formalized to a small extent, and in addition, the postulated structure manifested in the commitment to obtain information by the possibly biggest number of employees is not used sufficiently.

5. Conclusion

The conducted research process and the obtained results enable to identify the system in the organization's activity structure, and on that basis they enable to conclude that activities related to early recognition of potential opportunities and threats are implemented in the organizations. Basing on the conducted survey we can conclude that in the surveyed organizations non-formalized early recognition systems occur, mainly based on the activities taken by senior-level managers who, while implementing strategic management, undertake an attempt of early recognition of changes in the environment. In the organizations we can identify, to various extent, all important research aspects of the system (the functional, the process, the instrumental and the structural one), and this picture is a kind of the organization's profile with regard to the recognition of potential opportunities and threats, that shows systems which are advanced in some areas and significantly deficient in others.

Simultaneously, we must be aware of the constraints to the reasoning, arising from the basic shortcoming which is the size of the sample obtained as a result of the conducted interviews. Thus, the survey cannot be the base for the generalization of the results, but it is important contribution to the recognition of this problem area on the grounds of management studies, considering the lack of (quantitative) research within this scope. Moreover, the adopted survey technique – telephone interview and related measurement tool – imposed certain quantitative and qualitative limitations on the data gathering process. The adopted duration of an interview and indirect communication (with the use of the communication medium which the telephone was) required to construct an unsophisticated questionnaire to improve the effectiveness of collecting data and their reliability. The effect of those actions is inevitable simplification of the perspective and closing a whole variety of possible formulations in one category system. Direct contact of the researcher with the respondents would enable deepening or clarifying the respondents' utterances. The obtained results are a starting point for further, mainly empirical research works related

to the improvement of measurement tools and further exploration of the ERS problems.

References

- Bąk, J. (2011). The Concept of Creating and Operating the Early Recognition System. In: A. Nalepka, A. Ujwary-Gil (Eds.). *Business And Non-profit Organizations Facing Increased Competition And Growing Customers' Demands*. Nowy Sącz: Wyższa Szkoła Biznesu – National-Louis University.
- Burns, A. C., Bush, R. F. (2000). *Marketing Research*. Upper Saddle River New Jersey: Prentice Hall.
- Christensen, C. M., Anthony, S. D., Roth, E. A. (2004). *Seeing What's Next*. Boston-Massachusetts: Harvard Business School Press.
- Day, G. S., Schoemaker, P. J. H. (2006). *Peripheral Vision. Detecting Weak Signal That Will Make or Break Your Company*. Boston-Massachusetts: Harvard Business School Press.
- Gharajedaghi, J. (1999). *Systems Thinking: Managing Chaos and Complexity*. Boston: Butterworth Heinemann.
- Gilad, B. (2004). *Early Warning: Using Competitive Intelligence to Anticipate Market Shifts, Control Risk, and Create Powerful Strategies*. New York: AMACOM.
- Hough, J. R., White, M. A. (2004). *Scanning actions and environmental dynamism: Gathering information for strategic decision making*. *Management Decision*, 42(6).
- Kirschkamp, A. (2006). *A Contingency-based View of Chief Executive Officers' Early Warning Behavior*. Oestrich-Winkel: Deutscher Universitat-Verlag.
- Sienkiewicz, P. (1988). *Inżynieria systemów kierowania*. Warszawa: PWE.

THE PROCESS OF CREATIVITY IN THE LIGHT OF THE RESEARCH BASED ON THE 'ICEDIP' MODEL IN THE SELECTED ORGANIZATIONS OF CREATIVE INDUSTRIES

Mieczysław Morawski*, Barbara Violetta Szalko**

Abstract

Certain activities denominated 'the creative industries' started to be taken into consideration in 1998 in "the UK's Department of Culture, Media and Sport release about the Creative Industries Mapping Study"1. It showed the size and impact of the cultural industries on the employment enrolment, and activities that create selected businesses within industries. This paper is going to emphasize the role of human capital in developing businesses based on the creative industries workforce. The issues are hard to classify and document statistically. The research may give results rendering undervaluation or overvaluation that may be dangerous to economy in some aspects. The authors of this paper realize that they should seek solutions that would help young creative industries understand the importance of being responsible for their huge contribution to modern economics.

Keywords: *the creative industries, the creative employee, creative thinking, the 'icedip' model, the usability of resources.*

1. Introduction

The definition of creative industries used since the 90s of the twentieth century combines the concept of creativity, namely the creation of concepts, ideas and solutions with the concept of entrepreneurship, of being able to transform ideas into substantial actions that deliver measurable profits. Creative industries are thought to be the most important area for today's global, knowledge-based economy. Companies that operate in the creative industries sector are among the most innovative business agents. These sectors generate growth and employment, contribute to the revitalization of space, foster innovation and

* Ph.D., Associate Professor, Department of Economics, Wrocław University of Economics and Faculty of Economics, Management and Tourism, Department of Science of Business, ul. Kochanowskiego 9, 58-500 Jelenia Góra, e-mail: mieczyslaw.morawski@ue.wroc.pl.

** Ph.D. Student, Department of Economics, Wrocław University of Economics and Faculty of Economics, Management and Tourism, Department of Science of Business, ul. Kochanowskiego 9, 58-500 Jelenia Góra, e-mail: szalkobarbara@gmail.com.

income growth. Creative sectors can contribute to that increase of innovation in other fields of economy by providing them with ideas for a new product or service or delivering already finished projects (e.g. the activities related to the design in the information industry). This results in, among other things, that companies producing modern information technology facilities or electronics (e.g. mobile phones) increasingly adjust themselves in the spheres of marketing, sales, and are even strategic to the fashion industry companies. The process of creating products in the area of ideas of products, their design, modelling and implementation depend on the impact of many factors, largely of symbolic, semantic, communicational nature and more broadly are culture and social life related. The need to sense the fleeting and changing tastes, preferences and customers' sentiment is intrinsic in the nature of these sectors. High sensitivity to customers' needs goes hand in hand with the actions of competitors, which can be unpredictable. The problems present in the management of the company must be resolved by anticipating future trends and designing adequate methods of organization, production, or management. The core of the creative industries where the creative values that shock, intrigue, amuse and provide sensations come into being are highly gifted people. What is more, they are endowed with ingenuity and competence that enables the creation of novel concepts introduced in technologies and products. These people are: computer specialists, fashion designers, architects, theater artists and filmmakers, musicians and other representatives of creative professions and functions. Their activities are based on creativity.

2. The origin of creative industries performance

The hegemonic term of creativity has established itself in the past decade across international governments' policy ideas. They try to shape working practices by promoting and releasing creativity & innovation.

In today's highly competitive global perspective of economy the two foregoing concepts of managing the organization may have strong impact on its growth and development. It is now a common trend to think of the creative economy as pivotal to the wider economy, and this view is certainly not limited to policy makers (Cunningham, 2006). Many proponents of the creative economy uphold a discourse of creativity which policy makers started to treat quite seriously and promote it as an elementary factor of competition. The Labour Party in the UK even started considering *cultural industries to be a central instrument of economic & urban regeneration* (McGuigan, 1998). In 1998, as far as the term *creative industries* is concerned The Creative Industries Mapping Document defined them as '*those activities which have their origin in individual creativity, skill and talent and which have a potential for wealth*

and job creation through the generation and exploitation of intellectual property' (DCMS, 1998; Creative Industries Task Force, 2001).

In general, the term includes these key sectors:

- advertising,
- architecture,
- the art & antiques market,
- crafts,
- design,
- designer fashion,
- film,
- interactive leisure software,
- music,
- the performing arts,
- publishing,
- software,
- television & radio.

All sectors mentioned above require a solid base of knowledge, some create capabilities to build greater competitiveness, the natural ability of shaping the climate conducive to encourage the creativity of the organization's human capital. It is believed that the *creative sectors* show a commitment to creativity, as a fundamental attribute that requires the nation to undergo widespread cultural change across the fields of production and consumption (Cox, 2005), therefore public action is needed, such as new programmes, incentives for R&D, the formation of specialists and the use of procurement and networking (Cox, 15).

From now on an idea of *an enterprise economy* may be taken under consideration and creativity is definitely one of the most important features of business success. The above mentioned *cultural shape* in business highly corresponds to new, modern-based thinking of education as the main area of generating creativity in the human capital entrepreneurship approach. It is obvious that all original ideas started in the process of divergent thinking, are valued and seem to be the main factor of shaping creativity as a fundamental feature of *creative industry* organizations.

As far as the term *creativity* is concerned it is important to analyze such attributes of an organization as:

- the ability to generate new ideas or better ways of doing things or solving problems,
- generating actions which may help the organization's strategy become unpredictable, therefore gaining a competitive advantage,
- capability of thinking up new solutions to business and customer problems,
- *novelty* (Cropley, 2009).

- that requires originality and newness, something fresh to the idea that requires originality and newness. There must be something fresh to the idea (Mishra & Singh, 2010).

In the year 2001 creative employment, accounted for 7.1% of UK jobs, has grown strongly, and what is more, average creative incomes are higher than in the economy as a whole. Nesta research proves, that there are more creative people working outside the creative industries than inside them. We should be aware of the need to better understand the process of involving creative workers in spilling knowledge and new ideas earlier initiated in the creative industries. The process may have strong implications for the policy of innovation in organizations, even replacing former scientific research and new technologies.

To make the foregoing facts more specific we may even accept, that all cases of creativity are connected with the real need for creative thinking, stimulated by a worker's emotional intelligence. The emotional involvement boosts the effectiveness of our brain in thinking up new solutions of problems: creativity has been seen as contributing original ideas, different points of view, and new ways of looking at problems (Cropley, 2009). There are many creativity achievements we know from years:

- patents & inventions,
- publicly produced plays,
- publicly performed compositions,
- artworks,
- founding businesses, journals, professional organizations,
- developing innovative techniques in medicine, surgery, science, business, teaching and so on.

In recent years the work of Richard Florida has appeared and is really important in cultural policy. It has the discussion on the rise of the creative class. His idea of 3T (Technology, Talent, Tolerance) is the real basis for innovative economy. Due to some synergy of the three strengths, a kind of creative environment is created and, for that reason, the creatives gather and cooperate in it, changing all aspects of today's economy (Florida, 2002).

Be that as it may, we all should take into consideration the rise of the new class of workers who generate new points of view, are able to fantasize, combine, integrate ideas, seek out the unusual, visualize problems, engage possibilities, explore & introduce innovative thinking as a great advantage for the organization. This article puts great emphasis on the need of more research and argues the case for greater attention to the characteristics of pivotal workers in the creative industries in comparison with working class as a whole.

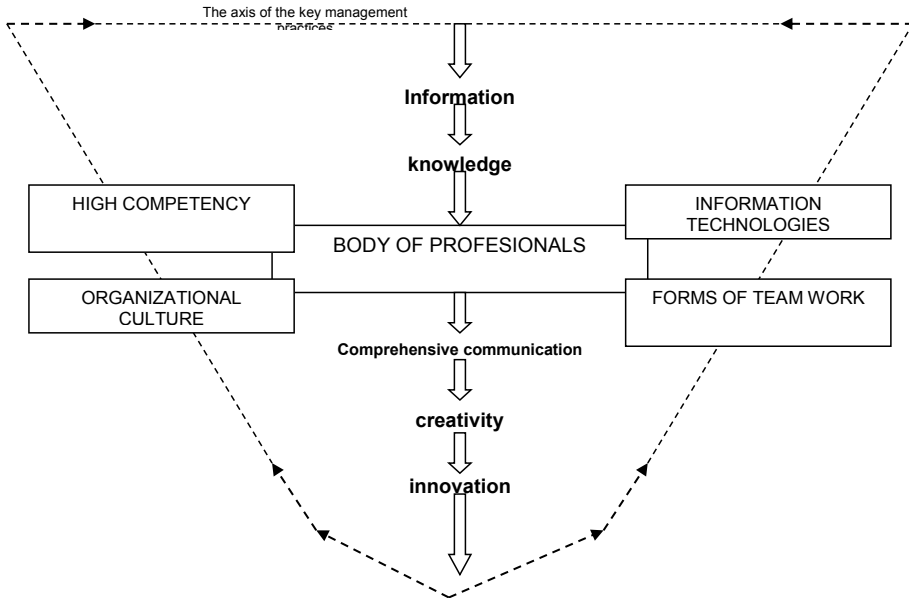


Figure 1. The model of the axis of the key management practices of the creative industries

Source: Morawski (2014).

The model of the axis of the key management practices of the creative industries by Morawski (2014) stays for a trial of giving a kind of a hint for managers who want to take advantage of the workers' skills and features of character. It may also give the direction to the organization seeking such workers and trying to gain organization's competitive advantage.

As it was estimated in THE UNCTAD report on creative economy (2008): creative economy in 2000-2005 global trade the amount of creative goods and services grew annually by an average 8,7% (Newbigini, 2010). What is more, the creative industries employ a remarkably high percentage of university graduates. Formal performance study of the creative industries (Great Britain, 2005) shows that 49 percent of the employees have a university degree, while this figure is only sixteen percent of all higher education graduates employed in industry. Some branches employ even more high school graduates, e.g. the media – 69% (Newbigini, 2010, p. 27).

The life cycle of many small creative companies differs from the traditional business life cycle. The ten-year (1995-2015) British study observation estimated that 48% of the growth that the companies experienced was a contribution of the start-ups in their first years of managing the particular business and that one – third of the new enterprises did not manage

to remain in the market for more than three years (Newbigin, 2010, pp. 45-46). In 2008 Polish creative industries used to employ 375,8 thousand people (Lewandowski et al., 2010, p. 36) and the companies are mainly located in the central, southern and eastern parts of the country. Polish creative industries' participation in Europe's industry, generally, stands at 2% in 2007, in comparison with nearly 3% in the European Union. However, the employment in the creative industries grew almost twice as fast, by 26%, compared to the average employment growth which is, in turn, about 14% for the countries of the European Union in the years 2000-2007 (Szultka, 2012). In Poland, as in the European countries, the issue is connected mainly with small and medium enterprises which are usually started due to the initiative and venture efforts of the highly educated, young, gifted people who want to make an attempt to commercialize their passions and interests. The number of Polish creative industries units amounted to 156 094 in 2009. As it is showed in Figure 2, they are mainly located in the central, southern and eastern parts of the country.

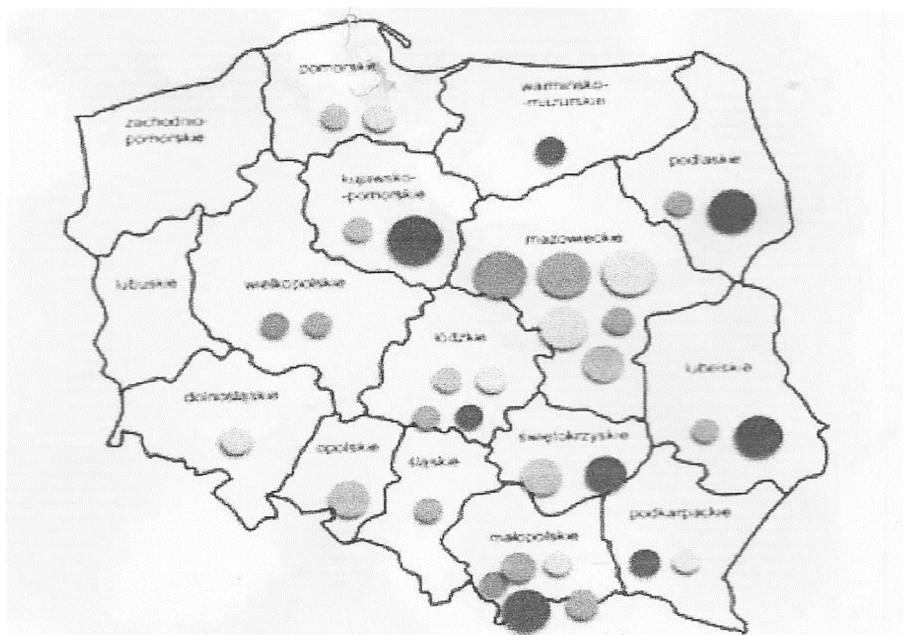


Figure 2. The concentration of creative industries in Poland in 2009

Source: Szultka (2012), p. 27.

The above map shows the location of such creative industries in Poland in 2009 as:

- advertising,
- architecture, design, art,

- museums, cultural institutions,
- publishing and printing houses,
- radio and television,
- sale and distribution of music, books, movies and games,
- programming and games.

The authors of the paper present some more data for further analysis of the creative industries in Poland in Table 1. The percentage of growth of creative goods export value is 14,9 in 2008 compared to the ranking place in 2002 and it is even more spectacular than in Germany or the USA.

Table 1. Creative goods exporters – the world

	The Exporter	Market share 2008	Export value 2008 (m \$)	Ranking 2002	Growth (%) 2002-2004
1.	China	20.8	84807	1	16.9
2.	USA	8.6	35000	3	13.3
3.	Germany	8.5	34408	6	14.7
4.	HongKong	8.2	33254	2	6.3
5.	Italy	6.8	27792	4	9.7
6.	UK	4.9	19898	7	6.5
17.	Poland	1.3	5250	24	14.9

Source: Creative Economy Report, UNCTAD (2008).

3. The research outcomes and conclusions

The purpose of the research was to see how people try to accomplish the creative act and to make the manager aware of the process and start thinking of planning work for the creative employee. The after- research conclusions should help build models in the world of organizations which may help manage them in the 21st century globalized world. Creative thinking is a way of looking at problems or situations from a fresh perspective that suggests unorthodox solutions (BusinessDictionary.com), and that is why it may be the first step for the strategy of innovation in a modern organization. Our starting point was the original Geoffrey Petty (1997) paper and we used the questionnaire based on the ICEDIP MODEL of the creative process. The first letters of the six phases of the creative process in a potential creative employee's mind can spell 'icedip' so this model of the creative process is called 'icedip' model. There are six phases in the model: inspiration, evaluation, clarification, distillation, incubation and perspiration. It is quite obvious that we should be able to use all of the 'icedip' phases in the creative process with equal ease and

choose them depending on circumstances. But it is not so and some phases are not given due emphasis in our everyday performance. People, however, are able to change their way of work under some form of incitement. The authors of this work aimed at helping managers create the employee for their needs compliant to an organization’s mission and strategy . The authors have conducted a number of literature studies in 2014 – 2015 that addressed the significant role of creativity in the strategy of business. Bearing in mind that more and more features of a modern organization depend on creativity of the workers, we asked owners of 14 small organizations of creative industries to fill the ‘icedip’ questionnaires after an interview connected with the respondents’ businesses in May, 2015. They were the people who started their businesses two or more years ago, now at the age of 30- 55, men and women, all of them owners of small, creative organizations of Lower Silesia Voivodeship. The organizations were: new- design bureau, braid jewelery, dance studio, *the sound of a gong* concert bureau, interior and furniture design, publishing office, handicraft and decoupage, lingerie design, advertising, make-up studio, architect office, silk garments designer, model agency and fashion designer. All of the respondents held a university degree.

The authors of the study took into consideration six phases of the creative process of „ problem solving, design, invention, artistic expression, or other creative work” using the questionnaire based on the icedip model of the creative process of Geoffrey Petty (1997). The research outcomes given below present the opportunity to compare some features of creativity in the creative organizations and their influence on reaching the organization’s objectives.

Table 2. The research results on the primary impact of the phases of individual creativity on achieving the organization’s objectives.

Phases of the individual creativity	Percentage of companies regarding the primary impact of the phase of individual creativity on achieving the organization’s objectives
Inspiration	29 %
Clarification	14 %
Evaluation	14 %
Distillation	7 %
Incubation	14 %
Perspiration	22 %

Table 2 shows the impact of the phases of individual creativity on realizing the strategy and growth of creative organizations in Lower Silesia, Poland, in 2015. The greatest influence on achieving the organization’s objectives are:

inspiration (29% of empirical evidence) and perspiration, e.g. creative effort (22% of empirical evidence). The marginal influence is showed in case of distillation, e.g. the extraction of the most important aspects of the creative work.

Table 3. The research results on the degree of use of the phases of individual creativity on achieving the organization’s objectives

Phases of individual creativity	Average estimation of the level of using the phase of individual creativity on achieving the organization’s objectives
Inspiration	15,93
Clarification	15,07
Evaluation	15,21
Distillation	14,50
Incubation	15,57
Perspiration	15,50

Table 3 shows the influence of the level of using the icedip phases of creativity of the individual worker while pursuing the strategy and growth of creative organizations in Lower Silesia, Poland, 2015. The most important phases of creativity potential according to the research results are: inspiration, incubation and perspiration. Evaluation and clarification are close to them and distillation is again less important. The following table shows the results of the authors’ trial of defining the usability (Gospodarek, 2009). According to Gospodarek (2009) the usability of some resource may be described as the product of its weight and the level of using its potential.

Table 4. Test results of defining usability of the phases of individual creativity on achieving the organization’s objectives

Phases of individual creativity	Estimation of usability
Inspiration	4,62
Clarification	2,11
Evaluation	2,13
Distillation	1,02
Incubation	2,18
Perspiration	3,41

Table 4 results highlight the usability of inspiration and perspiration (some efforts of the individual in a creative process). The usability of distillation is the least relevant in the creative processes inside the surveyed organizations.

4. Implications and suggestions

Providing a way by which the creativity of the organization might be assessed is not a simple problem. The apperception of the need for creative thinking in the creative environment is an important one. Research into foregoing issues has been considerably assisted in recent years by the availability of computerized databases and many models of supporting creativity, on the whole, were created (Figure 3).

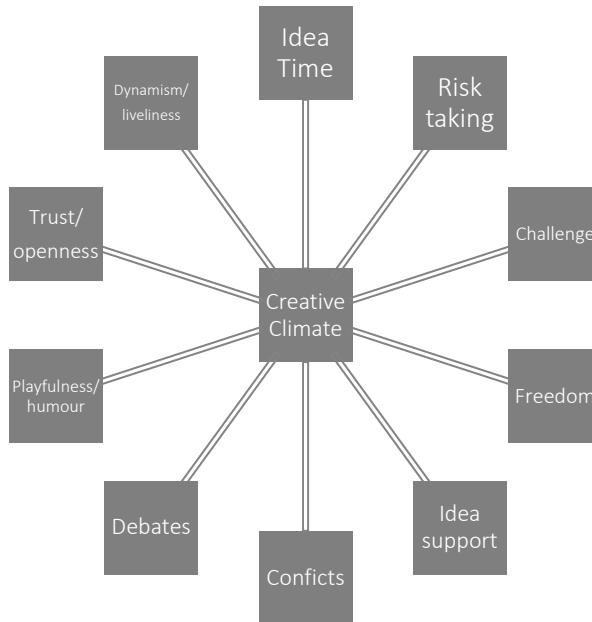


Figure 3. Ekvall's Model of Creative Climate

Source: Ekvall (1996).

The authors of this article, after drawing the conclusions from the research study results, where inspiration for being creative has had the highest value for respondents, suggest adding two more features to Ekvall's Model of Creative Climate, namely: attitude to work and the work atmosphere, which may strongly influence the attitude of the workers to working effects.

Another interesting model may be found in Amabile's Motivating Creativity in Organisations (Amabile, 1997) which tries to precisely specify (Figure 4):

- the perspective of the individual,
- the perspective of the team,
- the perspective of the wider work environment.

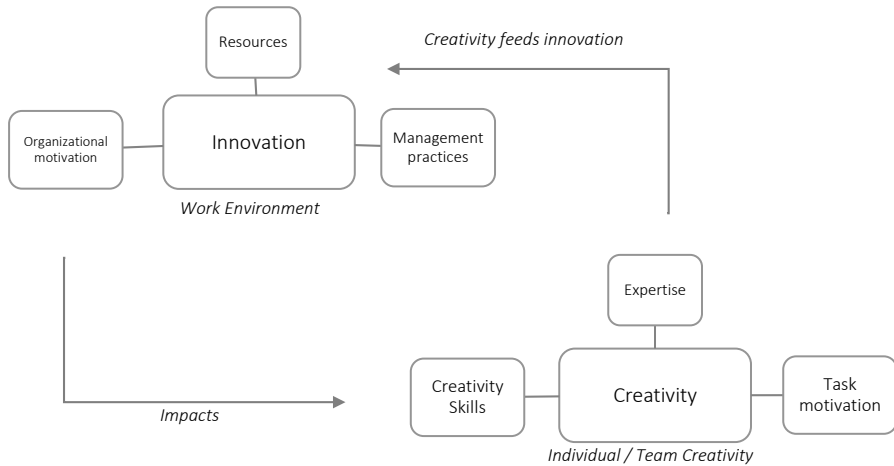


Figure 4. Amabile’s componential theory of organizational creativity

Source: Moultrie & Young (2009).

The two foregoing models Amabile’s (1997) and Ekvall’s (1996) may easily enable the strengths and weaknesses of individual organizations to be identified (Moultrie Young, 2009). To produce a creative performance in organization seven factors should occur:

- platform of understanding,
- shared vision,
- climate,
- resilience,
- idea owners,
- network activators,
- learning from experience.

Obviously the factors may turn into barriers which an organization must struggle to overcome in order to be creative or build creative teams of creative workers. Polish organizations should create such potential that could strengthen the ability to deal with ubiquitous change. What is guaranteed in the 21st century, is exponential rate of change that will affect the world (Ryan, 1991). Open-ended thinking and understanding or accepting new ideas makes us more capable of managing the change. What can governments, industries or managers do to sustain growth and welfare? The authors’ of the paper put forward suggestions:

- 1) The growth strategies of the world’s governments and industries should aim at boosting the creative exports by 2020.

- 2) Creative Industries may supervise trends or their influence on economy because of the unique combination of strengths in media, culture and education.
- 3) Having an easy access to capital and information Creative Industries may use them to gain influence on the whole economy.
- 4) Having Creative Industries governments are likely to be considered global, because they are open to outside influences and they willingly cooperate.
- 5) There is the need to consider „ tax reliefs which allow industries to access a rebate of up to 25% of qualifying expenditure in the film, high-end television and animation sectors.
- 6) Funds allocated to the development of the workforce help encourage some new ideas of individuals and industry teams.
- 7) Governments should consider developing dedicated Creative Industries development courses and industry-university collaboration through preparing young talented students for careers in the creative industries.
- 8) Productivity growth should come mainly from innovation which challenges conventional thinking and shows professional approach to the novel.
- 9) Start-up clusters and creative start-up funds should come into being. The idea comes from the United Kingdom and other creative-driven countries. The statistical reports /DCMS, UNCTAD/ provide an opportunity to consider copying the policy of supporting the creative's.

5. Conclusion

Creativity like any other mental effort requires intellectual engagement, reflection, concentration, creative passion and personal interest. At the same time it is the process of crossing some designated borders, questioning and overthrowing accepted and universally applicable principles or rules, defining problems and the reality in different ways. This means a violation of certain taboos, breaking the stereotypes, repudiation of allegiance to some theses applied in widespread awareness. The outcomes of creative work are both tangible and intangible, to a large extent unique and without past experience. Such understanding of creativity requires a number of conditions to be fulfilled. They are presented in various shapes of models, as it was mentioned before. In the light of the results of research conducted by the authors of the study it seems appropriate to recommend the following factors for creating effective creative work environment (all features that may have impact on generating ideas): the attitude to risk taking, freedom of thinking, the level of support, managing conflict, communication (sharing ideas), attitude to

reaching satisfaction or open-mindedness. What is really important is that the role of a leader in an organization cannot be underestimated. Individual or team creativity depends highly on creative climate in an organization. Cooperation and comprehensive communication, formal and informal relationships, multi-dimensional engagement, dealing with emotions and intellect are the features that stand for the creative climate quality. The factors mentioned above may be responsible for the results in different phases of the 'icedip' model as some external factors influencing employee's creativity but this opinion requires further study. The attitude of the leader to managing creative people in an organization is currently the most important factor for reaching the organization's objectives.

The creativity phases and their usability for managing companies research results are no surprise. Generally, most of the surveyed workers were aware of the importance of inspiration, incubation or perspiration phases in their own creativity process.. The authors conclude that the inspiration phase may be the most important one in a creative organization's life-cycle. What is more, it is really the most difficult aspect of creativity, its starting point and the core. There is the huge influence of the research outcomes knowledge on managing the productivity of the creative worker in Creative Industries. It could be really useful for the recruitment process in an organization to evaluate a potential employee by having him complete the 'icedip' questionnaire and summing up points of the six creative phases, that may help understand his strengths and weaknesses in creative thinking and working. Dealing with change that affects organizations' strategies of the 21st century, it may be crucial to take the authors' research results into deep consideration.

References

- Amabile, T. (1997). Organizational climate for creativity and innovation. *European Journal of Work and Organizational Psychology*, 5.
- Cox, G. (2005). Cox Review of Creativity in Business: building on the UK's strengths. London: HMSO.
- Cropley, A.J. (2009). Creativity and cognition: productive effective novelty. *Roeper Review*, 21.
- Cunningham, S. (2006). What price a creative economy. Retrieved from <http://gut.edu.au>.
- DCMS (1998). Creative Industries Mapping Document. London: Creative Industries Task Force.
- Ekvall, G. (1996). Organizational climate for creativity and innovation *European Journal of Work and Organizational Psychology*, 12.

- Florida, R. (2002). The rise of the creative class. Why cities without guys and rock bands are losing the economic development race. Retrieved from <http://www.washingtonmonthly.com/features/2001/0205.florida.html>.
- Gospodarek, T. (2009). Modelowanie w naukach o zarządzaniu oparte na metodzie programów badawczych i formalizmie reprezentatywnym. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- McGuigan, J. (1998). National government and the cultural public sphere. *Media International Australia*, 87, 71.
- Mishra, L.K., Singh, A.P. (2010). Creative Behaviour questionnaire: Assessing the ability of managers to produce creative ideas. *Journal of the Indian Academy of Applied Psychology*, 1(36), 115-121.
- Morawski, M. (2014). Procesy innowacyjne w przemyśle kreatywnych. In: *Innowacyjne i jakościowe aspekty w zarządzaniu operacyjnym* (pp.55-63), A.M. Lis, G. Zieliński (eds). Gdańsk: Wyd. Politechniki Gdańskiej.
- Moultrie, J., Young, A. (2009). *Exploratory Study of Organizational Creativity in Creative Organizations*. Blackwell Publishing.
- Newbigin, J. (2010). *Creative Economy and Cultural Industries*. London, Warsaw: British Council.
- Petty, G. (1997). *How to be better at creativity?*. Kogan Page.
- Ryan, T. (1991). *Thinkers Keys*. Queensland.
- Szulcka, S. (2012). Clusters in creative industries – main factors in cities and regions development. Warsaw: PARP.

Internet sources

- <http://www.culture.gov.uk/creative/mapping.html>
www.businessdictionary.com/definition/creative-thinking.html
<http://www.culture.gov.uk/creative/mapping.html>

CONDITIONS OF ORGANIZATION AND PERFORMANCE OF THE TRAINING SERVICES COMPANIES

*Iwona Małgorzata Kutzner**

Abstract:

The aim of this study is to present the results of the research of the author, which aimed at: recognition of the training services market, the entities creating it, the characterization of the structure of employment (their quality, quantity, their education, qualification, age). In addition, the author presented in the form of tabulation the changes that are taking place in the modern world and have an impact on the functioning of the organization. The author defined a new category of a worker, which appears in the organization – an external knowledge worker along with its characteristics. The basic research methods used in the work are: literature studies, empirical analysis using secondary research and own empirical research conducted for the scheduled process research. The paper consists of six components, with description of the functions performed by the service sector in the economy, the characteristics of the training services market, as well as the impact of the new economy on the organization, function and shape of small business training services and employees who are the organization's most important asset.

Keywords: *globalization, training services market, small enterprise, small training services enterprise, employee, knowledge worker, external knowledge worker, features.*

1. Introduction

In the global economy the services sector becomes vital and it slowly begins to replace the manufacturing sector. The new economy influences and forces changes in the economic entities. Also, increasingly recognized is the fact that developed economies are characterized by the overwhelming role of the services sector in the GDP and employment. According to Flejterskiet al. (2005, p. 4), the sector affects the production, exchange, consumption, and also the life of the individual units. Knowledge-based economy (KBE)

* Ph.D. Candidate, Faculty of Economics, Department of Economics, Wrocław University of Economics and Faculty of Economics, Department of Science of Business, ul. Kołłątajowskiego 9. 58-500 Jelenia Góra, e-mail: iwona.kutzner@ue.wroc.pl.

(Niklewicz-Pijaczyńska & Wachowska, 2012, pp. 16-17). KBE is a type of economy that expands a subject in contrast to the industrial economy and is based on the following features:

- fundamental resource is widely understood knowledge and information that preceded it, and its carrier employees are not treated as a cost, but profitable investment (Davenport, 2007). They also have a decisive role in determining the market value of the company,
- different style of management: it is participatory rather than top-down (command and control)
- the status of the organization does not depend on the scope of authority, but the skills and knowledge: you are worth as much as you know (Perechuda, 2005),
- a new dimension of organizational culture based on trust and incentives rewarding creativity and ability to work in a group (Nalepka, 2012),
- network organizational structure, in which the main strategy is based on cooperation,
- different incentive system based not only on traditional financial incentives, but also personal, internal satisfaction,
- development of international companies and new forms of doing business, which contributes to the diffusion of knowledge and the effectiveness of its use,
- a new dimension of relationship with customers – individualization,
- transformation of the internal and external environment is treated as Drucker's excuse to change, and is no longer a threat; while development of the company has no longer linear character, it is often spontaneous,
- difficult to predict, but adequate for the development of the market situation of the entity, the use of modern technology is an indicator of market success and the meaning for the company's existence,
- services are becoming the dominant sector of the economy, information processing, and use of knowledge, drastically decreases the importance of industry-related departments and classic production lines,
- management rules are also applied in "non-business" sectors, such as education, administration or health care,
- gain increasingly becomes a means of the task, and not its goal (M. Strojny, No. 10, 2000).

This economy is a network based on mutual relationships. It is a doctrine in which knowledge becomes the engine of socio-economic changes, and consequently a stimulus to economic growth and development of countries. Skilfully prepared or acquired it becomes a cause for changes in the micro and macro economics. Man is the source of knowledge along with the widely understood human capital (Strojny, 2000).

Several factors influence the micro and macro environments: globalisation, competition, innovations, monopol, technological regress, cultural diversity, customer orientation, changes on the labor market. In knowledge-based economy intellectual capital acquires growing importance. Product quality or price ceases to be essential. More and more often, in order to gain a competitive advantage organizations accelerate, show flexibility in decision-making, respond to the environment of the company and develop and maintain good relationships with customers. In witness whereof, (Juchnowicz, 2014, pp. 31-32) today in the business environment, as well as within the organization, multiple new phenomena can be observed that have a particular impact on the development of companies. They are, among others: the next phase of globalization, emergence of new technologies, growing modernity of developing economies, which results in an increase in the level of skills and innovation of employees, urbanization, increased employment in the service sector, aging of the society, as well as new norms and values brought by the new generations entering the labour market. New economy (...) will be based on the use of small businesses, individuals, freelancers, forming more flexible virtual communities, faster in operation than the big corporations (Mrówka, 2012, s. 56). Intellectual capital consists of: human capital, organizational capital and relational capital. However, the most important are the people and their knowledge; also, important are the specialists involved in seeking active possibilities and using knowledge to generate profits in various types of industries, for example: IT, education, e-commerce, health care, financial companies, media, pharmaceutical or high technology (Marcinkowska, 2011, p. 497).

Nowadays companies consider the following directions of development: (Mikuła et al., 2007, pp. 26–27):

- economic activity around the world, globalization, cost reduction,
- organizational flexibility and the ability to make changes related to market environment and the changing situation,
- flattening structures of companies, networking, fractal organization, virtual organizations, organizations without borders,
- cooperation with external knowledge workers, partnership-oriented actions, outsourcing to other companies or external knowledge workers,
- building and strengthening of intellectual capital for the individual and organizational level,
- creating systems to facilitate customer relationship management based on new technologies and their effective use.

2. Polish training services market

Polish training services market exists and has been developing since the early nineties of the twentieth century in Poland. In the initial phase, it was only adopting moving personnel management models used in international companies. Over the years, training industry has been going through various stages of development from dynamic development to recession. Its dynamics depend on European funds. Now this market consists of the following entities according to the Act of 20 April 2004 on employment promotion and labor market institutions, Art. 20 (Official Journal of 2008, No.69, pos. 415 with later changes) and the Regulation of the Minister of Economy and Labour of 27 October 2004 on the register of training institutions (Official Journal of 2004, No. 236, pos. 2365 with later changes). According to the Act, a training company is a public and non public entity. Legal and natural persons may establish nonpublic schools and institutions after registration issued by a local government obliged to run the appropriate type of public schools and institutions. Commercial provision of services by these entities and therefore training services has been recognized as an economic activity in the Act on Freedom of Economic Activity. Training services have not been assigned to the so-called regulated activities, such as those which require the fulfillment of specific conditions in specific provisions of the law, as well as any license, permit or consent given by the relevant authority.

An entrepreneur wishing to conduct training activities, pursuant to the Act may be: a natural or legal person, civil law partnership or organization unit which is not a legal. The entrepreneur, depending on legal form of organization should: a natural person – register in Central Registration and Information on Business, a legal person, civil law partnership or other organizations – register in the National Court Register.

Nowadays, training companies are private, micro and small businesses which operate on local or regional market. In 2010-2013 observation of development of this market was made, which is related in changes of size of businesses: the number of micro and small enterprises declined, and the number of big, medium and big-sized enterprises rose. This trend is confirmed by the analysis of range of the training firms and institutions. In 2010-2012 the number of entities operating on the local and regional markets decreased and the number of those that provide services throughout Poland rose. There were no changes in terms of the number of entities of international training: they constitute about 5% of all surveyed institutions and companies. Although the structure of the training market has not changed, there are some indicators proving its development: a growing number of medium and large companies and those that provide their services not only to the local and regional markets.

Detailed analysis of employment data, including data relating to persons directly involved in the training or consultancy shows development of this sector (Pauli, 2014).

Between the years 2010 and 2012 the average employment in the sector increased from 43 to 56 persons, while the average number of trainees increased from 20 to 27. The training sector in Poland is characterized by a high rotation of entities operating in it: there are many new providers on the market, however many entities are expected to announce bankruptcy or resign of training activities. As many as L of enterprises studied in 2012 are relatively young: they have been operating on the market no longer than five years. Despite the slight increase of Poles' educational activity, the training sector is increasing steadily as evidenced by the previously mentioned employment growth and increased turnovers observed in subsequent editions of the survey². There is no single definition of an enterprise or a training institution. The Central Statistical Office reports that a training institution is one that offers training for the unemployed and job seekers. Register of Training Institutions³– defines it as one that offers courses for the unemployed and job seekers, which are financed from public funds. The Polish Chamber of Training Companies⁴ associates entrepreneurs whose business activity focuses on training services. In contrast, the Polish Agency for Enterprise Development defines institutions classified in Polish Code List of Business Activities in the area of adult education as for instance: driving schools, foreign languages schools or companies providing consultancy services in the field of management etc.

3. Range of research and methodology

Empirical research conducted by the author of this publication is the initial stage of the scheduled research process for the purpose of writing a doctoral dissertation. Respondents were divided into two groups:

The first group of respondents includes:

2 Since 2010, the Polish Agency for Enterprise Development, together with the Jagiellonian University (Centre for Evaluation Analysis of Public Policies) prepare reports on labour market as part of project Study of Human Capital in Poland. Its general objectives are nation-wide outreach, which allow monitoring of changes in the labour market. Research in each edition will be conducted according to the uniform methodology, thanks to which results of the research conducted in different years will be comparable. The results will help planning the development of human capital at the state level, voivodeships, as well as companies. Based on our research and own observations, the author described the training market at: <http://bkl.parp.gov.pl/raporty-iii-edition-research>.

3 Register of Training Institutions is created and kept up to date by the Regional Labour Offices. The Register of Training Institutions includes, among other information: the name and address of the training institution, names of training staff, premises, its equipment, methods for assessing the quality of training, the number of unemployed and job seekers covered by the training during the last year, information about assistance after completion of the training and subject matter of courses. The Register of Training Institutions is conducted electronically. It is explicit and available on the websites: www.psz.praca.gov.pl, www.ris.praca.gov.pl, www.wup.krakow.pl.

4 www.pifs.pl – Polish Chamber of Training Services associate entrepreneurs.

- owners / persons managing small training services businesses – research sample – 30 respondents (2013/2014) and 30 respondents (2015);
- registered in accordance with Polish Code List of Business Activities – 85.5Z and 85.6Z – extracurricular education forms and nowhere else classified, from Lower Silesian and Masovian Voivodeships;
- registered in the Polish Chamber of Training Companies;
- registered in the Register of Training Institutions.

The second group of respondents includes:

- External knowledge workers, working with small training services businesses – research sample of 30+30 people;
- own database of external knowledge workers – 500 people.

At this stage, the aim was to: prepare research tools and pilot studies, verify the research tools, gather information. During the study, which was prepared in 2013,2014 and in the first part of 2015, the following information was collected and compiled:

- The characteristics of the organization: type of organization, size, industry, the activities, organizational and legal form.
- identified human capital in terms of: number of employees, the employment structure, the quality of employees' education, qualifications, age, implementation needs, their job satisfaction, opportunities for growth and self-fulfilment. Additionally, information regarding: culture, strategy, conditions of organizations and performance of the small training enterprises, structure of organization, their form.
- The use and development of human capital (implementation of selected methods, techniques and activities that support the use and development of human capital; connection with the implementation of the Human Resource function).

Due to the huge quantities of data collected and multitude of aspects of the study, as well as the limitations resulting from the number of publications, information obtained by the author will be presented only in general terms.

Preliminary studies were to obtain the following goals:

- test the questionnaire to verify its correctness and understanding of the questions. In addition, the author carried out direct talks with the respondents to improve the research tool. Questionnaire at a later stage of research will be adjusted.
- identification of the training services market, its operators, structure, forming their characteristics; identification of human capital in terms of: number of employees, employment structure, the quality of employees' education, qualifications, age, meeting the needs, their job satisfaction, opportunities for growth and self-fulfilment. Additionally, through direct interviews to obtain information on the following criteria: culture, strategy, methods of operation, dependence

on the employee, relationships with people, organizational structure, boundaries of the organization, organizational forms.

4. The characteristics of the training services companies

The characteristics of the surveyed companies providing training services were collected, as well as the structured information about the organizational and legal form of companies, number of employees, the form of employment and the quality of their education.

Organizational and legal form of training services enterprises

The main organizational and legal form of companies is an individual economic activity (sole proprietorship), which was indicated by 30 respondents, whereas the form of commercial companies and limited liability companies were indicated by 15 respondents for each. They are all Polish undertakings, without the participation of foreign capital.

Table 1. Organizational and legal form of training services enterprises

Polish List of Codes Business Activities	Organizational and legal form – the survey sample – 60 people		
	Sole proprietorship	Commercial companies	Limited liability company
Extracurricular education forms	30	15	15

Number of employees

From the data collected it can be seen that all the companies providing training services are small businesses and employ 10 people at the most: 48 indications. Employment in the range of 11 to 20 people was indicated by 6 respondents, and that in the range of 21-30 only by 4, the remaining categories had 1 indication each.

Table 2. Employment in training services enterprises

	Number of employees – 60 people				
	1- 10 people	11-20 people	21-30 people	31-40 people	41-50 people
Number of indications	48	6	4	1	1

Form of employment

In companies providing training services two categories of workers have been observed. One: – workers employed based on a contract of employment and the other: the external knowledge workers, self-employed. 90% of the employees are women, 10% men. They all hold higher education degrees: a Bachelor and a Masters degrees and postgraduate studies degrees. The women work in administrative and office positions such as: receptionist, assistant, marketing specialist, accountant or human resources specialist. Men are employed in the sales department as salesmen, marketing specialists, computer scientists.

Table 3. Form of employment

Form of employment	Full-time	Sole proprietorship	Contract
Full-time employees	100%	0%	0%
External knowledge workers	0%	35%	65%

80% of external knowledge workers are men. Employees employed under contracts of employment work in administrative or office positions or as assistants. External knowledge workers work on the basis of civil law contracts. Despite the fact, that in accordance with the Labour Code they do not provide employment contracts, respondents classify them as employees. External knowledge workers are treated as key *employees* who foster and stimulate the development of the company.

Table 4. Employment/gender/employees and external knowledge workers

Employees/gender	Results
Gender – Full -time employees	Women – 90% of employment in the surveyed enterprises (54) people Men – 10% (6 people)
Gender External knowledge workers	Women – 20% (12 people) Men – 80% (48 people)

Table 5. Employment/ education/employees and external knowledge workers

Employees/education	Results
Full -time employees	100% Bachelor and Master’s degree
External knowledge workers	65 % Master’s and postgraduate degree, 10% Ph.D., Ph.D. with post- doctorate titles or professors

Table 6. Employment/age/employees and external knowledge workers

Employees/age	Results
Full -time employees	65% under 35 years, 20% to 45 years and 20% above 45 years of age
External knowledge workers	35% under the age of 45, 65% over 45 years of age

5. Results of the research

To meet the demands of the modern economy it is necessary to move away from the classic definition of an undertaking. Thus it is being treated as a set of processes, the blurring of boundaries between the undertaking and its surroundings and virtualization business is perceived. The basic research methods used in the work are: literature studies, empirical analysis using secondary research and own empirical research conducted for the scheduled process research. Table 8 presents the most important characteristics in the new economy.

Table 8. New economics, New organization, New category of employee – the external knowledge worker

New economics	New organization	New employee	External knowledge worker on the training companies
Globalization	Intellectual capital	Knowledge worker	External knowledge worker, well educated, uses skills in different projects
Competition	Key competences	Life-long learning	Takes care of his self-development, invests in his knowledge, is autonomous, independent, flexible, easily adapts to the services / tasks set before him to execute / implement, takes care of his intellectual, physical and mental development, has exceptional interpersonal skills
Innovation	Less hierarchy	Change of profession and function in the organization	High mobility, external knowledge workers matched to the individual projects. Interaction, mutual support and deepening knowledge. The use of a synergistic effect at each stage of realization of the project. Knowledge sharing. High self-esteem of each external knowledge worker.
Breaking monopoly	Project management	Lower stability of the employment	Lower stability of the employment but more possibility for self-development.
Technological regres	Network organization	Work as a task	Can perform work/services anywhere, for example using modern IT solutions, the Internet, videoconferencing or e-learning.
Computer science	Virtualisation	Creative thinking	Creative and conceptual thinking

New economics	New organization	New employee	External knowledge worker on the training companies
Multi culture	Managing professionals	Team building	Multi culture. The most important mission, strategy, partnership collaboration, project teams
Customer oriented	Talent	Time management	Recruiting specialists, experts, self-control, own career and development the most important for the external knowledge worker
Changes in the labor market			More and more micro and small organizations, competitive, self-employed, knowledge worker, experts, external knowledge worker

Source: own study based on Morawski (2009, 2006, 2003).

Based on all the information obtained, external knowledge worker was defined and his features formulated:

- a natural person, who provides services / "work" on the basis of civil law contract,
- has unique, advanced and specialized knowledge – a specialist in his field – who shares it non commercially (depending on the scope of contracted work)
- takes care of his self-development, investing in his knowledge, is autonomous, independent, flexible, easily adapts to the services / tasks set before him to execute / implement, furthers his intellectual, physical and mental development,
- has exceptional interpersonal skills,
- able to work individually or in a team depending on the nature, complexity of tasks / services to be done, creative, able to think conceptually and use it in his work,
- can perform work / services anywhere, for example using modern IT solutions, the Internet, videoconferencing or e-learning.

6. Conclusion

In the global economy the services sector becomes vital and it slowly begins to replace the manufacturing sector. The new economy influences and forces changes in the economic entities. Currently, in order to compete, a company should not only focus on the material, financial and informational resources, but mainly on the human assets. The new category of employee appears – an external knowledge worker sharing his unique knowledge and having extraordinary interpersonal skills. An external knowledge worker is not a worker within the meaning of the Labour Code but the company treats him as a resource and signs civil law contracts with him. Restrictions resulting from the requirements of the publication editorial meant that the author has presented only basic conclusions. The study involved two groups of participants. The first

group consisted of proprietors and managers of companies providing training services, the other of external knowledge workers. Applicable organizational and legal forms were found, as well as the number of employees and their form of employment. The collected data characterize the companies providing services training and describe their functioning. In the next studies, the author intends to present the answers to the questions formulated in the research problem, for the purpose of writing a Ph.D. dissertation addressing the subject of managing external knowledge workers in training services companies.

References

- Flejterski, S., Klóska, R., Majchrzak, M. (2005). *Usługi w teorii ekonomii*. In: S. Flejterski, R. Klóska, M. Majchrzak (Eds). *Współczesna ekonomika usług*. Warszawa: Wydawnictwo Naukowe PWN.
- Davenport, T. H. (2007). *Zarządzanie pracownikami wiedzy*. Kraków: Oficyna Wolters Kluwer Business.
- Morawski, M. (2009). *Zarządzanie profesjonalistami*. Warszawa: Państwowe Wydawnictwo Ekonomiczne.
- Morawski, M. (2006). *Zarządzanie wiedzą. Organizacja-system-pracownik*. Wrocław: Wydawnictwo Akademii Ekonomicznej.
- Morawski, M. (2003). Problematyka zarządzania pracownikami wiedzy. *Przegląd Organizacji*, 1.
- Nalepka, A. (2012). Formy organizacyjne działania przedstawicieli licencjonowanych zawodów związanych z gospodarowaniem nieruchomościami w Polsce. *Zeszyty Naukowe*, 896.
- Niklewicz-Pijawczynska, M., Wachowska M. (2012). *Wiedza – kapitał ludzki – innowacje*. Wrocław: Wydawnictwo Uniwersytetu Wrocławskiego.
- Pauli, U. (2014). *Rola szkoleń pracowników w rozwoju małych i średnich przedsiębiorstw*. Kraków: Wydawnictwo Uniwersytetu Ekonomicznego.
- Perechuda, K. (2005). *Zarządzanie wiedzą w przedsiębiorstwie*. Warszawa: WN PWN.
- Strojny, M. (2000). Teoria i praktyka zarządzania wiedzą. *Ekonomika i organizacja przedsiębiorstw*, 10.

II.
MODERN TOOLS FOR BUSINESS
AND NON-PROFIT ORGANIZATIONS
MANAGEMENT

INSTRUMENTS OF THE MARKETING MIX IN NON-GOVERNMENTAL ORGANIZATIONS – THE RESULTS OF EMPIRICAL RESEARCH¹

Wioletta Kwak*

Abstract

The aim of the article is to present the instruments of the marketing mix of NGOs in light of empirical research. Marketing mix is the set of instruments for the implementation of marketing strategies of the organization. The paper presents selected results of research on the role of marketing strategies of non-profit organizations in creating value for stakeholders. In the literature one can find different concepts of “marketing mix”, for example, “4P”, “5P”, “7P”, “4C”. The survey results are presented in terms of “4C”. It is a concept by R. Lauterborn presenting marketing tools from the perspective of the organization’s client (Lauterborn, 1990, p. 26).

Keywords: *non-governmental organisations, NGOs, public benefit organizations, non-profit organizations, marketing mix, “4C”, marketing instruments*

1. Introduction

This study aims to present instruments of the marketing mix in the activities of NGOs (non-governmental organizations) in the light of empirical research. Marketing instruments have been presented in terms of “4C”, R. Lauterborn. In this perspective, marketing mix includes: customer value (value for the customer), cost (cost incurred by the customer), convenience (convenience of purchase), as well as communication (communication with the environment) (Lauterborn, 1990, p. 26).

The article uses the results of direct research conducted by the author². Non-governmental organizations from three voivodships (Małopolskie, Podkarpackie and Silesian), active in the area of social security (social services and assistance), were the subject of the study. All surveyed organizations (quantitative analysis) had the status of public benefit organizations (PBO). To collect data, the survey

¹ Publication financed from funds for the development of science 2008-2010 as a research project (Project funded by the Ministry of Sciences and Higher Education).

² The research project was to examine the role of marketing strategies of non-profit organizations in creating value for stakeholders. It included quantitative and qualitative research. This paper presents selected results of quantitative research. The study was carried out in 2009.

* Ph.D., Assistant Professor, Department of Management, Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu – National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: kwak@wsb-nlu.edu.pl.

method was used. A total of 269 entities participated in the survey. Of all the questionnaires received, 253 met the formal requirements and were included in the analysis³.

The subject of research in the area of consumer value were the utilities supplied to various groups of organizations' stakeholders, offer stability, frequency and causes for its modification. In terms of costs borne by consumers, identification of their type and analysis of pricing policy for non-governmental organizations was investigated. Another level studied was the ease of purchase, the conditions of the accessibility of the offer. In the problem area concerning communication, an attempt has been made to identify the target group of promotional activities, and with which groups of stakeholders and in what way organizations communicate.

2. Marketing-mix – theoretical approach

Marketing plays a very large role not only in the operation of commercial entities, but also NGOs. According to the American Marketing Association (AMA) “marketing is the activity, set of institutions, and processes for creating, communicating, delivering, and exchanging offerings that have value for customers, clients, partners and society at large”⁴ (American Marketing Association, 2008). Sargeant writes that “real marketing begins and ends on a clear understanding of the needs of clients served by the organization. This concept therefore refers to all types of organizations, regardless of whether they are profit-oriented or not” (Sargeant, 2004, p. 26).

Various factors affected the implementation of marketing in non-governmental organizations. Progressive changes in the environment of the organization, affecting their activities need to be mentioned here. The changes in social policy, changes in social awareness, or the increasingly easier access to management and marketing specialists, enabling the use of their services should also be considered as the conditions for the adaptation of marketing orientation by NGOs.

Marketing strategies are implemented with the help of marketing instruments (so-called marketing mix). Specifying marketing instruments is one of the stages of formulating a marketing strategy of the organization.

Marketing mix is defined as a set of marketing elements with which managers implement marketing strategies on a specific target market, striving to achieve its objectives (Mullins, Walker, Boyd, Larreche, 2005, p. 18). M. Huczek emphasizes in his work that the marketing mix is “an internally

³ The sample in the Małopolskie and Śląskie voivodeships was chosen by drawing lots. In the province of Podkarpackie all PBOs active in the field of social security were asked to participate in the survey. This was due to a lower number of registered entities in the voivodeship.

⁴ The definition quoted originated in 2007.

integrated structure”, offering the possibility to influence developments on the market (Huczek, 2003, p. 83).

Over the years, many concepts of the marketing mix, consisting of different instruments have been developed. For example, the Frey (1961) concept consists of instruments divided into two groups: the offer (product, packaging, brand, price, service), methods and tools (distribution channels, personal selling, advertising, sales promotion, publicity) (as cited in Goi, 2009, p. 3). Lazer, Kelly (1962), Lazer, Culley, Staudt (1973) distinguish the mix of goods and services, distribution mix and communication mix (as cited in Goi, 2009, p. 3). Borden created the 12-element mix including: product planning, pricing, branding, distribution channels, personal selling, advertising, promotions, packaging, display, services, physical handling, fact finding and analysis (Borden, p. 9). The most common in the literature is the formula “4P”, which includes: product, price, place, promotion. McCarthy (1964) is the author of this concept (as cited in Goi, 2009, p. 3). Some authors began to add to the marketing mix, the so-called, another “P”. Booms, Bitner (1981) proposed “7P”, adding to the already existing elements: people (participants), physical evidence, and processes (as cited in: Brassington, Pettitt, 2000, p. 27, Goi, 2009, p. 3). Kotler (1986) suggested “6P” with: political power and public opinion formation (as cited in Goi, 2009, p. 3). In 1987, Judd added to the existing “4P” the people (people-power) component (Judd, 1987, pp. 241-247). In the literature one can also meet concepts of “8P” (Goldsmith, 1999, as cited in Goi, 2009, p. 3), even “15P” (Baumgartner, 1991, as cited in Goi, 2009, p. 3), or APPEAL (Hannagan, 1993, p. 95, as cited in Iwankiewicz-Rak, 1997, p. 96), “CAPS” (Lamb, Crompton, 1983, p. 210, as cited in Iwankiewicz-Rak, 1997, p. 96) and, mentioned in the introduction, the concept of “4C” by Lauterborn (Lauterborn, 1990, p. 26).

A classic formula of marketing mix presents marketing instruments from the point of view of the organization. The concept of “4C” by Lauterborn is, however, the recognition of marketing tools from the point of view of the customer. A marketing mix in this perspective is formed by: (Lauterborn, 1990, p. 26)

- customer value (“consumer wants and needs”),
- cost - cost borne by the customer,
- convenience - the convenience of purchase, the conditions of the accessibility of the offer, and
- communication - communication with the environment (promotion).

Such perspective seems to be particularly important in the case of NGOs, which operate in the name of important social missions. That approach has been chosen specifically to present the results of empirical research.

Non-governmental organizations are principally engaged in the activities in the form of service. Therefore, the role of the staff is very important in creating value for stakeholders. Separating staff as an independent instrument of the marketing mix, however, is not necessary. Its role is closely linked with the process of providing services (i.e. the product) and distribution (making the offer available). The product in NGOs is treated as a bundle of offer and service quality. This approach is shared by Iwankiewicz-Rak, who emphasizes the role of the personnel and importance of the quality and material aspects of the service process, at the same pointing out that these additional elements of the marketing mix (people, process, equipment) are essential for each process of providing services. As stressed by the author, they are the components of the service process or distribution. They are not new elements that go beyond the basic instruments of "4P", but are the effect of disaggregation (Iwankiewicz-Rak, 1996, p. 97).

The appropriate selection of marketing instruments is affected by many different factors. These include the first and foremost: the objectives of the organization, its resources and the conditions that prevail in the environment. In the process of developing marketing strategies organizations face many dilemmas, including (Kafel, 2006, p. 123):

- Provide comprehensive services to a small number of people, or little support to multiple recipients?
- Use narrow specialization, or diversify services?
- Concentrate their efforts on providing services or launch campaigns for change?
- Fight the causes of problems, or rather focus on mitigating their effects?

The answers to these questions have a significant impact on the composition of the marketing mix. The basic decisions that must be taken by organizations, concern (Niestrój, 2003, p. 394):

- The function and brand of the product, product range programme,
- Forms and financial terms of offer availability to customers,
- Channels of distribution, places to supply services,
- The composition of promotion (promotion-mix), value communication system.

NGOs, while constructing the composition of the marketing mix, should constantly bear in mind the interests of its stakeholders, the utility of the offer they desire, and additional values they may expect. It should be stressed that the marketing mix instruments to be effective should be coordinated with one another to form a coherent whole.

3. Implementation instruments of marketing strategies in the light of the direct research

In the adopted concept of the marketing mix – “4C”, the value for the client of the organization (addressee, stakeholder) is the fundamental element. The offer of non-governmental organizations should include the values the organization can offer to its recipients. The recipients, as recognized in this study, meaning various groups of stakeholders of the organization (the service recipients, donors, staff, volunteers, local communities, or society – as a whole). The organizations surveyed in this study offered differentiated values to its stakeholders (not just service recipients). This structure is varied.

The service recipients, according to respondents, in addition to receiving basic assistance resulting from the objectives of the organization activities, gaining, first and foremost, the opportunity to meet other people in similar position (65% of respondents recognized the value). Further benefits for beneficiaries, cited by almost half of the organizations, is the feeling of enhanced well-being and a better understanding of their position. Somewhat less important were found lessening relatives' burden and obtaining valuable contacts. The respondents (9.2%) also listed other benefits.

Organizations can offer certain values also to its donors. In the case of individual donors it is mainly the feeling of personal satisfaction resulting from helping those in need (81% of organizations) and sense of fulfillment of an obligation towards society (55.2%). Further values followed, such as establishing valuable contacts, obtaining recognition, enhancing self esteem, the opportunity to take advantage of tax benefits, and others. Non-governmental organizations believe that in the case of institutional donors, however, the values are mainly: the realization of the social objectives of donors (49.4%), gaining a social partner (43.8%), associating the company with a socially responsible entity (43.3%) and a sense of accomplished duty to society (41.2%). They were followed by: obtain recognition in the society, stand out in the market, opportunity to benefit from the tax advantages, and other. Non-governmental organizations create value not only for service recipients and donors. The beneficiaries of their activities are also other groups of stakeholders: volunteers, staff and members of the organizations, local communities, and society in general – as a whole.

The study shows that organizations, above all, offer their volunteers a sense of doing something good for the society and satisfaction associated with the activity, work experience, valuable contacts, an opportunity to show others their involvement in social activities.

For the staff, organizations also create other advantages, except for the remuneration (if applicable).The possibility to act in aid of important

social missions is the main value. An important advantage is also the fact that employees, working in the organization, establish valuable contacts. The other stated values were, among others: higher self appraisal, confidence in obtaining help in difficult situations, gaining recognition among friends.

The majority (56.2%) of the organizations see the advantage of service recipients' family/close relatives benefiting from the offer. Among these they listed lessening relatives' burden (physical and mental), strengthening family ties, emotional support, tangible and substantive support, in-kind assistance, expert advice, the possibility of their own development, gain experience, establish valuable contacts, participation in free training courses, trips, assistance in dealing with various issues, increase awareness on certain issues.

Almost 84% of respondents see the benefits to the local community resulting from the operation of the organization. These benefits are mainly: the opportunity of involvement in the activities of the organization, participation in events, sometimes free-of-charge use of the organization's services, in-kind donations, additional offer of free classes (e.g. for children), education, and sometimes even financial assistance, "eliminate people who, without the aid of the organization could become a nuisance for the local community ", the integration of children and young people from the local community with their disabled peers, sensitizing to the problems of others, a pleasant way to spend leisure time, and others. The most important value for this group of stakeholders, however, seems to be the fact that part of this particular community is aided by the organization, and the remainder can count on such assistance in case of problems dealt with by the organization.

Most organizations see the benefits for society – as a whole. The public can gain, among others, by reducing the number of social pathologies, raise public awareness on social issues, public education, better understanding of the problems and needs of the sick, disabled, marginalized, social inclusion, reduction of social diversification, etc. Due to the presence of NGOs in the society, people who find themselves in difficult situations can receive help. The state is somehow relieved of its obligations, and the services are better, more personal, based on sincere commitment of the members (staff and volunteers).

Customer (service recipients) service seems to be more important to the organization than acquiring donors. Almost 1/3 of the organizations, however, have never modified its offer, and 23.3% have, but very rarely. Frequent modifications to the offer (over the last 5 years) were declared by 15.8%, and very frequent by 4.2% of organizations. Based on the Kruskal-Wallis test, the results demonstrated that the frequency of offer modification does not depend on the geographical area of activities of the organization, the voivodship, and subjective evaluation of the financial condition (the

differences are not statistically significant⁵). However, it has been observed that there is a dependence of the frequency of offer modification with regards to the size of locality where the headquarters of the organization are located⁶. Organizations located in towns up to 5 thousand residents were the least likely to have modified their offers (Table 1).

Table 1. Frequency of offer modification depending on the size of locality with organization headquarters (N=239, % of indications)

Size of the locality	Frequency of offer modification				
	Very often	Often	Some-times	Very seldom	Never
Up to 5 thousand inhabitants (N=26)	0,0%	11,5%	11,5%	23,1%	53,8%
6-10 thousand inhabitants (N=19)	0,0%	10,5%	36,8%	31,6%	21,1%
11-50 thousand inhabitants (N=60)	5,0%	16,7%	21,7%	21,7%	35,0%
51-100 thousand inhabitants (N=43)	0,0%	18,6%	25,6%	14,0%	41,9%
101-200 thousand inhabitants (N=39)	10,3%	12,8%	25,6%	38,5%	12,8%
over 200 thousand inhabitants (N=52)	5,8%	19,2%	32,7%	17,3%	25,0%

The most common causes for offer modification of the organization were the service recipients' (customers of the organizations) needs, financial capacity, as well as expanding the organization's activities.

The second instrument for implementing the marketing strategies of non-governmental organizations is the price, and more broadly – the cost for the customer. Research in this aspect aimed to identify how prices of services are shaped in NGOs, and to identify the type of costs (tangible, intangible) incurred by the various groups of stakeholders of the organization. Most of the organizations do not charge for the services (Figure 1).

5 Kruskal-Wallis test: grouping variable "geographical area of operation" (Chi-square = 2,783, df=3, Asymptotic significance = 0,426), grouping variable "voivodeship" (Chi-square = 2,331, df=2, Asymptotic significance = 0,312), grouping variable "evaluation of financial situation" (Chi-square = 6,053, df=4, Asymptotic significance = 0,195).

6 Chi-square = 11,987, df=5, Asymptotic significance = 0,035 < 0,05.

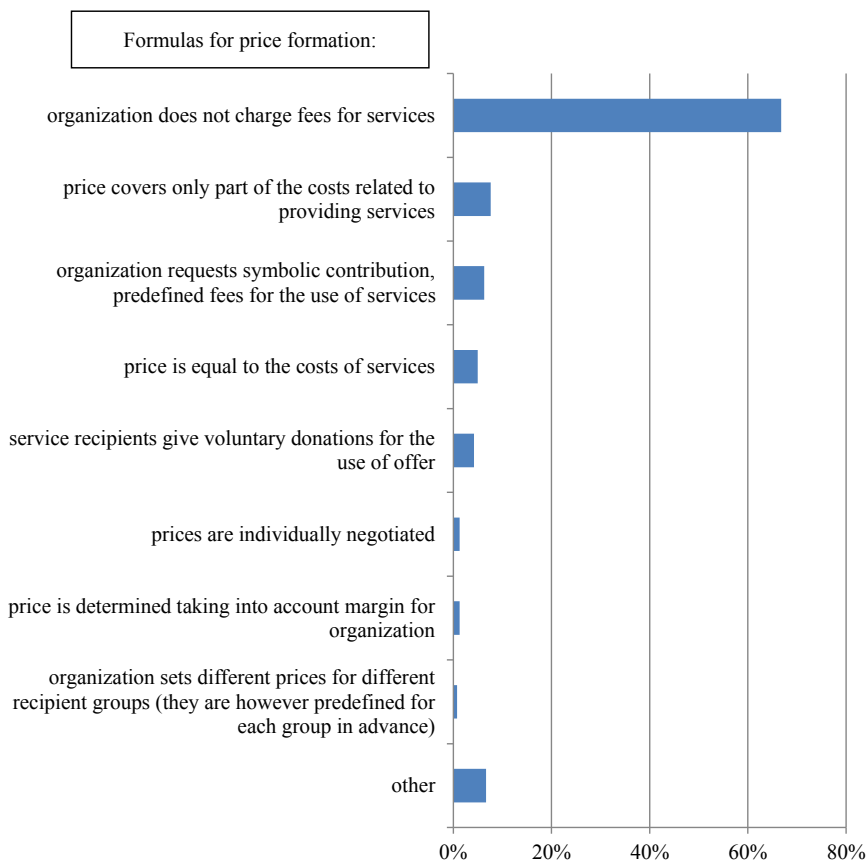


Figure 1. Formulas for price formation in non-governmental organizations (N=239, % of indications)

Responses of organizations that use more than one way of pricing services, such as e.g.: organization does not charge fees for use of the services and the price is equal to the cost of services, have been qualified as "other". It should therefore be noted that there are even more organizations that do not charge fees for the use of services offered, were we to take into account those entities for whom this is just one of the ways of price formation of their offers (the same will apply to other answers). One of the organizations indicated the use of four different forms of shaping price offer. Differences in price formation by non-governmental organizations located in different voivodships have been observed. These differences are statistically significant⁷. Free services are most often offered by organizations operating in the Silesian Voivodship,

⁷ Kruskal-Wallis test: Chi-square = 6,775, df=2, Asymptotic significance = 0,034 < 0,05.

and least likely to offer free services are the organizations in the Podkarpackie Voivodship (Table 2).

Table 2. Formulas for price formation in non-governmental organizations, depending on the voivodship of organization head office (N = 238)

Formulas for price formation	Voivodship		
	Małopolskie (N=80)	Podkarpackie (N=79)	Śląskie (N=79)
Organization does not charge fees for services	68,8%	57,0%	74,7%
Price covers only part of the costs related to providing services	5,0%	8,9%	8,9%
Organization requests symbolic contribution, predefined fees for the use of services	10,0%	6,3%	2,5%
Price is equal to the costs of services	2,5%	5,1%	7,6%
Service recipients give voluntary donations for the use of offer	2,5%	8,9%	1,3%
Prices are individually negotiated	0,0%	2,5%	1,3%
Price is determined taking into account margin for organization	2,5%	1,3%	0,0%
Organization sets different prices for different recipient groups (they are however predefined for each group in advance)	0,0%	1,3%	1,3%
Other	8,8%	8,9%	2,5%

Empirical research sought to answer the question whether the prices of services are seen as a barrier preventing some interested entities from using the offer. 73% of surveyed organizations believe that price is not a barrier (Figure 2). The perception of price as a barrier which blocks the access for the needy, is not affected (in a statistically significant way) by the geographical area of the organizations' activities, by voivodship or the size of locality housing the head office, nor by the self evaluation of the financial condition⁸.

⁸ Kruskal-Wallis test:: grouping variable "geographical scope of activities" (Chi-square = 4,047, df=3, Asymptotic significance = 0,256), grouping variable "voivodship" (Chi-square = 0,600, df=2, Asymptotic significance = 0,741), grouping variable "size of the city" (Chi-square = 8,793, df=5, Asymptotic significance = 0,118), grouping variable "evaluation of financial situation" (Chi-square = 5,958, df=4, Asymptotic significance = 0,202).

Service prices are a barrier preventing access by some entities to benefit from our offer

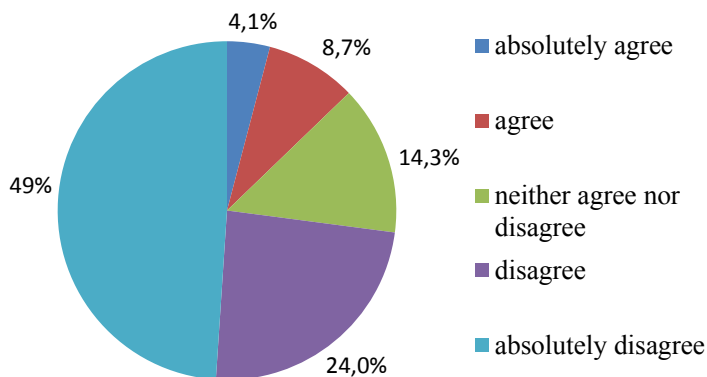


Figure 2. Price as barrier that prevents benefiting from the offer of the organization (N=196, % of indications)

The surveyed organizations were asked which, in their opinion, stakeholder groups must bear tangible or intangible costs in order to benefit from the activities of the organization. The responses received have been collectively presented in Table 3.

Table 3. Costs incurred by stakeholders of non-governmental organizations, according to their type (N = 198,% of indications)

Stakeholders	Tangible costs	Intangible costs
Service recipients	21,2	29,3
Family/friends of service recipients	16,7	37,9
Individual donors	57,6	15,7
Institutional donors	50,5	10,1
Local communities	15,2	27,8
Society in general (as a whole)	8,6	23,7
Public institutions	28,8	17,2
Media	6,6	26,3
Staff with contracts of employment	11,6	28,3
Volunteers	11,1	64,1
Organization members	40,4	67,2

Over 60% of respondents recognizes the intangible costs borne by volunteers and members of the organization. Almost 40% of respondents considers that such intangible costs are borne by the family / friends of the recipients. Few organizations believe that the intangible costs are borne also by the donors. Members of the organization, according to 40% of the respondents also bear tangible costs in order to obtain benefits from the activities of the organization. Striking, however, seems the fact that not all respondents indicated that donors incur tangible costs. Perhaps, some respondents understand that in terms of additional costs associated with the process of donation to the organization. 21.7% of organizations did not answer this question.

The third element of marketing instruments, according to the formula "4C", is a set of conditions to share the offer of the organization (convenience). It is essential for the distribution activities of non-profit organizations to facilitate access to the offer, for the recipients, and for the donors of making donations to the organization. 29.6% of surveyed organizations declared that in order to attract donors, they seek to expand the number of opportunities for making donations. 1/4 of respondents seeks to facilitate the procedures for making donations (Figure 3).

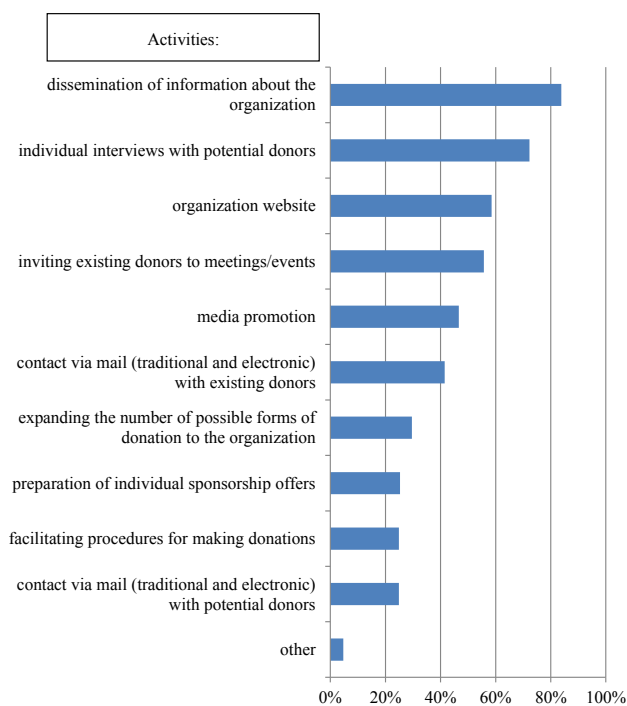


Figure 3. Distribution activities taken by the non-governmental organizations in seeking donors (N=253, % of indications)

Some differences in the frequency of taking particular distribution activities by organizations located in different voivodships have been observed (Table 4). For example, organizations located in Silesia, most frequently maintain their own websites.

The fourth element of the marketing mix composition, in the “4C” approach, is the communication with the environment⁹. Non-governmental organizations communicate with their stakeholders using for this purpose many different forms of communication: telephone conversations, ‘face-to-face’ conversations, group meetings, seminars, lectures, conferences, mass media, the Internet, e-mail. The most popular forms were the ‘face-to-face’ and phone conversations. These forms were used to communicate with all groups.

Table 4. Distribution activities of non-governmental organizations in voivodships under study

Activities	Percentage of organizations undertaking activities listed		
	Małopolskie	Podkarpackie	Śląskie
Dissemination of information about the organization	86,2	82,1	82,7
Individual interviews with potential donors	77,0	70,2	70,4
Organization website	58,6	46,4	71,6
Inviting existing donors to meetings/events	55,2	52,4	59,3
Media promotion	40,2	54,8	45,7
Contact via mail (traditional and electronic) with existing donors	44,8	36,9	42,0
Expanding the number of possible forms of donation to the organization	34,5	26,2	28,4
Preparing individual sponsorship offers	23,0	25,0	28,4
Facilitating procedures for making donations	21,8	23,8	29,6
Contact via mail (traditional and electronic) with potential donors	30,0	17,9	25,9
Other	4,6	4,8	6,2

It can be seen that the organizations relatively frequently communicated with service recipients, their relatives and volunteers through group meetings. Contact via mail with public institutions has also been used quite extensively. In communication with local communities, first and foremost, organizations

⁹ Communication of non-profit organizations with recipients, in the light of presented studies, was discussed in Kwak (2014). Therefore, research results for this instrument of the marketing mix, presented in this paper, are discussed briefly.

used the media available. Naturally, the ‘face-to-face’ conversation form dominated in contacts with employees.

Entities subject to the study (almost 90%) felt that non-profit organizations should engage in intensive promotional activities.

The most important groups of recipients of promotional activities of non-governmental organizations included potential donors and local communities, followed by service recipients, existing donors, volunteers and others (Table 5).

Table 5. Target groups of promotional activities of non-governmental organizations (N=232)

Groups of stakeholders	% of indications
Potential individual donors	60,3
Local communities	51,3
Potential institutional donors	49,6
Service recipients	39,2
Existing individual donors	29,7
Potential volunteers	27,2
Existing institutional donors	20,3
Society as a whole	20,3
Public institutions	15,1
Media	9,9
Other	0,9

Advertising in the mass media has been constantly used by less than 5% of organizations, while more than 15% of the studied entities stated they have never used it. Organizations have also used advertising on the Internet. Almost 23% of respondents admitted to the constant use of the means. A variety of additional promotional tools have often or sometimes been applied by almost half of the surveyed NGOs. It was very important for the organizations to create a positive image. 1/4 of respondents consistently organized activities in this area, and more than half of them, often or very often. Reaction of respondents to the statement that: "The organization does not attach much importance to its image in the society", confirms that the image in the society is important to the organizations surveyed. 85% of organizations disagreed with this opinion (34.6% of the answers "totally disagree", 39.5% of the answers "disagree").

As other ways of promotion, the surveyed organizations indicated, among others, events, special events, exhibitions, presentations, performances, posters, leaflets, radio/TV programmes, interviews on the radio and in

newspapers, information in the media about ongoing activities, discussions, parish announcements, internal marketing.

4. Conclusion

The study on the marketing of non-governmental organizations allowed, among others, for diagnosis and assessment of the marketing instruments in the formula “4C”, which consists of: customer value, cost to the customer, convenience (ease of acquisition), communication (Lauterborn, 1990, p. 26). These elements underlie any marketing strategies.

The offer of a non-profit organization must be understood in terms of the values it can offer customers. The organizations surveyed, offered numerous benefits to their stakeholders – not only the service recipients but also other groups (donors, staff, volunteers, local communities, society – as a whole). Recipients, as beneficiaries of the offer, bear various costs. Most of the surveyed organizations do not charge a fee for the use of their services. However, attention should be paid to the non-price costs, e.g. the personal time and effort contribution. In the area of offer availability and access, it is very important to facilitate access to the offer by the needy, and ease and simplify the task of the donors of aiding the organization. The final element of the composition of the marketing mix is communication. For NGOs, it is important to communicate with different recipient groups. The surveyed entities have used for this purpose, in varying scope, numerous available forms of communication.

References

- American Marketing Association. (2008). *The American Marketing Association Releases New Definition for Marketing*. Retrieved from <https://archive.ama.org/archive/AboutAMA/Documents/American%20Marketing%20Association%20Releases%20New%20Definition%20for%20Marketing.pdf>
- Borden, N. H. The Concept of the Marketin Mix. *Journal of Advertising Research*. Retrieved from http://www.guillaumenicaise.com/wp-content/uploads/2013/10/Borden-1984_The-concept-of-marketing-mix.pdf
- Brassington, F., & Pettitt, S. (2000). *Principles of marketing* (2nd ed.). Harlow, England: Pearson Education Limited, Financial Times, Prentice Hall.
- Goi, C. L. (2009). A Review of Marketing Mix: 4Ps or More?. *International Journal of Marketing Studies*, 1(1). Retrieved from http://www.ccsenet.org/journal/index.php/ijms/article/viewFile/97/1552%3Forigin%3Dpublication_detail

- Huczek, M. (2003). *Marketing organizacji non profit*. Sosnowiec: Wydawnictwo Wyższej Szkoły Zarządzania i Marketingu w Sosnowcu.
- Iwankiewicz-Rak, B. (1997). *Marketing organizacji nieochodowych. Wybrane problemy adaptacji w warunkach polskich*. Wrocław: Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu.
- Judd, V. C. (1987). Differentiate With the 5th P: People. *Industrial Marketing Management*, 16(4), 241-247.
- Kafel, T. (2006). *Strategie organizacji pozarządowych. Zarys problemu*. In A. Nalepka (Ed.). *Organizacje komercyjne i niekomercyjne wobec wzmożonej konkurencji oraz wzrastających wymagań konsumentów*. Nowy Sącz: Wyższa Szkoła Biznesu – National-Louis University w Nowym Sączu.
- Kwak, W. (2014). The Communication of Non-Profit Organizations with Their Stakeholders in the Light of the Direct Research. In A. Nalepka & A. Ujwary-Gil (Eds.). *Business and non-profit organizations facing increased competition and growing customers' demands*. Nowy Sącz: Wyższa Szkoła Biznesu – National-Louis University in Nowy Sącz.
- Lauterborn, R. (1990). New marketing litany; Four P's passe; C-words take over. *Advertising Age*, 1 October, 26.
- Mullins, J. W., Walker Jr., O. C., Boyd Jr., H. W., & Larreche, J.-C. (2005). *Marketing Management. A Strategic Decision-Making Approach*. New York: McGraw-Hill.
- Niestrój, R. (2003). Zarządzanie marketingiem. In J. Altkorn (Ed.), *Podstawy marketingu* (4th ed.). Kraków: Instytut Marketingu.
- Sargeant, A. (2004). *Marketing w organizacjach non profit*. Kraków: Oficyna Ekonomiczna.

APPLICATION OF LEAN MANAGEMENT METHODS AND TECHNIQUES IN NON-PRODUCTION DEPARTMENTS OF SELECTED ENTERPRISES – RESULTS OF THE STUDY

Mateusz Podobiński*

Abstract

A growing number of implementations of the lean management concept and training courses carried out by various entities (both private and public) are the evidence for the growing interest in lean management of companies operating in Poland. At the same time the literature turns more and more attention to a certain universalism of the Japanese concept which refers to the possibility to apply lean management methods and techniques not only in production departments. For example, it is applied in local government units, non-profit organizations but above all, in various functional units: HR, accountancy, sales, marketing. The purpose of this paper is to present and characterize lean management methods and techniques used in non-production departments on the example of selected enterprises. The article presents the results of empirical studies conducted in Polish business practice. 20 production companies were covered by the study which made use of an in-depth interview.

Keywords: *kaizen, standardization, visual management, 5S, VSM (Value Stream Mapping), non-production department.*

1. Introduction

Lean management is a Japanese management concept which consists of maximum effort to make an organization slimmer in different functional areas. It refers to organization and optimization of business processes, not only the production ones but also office, service processes (Locher, 2012, p. 12). It should not be confused with outsourcing which refers to sourcing certain processes externally. Lean management is a broader concept since it involves elimination of waste (Krasinski, 2014, p. 30). According to Ford (2007), waste is lack of capacity to use human labor during the manufacture

* M.A., P.D. Student, Department of Organization Theory and Management, Wrocław University of Economics, ul. Komandorska 118/120, 53-345, Wrocław, e-mail: mateusz.podobinski@uc.wroc.pl.

of a given product: *'my theory of waste focuses not on the product but on the work done to manufacture it ... We are interested in the use rather than behavior. We want to use raw materials up to the maximum extent so as not to waste people's time. Raw materials cost nothing. They are of no importance until they get into the hands of someone who knows how to use them'* (Ford, 2007, p. 91). According to Shigeo Shingo there are seven types of waste:

- 1) Overproduction – manufacture of larger quantity of products than needed at a given time, improper flow of information.
- 2) Defects– insufficient quantity of materials, poor quality materials.
- 3) Unnecessary inventory – excessive quantity.
- 4) Inadequate manufacturing methods – use of inappropriate tools, manufacturing processes.
- 5) Excessive transportation – unnecessary movement of goods, people and equipment.
- 6) Waiting – lack of manufacturing materials, information on the number of the manufactured products.
- 7) Excessive motion– due to inappropriate organization of the workplace (Czerska, 2009, p. 32).

Companies with the implemented lean management concept strive to provide customers with maximum value and minimize waste. Lean management involves improvement of processes through highlighting problems that need to be improved. Any company applying the principles of lean is trying to maximize the value delivered to customers and minimize waste. Lean organizations achieve these goals by optimizing the flow of goods and services driven by demand (Locher, 2012, p. 15).

Lean management consists of management methods and techniques (Table 1) which are to contribute to eliminating waste and stabilizing processes. It is an exemplary collection which may vary depending on the company, industry. A basic tool in lean management is standardization. According to Imai (2012) it is the foundation on which Japanese management methods and techniques are based, which explains the reasons of the failure to maintain lean management in foreign enterprises. The problem has been noticed particularly during the last decade when kaizen and other strategies have begun to earn growing popularity in the world. Unfortunately, the numerous benefits there from have been squandered due to lack of solid foundations in the form of standards. (Imai, 2012, p. 89).

However, we should not only focus our attention on the tools and methods of lean management. Without the transformation of the workflow processes the implementation of the selected tools or methods may lead to isolation of functional departments. Therefore it is important to get to know all the business processes and to identify those that influence delivering value to customers (Locher, 2012, p.17) which may be done by Value Stream Mapping. It is a

technique that allows to get to know the entire process from the supplier to the customer along with the flow of materials and information. It is a description of activities implemented in the process (Rother & Shook, 2009, p. 4).

The concept of lean management was first applied in production departments (lean manufacturing). However, the literature and business practice show that it is more and more often applied in non-production departments. The question is which lean management methods and techniques may be applied? The purpose of this paper is to present and characterize lean management methods and techniques used in non-production departments on the example of selected enterprises. The article presents the results of empirical studies conducted in Polish business practice.

Table 1. Selected methods and techniques that make up the concept of lean management

Name	Classification
Just in Time	Method
Hoshin Kanri	Method
Total Quality Management	Method
Six Sigma	Method
Kanban	Technique
Kaizen	Technique
Value Stream Mapping	Technique
Poka yoke	Technique
5S	Technique
Andon	Technique
TPM (Total Productive Maintenance)	Technique
SMED (Single Minute Exchange of Die)	Technique
Standardization	Technique
Visualization	Technique

2. Characteristics of the selected lean management methods and techniques

Based on literature and the author's empirical studies it can be concluded that selected lean management methods and tools are used in non-production areas. They can be used in the sales, marketing, purchasing, accounting, human resources management departments (Locher, 2012, p. 9-10). In addition, it should also be noted that more and more companies providing services and local government units decide to implement lean management.

All companies, both manufacturing and those providing services, are similar. Their businesses are based on a series of processes which, taken together, allow them to perform business tasks. In fact, certain processes and functions such as hiring employees, ordering materials, accountancy, invoicing, etc., are common to both types of companies (Byrne, 2013, p. 177). Such a large number of implementations of lean management may be the result of the effects of application of this concept which include: reduction of the number of complaints, higher product quality, improved relations with employees, reduction of wastefulness, increase in job satisfaction, increase in employee education (Podobiński, 2014, p. 86). Lean methods and tools that can be used in non-productive departments include (Locher, 2012): standardization, visual management, 5S, kaizen, and kanban.

VSM Standardization of work, as mentioned earlier, is one of the foundations of the described concept. It is the best, the easiest and the safest way to perform a specific activity. Thanks to standards it is possible to prevent errors and process variation (Miller et al., 2014, p. 172). Standardization presents which activities make up a process and in what order the tasks are to be performed. It is important in case of training new employees. It may be used in case of the process of handling order (Table 2). Standards may be improved. Employees should influence their creation and changes. However, it is important that they are being complied with. Thanks to it each employee performs a given activity in the same way, which allows eliminating volatility. Experienced people should not create standards as they tend to forget about the fundamental, obvious activities in the process.

Table 2. Example of the standardized work instruction.

Standardized work instruction			
Process: Handling orders			
Operation: Entering the order			
Task	Key points	Duration	Visual indication
Entering an order	<ul style="list-style-type: none"> - First enter the title and then individual items - To ensure appropriateness of processing the order, all the mandatory fields need to be filled in -etc. 	<ul style="list-style-type: none"> - 5-10 minutes per order - Enter on the day the order is received 	

Source: Locher (2012, p.42).

In addition, based on the author's observations of the participants, it can be stated that standardization occurs in the form of e-mail templates that include orders, operational instructions in a project, the so-called template (showing what documents should be included in the file and what activities should be performed), and documents used to perform stock-taking.

In addition, the so-called template has a visualization of the process applied. At every stage of the project the color of the tab in the program is changed. The expected benefits, thanks to the use of visualization, is reduction of waste by reducing unnecessary movement and waiting.

Another lean management technique used in non-production departments is 5S. It refers to organization and order in the workplace. It is a Japanese tool consisting of five words beginning with the letter „s”. In the literature you can find the equivalent in Japanese and English:

- 1) Seiri (sort) which means selection. It relates to division into necessary and unnecessary objects at a particular moment. Unnecessary materials are marked with a red label.
- 2) Seiton (set in order) which means systematic. It relates to arranging necessary things in such a manner that they help perform everyday tasks.
- 3) Seiso (shine) which means cleaning. Every employee should take care of the cleanliness of their workplace.
- 4) Seiketsu (standardize) which means standardization. It relates to formal representation of the implementation of the three previous points (seiri, seiton, seiso) and the determination of tasks and persons responsible.
- 5) Shitsuke (sustain) which means self-discipline. It is the biggest problem in companies operating in Poland. It relates to compliance with earlier stages and monitoring the implementation of the previous points (Paton et al., 2011, p. 324) .

It seems to be a simple tool that saves time (an employee does not have to look for equipment, tools) and affects the aesthetics of the workplace, which is important especially in departments with direct customer contact. It involves arranging the necessary tools and documentation in such a manner that they will facilitate work. The most difficult stage is self-discipline. Therefore 5S audits involving checking compliance with the standards play an important role. The expected benefits of the application of 5S is the reduction of wastage by eliminating unnecessary movement, which may affect faster execution of customer orders.

Technique that may be applied in non-production departments is kaizen. It involves continuous improvement of processes. It relates to reporting small changes in a continuous manner by all members of the organization ‘...*this continuous improvement of the existing organization should engage both top*

management, mid-level staff and all other employees. Kaizen encompasses the entire organization and all entities operating as its part (Ćwiklicki & Obora, 2009, p. 17). Kaizen does not involve a series of workshops, training courses. It cannot be a one-off situation.

Kaizen can be divided into two types. The first relates to everyday management. Each day an organization faces unforeseen situations, failures, problems that must be eliminated as soon as possible. The second type of kaizen refers to the improvement of standards (Liker & Convis, 2012, p. 147).

Due to the commitment of all the company employees in submitting ideas it is possible to improve the entire value stream and, ultimately, also the entire company. The kaizen system is assumed to be holistic (Figure 1). At first, the ideas submitted by employees relate to a single workstation, unit. However, accumulation of ideas makes the many processes that affect the entire department improve. Improvements applied in a given department may be implemented to other departments, which makes it possible to improve the entire value stream.

Kaizen is often used in non-productive departments in the form of the so-called book of ideas. Each employee may submit their improvement idea which is then reviewed by the supervisor. Unfortunately, compared to the Japanese culture, Poles are not in the habit of self-development. Therefore, kaizen is often correlated with cash bonuses. An employee is rewarded with additional remuneration for each implemented idea. Thanks to the use of kaizen the expected benefit is the possibility to eliminate all types of waste (overproduction, defects, unnecessary inventory, improper manufacturing methods, excessive transportation, waiting, unnecessary motion). An applied and implemented idea may contribute to a change in the entire or a part of the process.

Another management technique used in non-productive departments is kanban. This technique is used in the Just in Time method. It enables companies to manufacture the quantities of products ordered by the customer, which results in low level of inventories (Hopp & Spearman, 2000, p. 163). It is based on two principles: pulling and supplementing. The first is the negation of manufacturing with the use of maximum capacity. Manufacturing should be focused on the quantities required by the customer. The order should trigger production. The second principle applies to restocking components, tools (Liker, 2005, pp. 177-178). The introduction of kanban results, among other things, in: increased productivity and time savings (Krawczyk, 2011, p. 272) which influences reduction in waste through eliminating unnecessary movement, overproduction and excessive transportation. The kanban system is designed to track the performed work. Thanks to visualization, by using

kanban cards and board it is possible to analyze what is the actual stage of the task realization (Hammarberg & Sundén, 2015, p. 72).

The tool that may be applied in each type of enterprise and in all departments is Value Stream Mapping. It involves visualization of the process and dividing activities into two categories:

- 1) Activities creating value for the customer.
- 2) Activities not creating value for the customer (Jones & Womack, 2007, p.1).

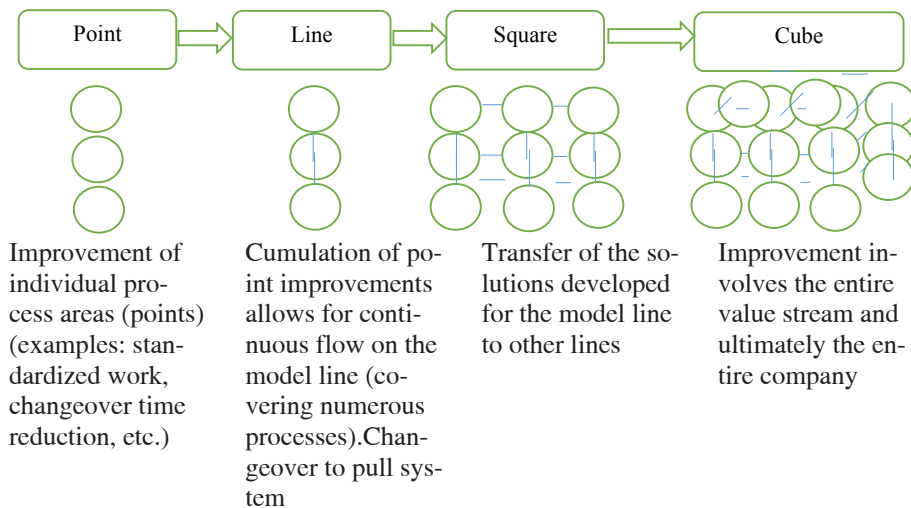


Figure 1. Accumulation of improvements from the point to cubic improvement

Source: Hamel (2014, p. 33), in Hirano (1990).

Value Stream Mapping involves building two maps: the current status and the future status. The future status map presents the flow of materials and information. It is the basis for identification of waste (Jap. muda) and determination of the time required for the manufacture of the finished product (Lead Time and Processing Time) (Czerska, 2009, p. 47). The future status map, that will eliminate bottlenecks and improve material and information flows, can be built based on the current status map. Identifying all of the tasks implemented in the process is very important not only among new employees but also among the experienced ones. Some activities previously performed may turn out to be unnecessary or may be simplified. Therefore, this tool is applied in all departments of the company.

3. Research methodology and characteristics of the research sample

Empirical studies were conducted among 20 enterprises that apply the concept of lean management. The method that was applied was the In Depth Interview. The sample was selected at random (the main criterion involved the consent for the participation in the study). Most of the companies were located in Lower Silesia. The interviews were conducted among senior management. In addition to questions about the characteristics of the examined entity (the source of the capital, the headcount) the interview included questions about:

- characteristics of the selected lean management methods and tools (when they were implemented, in which departments),
- entities involved in the implementation of lean management (external company, special unit in the company),
- barriers during the implementation (including cultural ones),
- factors affecting implementation of lean management along with specification of the impact of each of them (no impact, small, medium, large, decisive),
- positive effects of the application of lean management,
- negative effects of the application of lean management,
- ways to counteract negative effects,
- criteria for the assessment of lean management.

The author used the following research *hypotheses*:

H1: Selected lean management methods and techniques are applied in non-production departments in companies operating in Poland with varying capital of the dominant owner.

H2: The dominant non-production department which applies the selected lean management methods and techniques is the purchasing department.

H3: The most frequently used lean management technique is standardization.

Ultimately, 17 companies that apply the concept of lean management across the entire company or in the selected non-production departments, i.e.: Accounting (4 companies), Purchasing (15 companies), Traffic Maintenance (11 companies), Warehouse (11 companies) Quality Department (12 companies), qualified for the analysis. Companies with American (4 companies), German (4 companies), Korean (1 company), Polish (4 companies), British (1 company), Swedish (3 companies) capital participated in the study. The sample is not representative and therefore the results should not be generalized. The results are of a sample survey nature, serve as an exemplification of specific observations and require further research.

4. Description of lean management methods and techniques in enterprises – presentation of the results of the study

Based on the study the author has identified 5 lean management methods, techniques applied in non-production departments. These are: kaizen, kanban, 5S, visual management, standardization.

Lean methods and techniques applied in all enterprises were first of all implemented in production departments. After the lapse of 2 to 3 years they have been implemented in non-production departments. Below you can find the characteristics of individual lean management methods and techniques based on descriptions made by the entities covered by the study. Lean management methods and techniques applied in the enterprises covered by the study are presented in Table 3:

Table 3. Lean management methods and techniques in the tested sample

Lean management method/technique name	Number of companies
Kaizen	15
Kanban	1
5S	14
Visual management	17
Standardization	17

Kaizen

Most problems in the functioning were caused by the Kaizen technique. In face-to-face interviews with the management staff the author learned that the number of improvements introduced under kaizen in some companies is imposed from above (6 companies). This means that each employee „must” submit a certain number of ideas in a given period of time. Such action is contrary to Japanese values. In addition, the value of an idea that has been presented solely for the sake of recording improvement seems puzzling. The kaizen idea refers to submitting ideas which are necessary and will eliminate waste (all forms of it). Therefore, the number of improvements should not be ordered as this may produce an undesirable effect in the form of unnecessary changes. However, it is very difficult to encourage employees to kaizen in the Polish culture. This is due to the lack of understanding for the aim of improvements and due to culture factors. Application of cash bonuses for improvements is a method of motivating employees. There are situations of random draws in order to once a year select the best improvement, which is also associated with an additional cash bonus. One of the companies covered

by the study awards points for improvements. The number of points depends on the cost savings for the organization. Points may be exchanged for prizes or money. All companies applying kaizen managed to reduce waste in the form of inappropriate methods of manufacture

Kanban

In one of the companies under study kanban has been implemented in a non-production department. Kanban cards are used to measure the consumption of office supplies (pens, pencils, notebooks, sticky notes, tape) per employee. In addition, after the minimum status is exceeded an order is placed. Every employee who had collected materials is required to enter their name and surname into the book of collection and to place the kanban card on the board. At the end of the month the value of collections per employee is calculated. Management staff are trying to standardize certain level of office supplies which is currently highly variable. It is estimated that this measure will save about PLN 20 000 per year. The benefits of using kanban is the reduction of waste in the form of unnecessary inventory and overproduction.

5S

The study has allowed for identification of barriers existing in the functioning of the 5S technique. None of the examined enterprises applies the last step, i.e. self-discipline (Jap. *shitsuke*). This is due to the differences between the Polish and Japanese cultures. Furthermore, three enterprises apply 3S and one applies only 2S. This situation takes place in companies that have participated in the system transformation, i.e. the transition from centralized economy to market economy. A large number of employees has more than 30 years of work experience. They believe that the manner to perform a given activity has not changed and it should stay unchanged. They feel reluctant about the introduction of changes at their workplace. In addition, inciting younger employees can be observed. Few employees are willing to participate in training courses. The benefits of using 5S is reduction of waste by eliminating deficiencies in tools.

Standardization and visual management

Standardization and visual management are found in all enterprises. Their application, according to the respondents, accelerates the process of communication and simplifies processes in an organization. In addition, it

improves the process of induction for new employees. Standardization and visualization are used in the form of workstation descriptions. Drawings and photographs show the way a workstation should look like, which is assessed during 5S audits. The application of standardization and visual management made it possible to reduce waste in the form of: inappropriate manufacturing methods, downtime, and unnecessary movement.

Standardization and visualization are used in internal computer programs. Every employee after entering a file is presented with activities that must be performed. Having finished working in a given program they should go back to the standardization card and tick which activities they have completed, thanks to which a color indicating the level of progress is displayed in the tab (visualization). In one of the companies (Korean) there has been identified too big a number of standards which resulted in lack of clarity and readability. The employees did not know which standard they should adhere to. After reporting the problem it was solved during the daily meetings of lean coordinators. The applied selection of standards reduced their number to 40. The other companies did not identify the problem of a large number of standards.

5. Conclusion

To sum up, the aim of this article was the representation and characterization of the methods and techniques of lean management used in non-production departments on the example of selected enterprises. The concept of lean management along with management methods and techniques are more frequently applied. Based on the research the author has identified 5 lean management techniques that are used in non-production departments: kaizen, kanban, 5S, standardization, visual management. The reason for their implementation were, among other things, the positive effects for the company. Each of the organizations covered by the study had lean management implemented first in their production departments and then in the non-production departments. Depending on the company they are used in the following departments: accountancy, purchasing, traffic maintenance, warehouse, quality. Based on the research and informal talks, more and more lean management techniques will be implemented in non-production departments, including the VSM (Value Stream Mapping), poka-yoke. The biggest problem is the measurement of the time necessary to complete a task in non-production departments. It is required for Value Stream Mapping but also to manage the process. It may be argued that implementation of the selected lean management methods and techniques in non-production departments is more difficult than in production. There is no flow of materials and finished products and so it is difficult to determine what stage a given

task is at. However, the positive effects of the application of lean management influence the decision of management staff concerning the implementation and transfer of solutions that had been used in production departments to selected functional departments. Thanks to the application of selected lean management methods and techniques the examined enterprises succeeded in reducing waste. The hypotheses formulated by the author have been realized through the test results.

The subject matter of the article is the source of inspiration for the author for the next research project, this time involving the identification of lean management methods and tools applied in local government units.

References

- Byrne, A. (2013). *Jak zrewolucjonizować firmę dzięki Lean Management: czyli jak prezesi, dyrektorzy i właściciele wykorzystują zasady Lean Management do transformacji swoich firm i do zwiększenia wartości dostarczanej klientom*. Wrocław: Lean Enterprise Institute Polska.
- Czerska, J. (2009). *Doskonalenie strumienia wartości*. Warszawa: Difin.
- Ćwiklicki, M., Obora, H. (2009). *Metody TQM w zarządzaniu firmą: praktyczne przykłady zastosowań*. Warszawa: POLTEXT.
- Ford, H. (2007). *Dziś i jutro*. Wrocław: ProdPress.com.
- Hamel, M.R. (2014). *Warsztaty kaizen: praktyczny poradnik jak prowadzić skuteczne warsztaty doskonalenia procesów*. Wrocław: Lean Enterprise Institute Polska.
- Hammarberg, M., Sundén, J. (2015). *Kanban: zobacz, jak skutecznie zarządzać pracą*. Gliwice: Helion.
- Hopp, J.,W., Spearman, M.,L. (2000). *Factory physics: foundations of manufacturing management*. Boston: Irwin/McGraw-Hill.
- Imai, M. (2012). *Gemba kaizen: zdroworozsądkowe podejście do strategii ciągłego rozwoju*. Wrocław: Profes.
- Jones, D., Womack, J. (2007). *Zobaczyć całość: Mapowanie rozszerzonych strumieni wartości*. Wrocław: Lean Enterprise Instiute Polska.
- Krawczyk, S. (2011). *Logistyka: teoria i praktyka, tom II*. Warszawa: Difin.
- Liker, J.K. (2005). *Droga Toyoty: 14 zasad zarządzania wiodącej firmy produkcyjnej świata*. Warszawa: MT Biznes.
- Liker, J.K., Convis, G.L. (2012). *Droga Toyoty do Lean Leadership: Osiągnięcie i utrzymanie doskonałości dzięki kształtowaniu przywódców*. Warszawa: MT Biznes.
- Locher, D. (2012). *Lean w biurze i usługach: przewodnik po zasadach szczonego zarządzania w środowisku pozaprodukcyjnym*. Warszawa: MT Biznes.

- Krasiński, M. (2014). *Kulturowe uwarunkowania wykorzystania japońskich koncepcji, metod i technik zarządzania*. Wrocław: Wydawnictwo Uniwersytetu Ekonomicznego we Wrocławiu.
- Miller, J., Wroblewski, M., Villafuerte, J. (2014). *Kultura kaizen: budowanie i utrzymanie kultury ciągłego doskonalenia*. Warszawa: MT Biznes.
- Patton, S., Clegg, B., Hsuan, J., Pikington, A. (2011). *Operations Management*. London: McGraw-Hill Higher Education.
- Podobiński, M. (2014). Skutki stosowania japońskich koncepcji i metod zarządzania w polskim przedsiębiorstwie produkcyjnym. *Nauki o Zarządzaniu*, 1(18).
- Rother M., Shook J. (2009). *Naucz się widzieć: eliminacja marnotrawstwa poprzez mapowanie strumienia wartości*. Wrocław: Lean Enterprise Institute Polska.

THE BUSINESS MODEL OF A START-UP COMPANY¹

Anna Ujwary-Gil*

Abstract

The article focuses on issues related to the business model of a company at a very early stage of its development. In this case of key importance is the business concept itself and the way it is organized, i.e., how it creates value for the customer and market competitiveness. Business Model Canvas presented here, is a framework for the analysis of its key components. This approach is static, offering a photograph of the status quo of the business model that can be developed into a more dynamic approach taking into account the factors of time and change. The aim of this case study is to present an innovative business model of the company X, whose products are ecological bamboo bikes as the company follows the mainstream social responsibility of business.

Keywords: *business model, canvas, bamboo bicycle.*

1. Introduction

The concept of the business model remains a very popular area of interest, both among business practitioners and the academic community. Until August 2015, the Google Scholar had shown approx. 110,000 results using the phrase *business model* or *business models*. On the other hand, in the Web of Science database, including all nine databases and phrases of interest to us as subjects, 14,123 different documents could be found in the same period. 9,056 results alone were the articles in interdisciplinary research areas such as science technology, social sciences, and arts and humanities. This confirms the initial assumption about the popularity of the research topic, focusing primarily on the identification, the analysis of the business models themselves or with respect to other constructs, such as financial performance, competitive advantage of the business, and many others.

The aim of this case study is to present an innovative business model of the company X, whose products are ecological bamboo bikes as the company

¹ The project was funded by the National Science Centre allocated on the basis of the decision number DEC-2012/05/D/HS4/01338 and partially has received funding from the European Union 7th Framework for research, technological development and demonstration under grant agreement no. 324448.

* Anna Ujwary-Gil, Ph.D., Associate Professor, Department of Management, Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu – National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: ujwary@wsb-nlu.edu.pl.

follows the mainstream social responsibility of business. For the preparation of this case study secondary data³ have been used. The author made an attempt to analyze and evaluate the business model of a micro-enterprise, indicating trends in its development, as well as the accompanying limitations. The article consists of a short theoretical section, referring to the essence of the business model and its components, with particular emphasis on the concept of Osterwalder and Pigneur (2010). The empirical section discusses the business model chosen for the case study research. The final section of the article is a summary and general conclusions from the analysis of the business model.

2. Business model

Much has already been written about business models, also in the works by the author (Freiling 2015; Ujwary-Gil 2015; 2014; 2014b), and the works under the 7th Framework Programme of the European Union and the Reinvent project, of which the latter closely relates to the business models of the creative sector and the small and medium-sized enterprises operating within the sector (Jasiński, Rzeźnik & Candi, 2015, Jasiński & Rzeźnik, 2014; Jasiński, 2013; Jasiński, Rzeźnik & Candi, 2013). However, the aim of this case study is not to review the existing definitions in the literature. For the purpose of this discussion a few of them that truly capture its essence have been chosen. For example Magretta (2002) discusses it in the context of narration or the logic of the functioning of a company, allowing to understand how businesses operate.

Hence, the key position is held by its customers, the value for the customer, or making money and its division into two complementary parts, namely:

- 1) activities related to, amongst others: design, purchase of materials, production,
- 2) sales: finding and attracting customers, sales transactions, distribution of a product or services.

The innovativeness of the model may therefore result from innovative product(s) or innovative processes, as part of the company's value chain. On the other hand, according to Afuah (2003, p. 20) "business model is the method employed by the company to enrich and use resources, in order to provide customers with an offer of products and services whose value exceeds the offer of competitors, and at the same time ensures company profitability". In other words, the business model is a simplified and aggregated presentation of relevant activities of the company, in which the element of the added value is created on the basis of generated products, services or information (Wirtz, Pistoia, Ullrich & Göttel, 2015 in press). It builds a kind of architecture of

3 The article uses publicly available data about the company and its activities: <http://innpoland.pl/120493,student-sgh-produkuje-w-afryce-rowery-z-bambusa-kazda-sprzedana-sztuka-funduje-stypendium-spice-po-3h-dziennie-ale-warto>

creating value (Teece, 2010), as well as taking into account the strategic elements of customers and market, in order to achieve competitive advantage.

Regardless which of the business model definitions be considered the most accurate, the most highlighted elements of most of the definitions are those of creating value for the customer and competitive advantage. This case study will be based, however, on the popular and comprehensive template of the business model (business model canvas) by Osterwalder and Pigneur (2010). Its nine parts are in fact an organized way for it to base its assumptions on not only the most important resources and key activities of the value chain, but also of value propositions, customer relationships, sales channels, customer segments, cost structure and revenue streams – which makes that model easily comparable with other business models existing on the market despite the quality of components that constitute it.

Business Model Canvas

It is worthwhile to present the components of Business Model Canvas here (see Table 1). The model is divided into four related areas:

- resources and activities,
- relations,
- value,
- finance.

In the first area we find Key Activities and Key Resources. In this component of the business model the most important steps are characterized, namely those a company must perform in order to provide added value, establish a relationship with customers and generate revenue structure. Key activities can be divided into production, troubleshooting and sustaining computer infrastructure. Production is the design, manufacture and delivery of products in specified amounts. Troubleshooting is an activity involving customer support to achieve absolute clarity or help with unexpected situations. In turn, the key resources are also needed to generate added value and reach out to segments of customers through distribution channels. Key resources can be divided into physical ones (money, machinery, automobiles, outlet stores, servers), which are usually more capital intensive, and intangible ones (people, their expertise, brand, patents, copyrights or customer data).

Table 1. The Business Model Canvas – four areas

Resources and activities	Relations	Value	Finance
Key Resources: <ul style="list-style-type: none"> • Tangible (physical and financial) • Intangible (intellectual resources and people) • Key Activities: <ul style="list-style-type: none"> • Production • Problem solving • Platform or network 	Customer Segments: <ul style="list-style-type: none"> • Mass market • Niche market • Segmentation • Diversification • Multilateral platform • Channels: <ul style="list-style-type: none"> • Vendors • Internet sale • Retailer • Partner store • Wholesaler • Customer Relationships: <ul style="list-style-type: none"> • Personal support • Dedicated customer support • Self-service • Automated service • Communities • Co-creation • Key partners: <ul style="list-style-type: none"> • Optimisation and economies of scale • Reduction of risk and uncertainty • Adoption of specific resources or activities 	Value Proposition: <ul style="list-style-type: none"> • Novelty • Performance • Addressing individual customer needs • Effectiveness • Project • Brand and status • Price • Lower costs • Lower risk • Availability • Convenience and usability 	Revenue Streams: <ul style="list-style-type: none"> • Asset sales • User fee • Subscription fee • Hire and lease • Licensing • Commission • Advertising • Cost Structure: <ul style="list-style-type: none"> • Cost centred structures • Value centred Structure • Fixed costs • Variable costs • Economies of scale • Economies of scope

Sources: based on Osterwalder & Pigneur (2010).

The second area includes the components of external relations, such as Key Partners, Customer Relationships, Channels and Segments. The concept of key partners describes the network of suppliers and contractors who make the company operate. They could be the most important suppliers, joint ventures established to provide new products or services, a strategic partnership between competitors or a strategic alliance with a company in another industry. The customer relationships component describes the type of interaction that the company establishes with separate customer segments. The nature of this relationship may consist in personal, direct, or even fully automated contact. It all depends on specific expectations of a particular customer segment. Personal relationship relies on direct interaction with the customer. The client can communicate with a consultant who will offer advice

when a product or service is being sold. In contrast, dedicated personal contact is far more common in the business-to-business category, where building customer relationships takes a long time and the customer's decision to make a purchase requires considerable support from the sales representative. A completely different type of relationship is the self-service, such as petrol stations, car washes, and bike rentals.

Another type of contact: co-creation, which goes beyond the traditional types of relationships. In this type, the customer co-creates value with the company. This is exactly how, e.g. book reviews in online bookstores or internet services of consumer opinion function. Selecting the type of relationship also depends, to a large extent, on the costs incurred, and integration with other elements of the business model. Channels are a component that describes how the company communicates and reaches the customer segment, in order to provide the added value. They provide the customer with knowledge about the products and services of the company. They help customers evaluate added value, allow the purchase of company products or services, and finally, provide after-sales support. The main component of this area, however, is the customer segment that defines its different groups. To better understand and more effectively meet the needs of customers, businesses divide them into groups with different needs, behaviour or other properties. The business model can define one or more customer segments such as: a mass customer, distribution, the niche market, the segmented market, the diversified market. Naturally, meeting the needs of a customer segment requires a business legitimate outstanding offer and specific distribution channels. A particular segment generates specific patterns of behaviour and building relationships with customers, and it has separate profitability.

The third area is the logic of the business model, the meaning of its existence. This is where the component of the value proposition belongs, provided on the basis of services or products. The abovementioned value proposition is the reason why customers choose one company over another. The value for the customers is to satisfy their specific needs or solve the problems. In other words, the value proposition is a set of benefits that the company offers its customers. Sometimes, the value proposition can be innovative and offer benefits yet unheard of in the market. Another added value is to offer products or services already existing in the market, enriched with a certain characteristic or attribute. The value proposition can be expressed quantitatively by price, or the time services that are delivered, or qualitatively as design, customer experience in dealing with a product or service, comprehensive service.

Brand is also an element which adds value. In turn, offering similar added value at a lower price is a common way of meeting the needs of a customer who pays attention to the price of goods. In creating value by reducing the

risk, all kinds of warranty licenses on products purchased are helpful. Yet another element of added value is the availability of services, as in the case of a municipal bike rental system.

The overall framework of the business model closes the financial area, which includes Revenue Streams and Cost Structure. The component of revenue describes the way in which the company generates revenue from various customer segments. The mechanisms may be different, based on single or multiple purchases by the client. We can list here the following: the sale of ownership rights to physical goods, the fee charged for using the service or product, subscription fee charged for access to the service, or licensing. In turn, the cost structure describes all the costs generated by the business model. All of these activities: creating and delivering added value, maintaining relationships with customers, generate costs.

All the components briefly described above create a business model, which is characterized by a high degree of flexibility in describing the business models operating in different industries. The above description does not exhaust techniques that the authors propose in order to create a good business model.

3. Richard Branson of social entrepreneurship

The company X was founded as a result of its founder's inspiration and delight over Africa, which he discovered during his numerous trips to the developing countries: India, Colombia and Kenya. The main objective of the company is to create bikes that are changing the world by supporting the local community in Africa. Bicycles are made from bamboo wood which is five times stronger than steel or aluminium, they are environmentally friendly, lightweight (weighing approx. 12 kg), with a unique design (Figure 1):

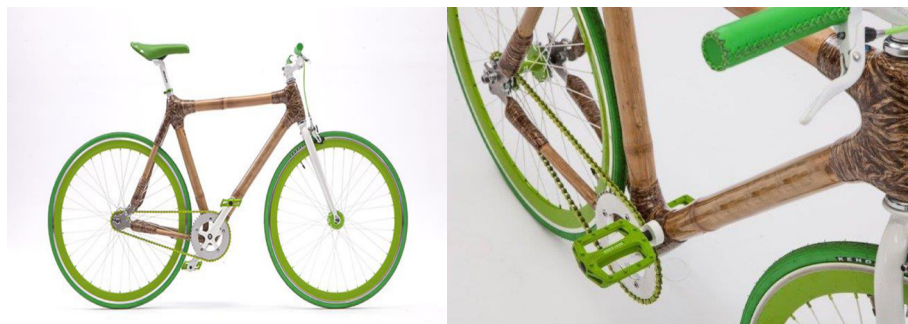


Figure 1. The bamboo bike

Source: Company materials and Kotliński (<http://innpoland.pl/>).

As the founder emphasizes, the company X creates much more than ordinary bikes. The company wants to be a socially responsible manufacturer, to create bikes that are fun to ride, while changing the world for the better. The customer will not find two identical bicycles. The frame is handmade from bamboo wood. The unique design catches the eye, and the customized colouring strikes. We see here a return to natural materials, promoting sustainable development. Bamboo grows widely on five continents, up to 90 cm per day. Therefore, the production of bicycles is environmentally friendly. Bicycles are handmade in Ghana as part of a social initiative called the Yonso Project. The purchase of each bike finances educational scholarships for young people in the African region, which makes positive changes possible. Social entrepreneurship and socially responsible business are becoming increasingly popular.

Observing the Western trends, people are starting to take notice of where the product originates from and whether it has positive impact on their environment. Bamboo bikes have gained immense popularity in the United States and Germany, but each manufacturer has its own idea on how to stand out or define the added value for the customer. Of course, the bikes are also in Uganda, Zambia, the Philippines, and Vietnam. In Poland, we observe changes in trends and lifestyles in cities where cycling infrastructure is improving with well-maintained cycling lanes. A bicycle has become not only a means of transport, it has become a lifestyle, a fad, and also an element of self-expression, therefore it is the company's intention to make every bike different.

The frames are manufactured in Ghana, in the region, by the Boomers International company, and are later imported by the company to Poland, where the remaining components are assembled. The business model of the company is based, among others, on co-creation and involving customers in the product design process. Therefore, in the bicycle development process, customer development and incorporation of lean methodologies of start-ups were important. The company's beginnings are difficult, due to the lack of investors and funding for the development of the project, problems typically faced by young businesses, start-ups. The company is financed mainly from personal savings, salaries, and loans from family and friends. Despite these difficulties, the first pre-sales are planned for March 2016. The basic urban model will cost around 4,000 PLN (approx. € 1,000), which is not cheap by Polish standards. The premium model, more classic in design, will be more expensive. The handmade frame, or the soul of the bamboo bike, constitutes the main share of the price. There is still a big question mark over what motivation will lead customers to the purchase of such an original bike by Polish users (and later, when the company develops, expansion to foreign

markets is planned). It is difficult today to predict whether it will be the social aspect and the prospect of funding a scholarship for young people from poor regions of Ghana. However, the owner of the company strongly believes it to be so and wants to run his business according to the principle: Do well and do good.

Socially responsible business model

Bicycles made from bamboo, which first appeared more than a hundred years ago, then quickly disappeared, have returned as a potential catalyst for economic growth and job opportunities in Ghana through the Yonso Project and Boomers International (BI). BI is a subsidiary of the social Yonso Project which produces and markets bamboo bicycles on international markets and in Ghana. Boomers aims to improve transport, ensure youth employment, mitigate climate change, and reduce poverty in rural communities. The main mission of the company is to produce high quality bamboo products which provide both economic benefits as well as social benefits for customers worldwide. Boomers allocates 20% of its profits to the Yonso Project, and each sale of a bamboo bike also helps improve educational opportunities and empowerment of women in rural areas in Ghana. It reduces migration between urban and rural areas, furthers traffic flow, has impact on employment and minimizing degradation of the environment. Promoting the production of bamboo goods, as opposed to those made from wood or metal, helps salvage the forests, reduces carbon dioxide emissions, and improves the quality of air and water.

Above all, however, it makes employment of young people from the local villages possible, offers work training opportunities, teaches sanding, gluing and binding bamboo bicycle frames. The production capacity of the company is very low, about 50 frames per month (600 frames per year and 11 employees), using locally produced bamboo and cassava flour mixed with epoxy resin, as one of adhesives, and simple tools, such as chisels, screwdrivers and wrenches. Wheels, brakes, and seats are standard, manufactured from metal and rubber components available on the market. But the bicycle frame is made of bamboo, which absorbs vibrations from bumps on the road well, therefore it is perfect for high performance rides, such as mountain biking.

Costs of production

The manufacturing cost of the Yonso Project bike ranges from \$130 to \$180. In Ghana, the bicycles can sell for Ghc400 (€85) each. In the case of exports to the United States, the Netherlands and Germany, the frame itself costs about

\$250. The components are made from local Kante fibers. Production costs are high, because due to the lack of funds to reinvest, there are also difficulties in buying large quantities of the components at a wholesale price. The company currently sells Boomers bicycle frames at a price of \$220 to distributors in Germany, the Netherlands, Taiwan and Australia. The company also sells frames online at a price of \$300 – \$350. The net profit is \$85 per frame, of which the Yonso Project receives 20% of all profits to finance the educational fund and scholarships, libraries and corporate loans in the so-called micro-financing scheme for women in rural areas. Over the next five years, the goal of Boomers is to conquer the world market through the production of means of transport, furniture, household items and even houses.

The business model – initial stage of development

The company, as mentioned above, operates mainly single-handedly, struggling with the problem of recapitalization of the project. In this initial stage of creating the model, of the first and foremost importance is to offer value to potential customers, the value being: the uniqueness of the product in the domestic market, the novelty, convenience and usability, tailoring the project to individual needs, defining the status of its user, and also the sense of helping the needy (the social aspect). The main resources of the company at this stage are the financial resources essential to run the presale of the bicycles, a simple and easy to navigate website and the intellectual capital of its owner. Actions undertaken at this stage are, above all, aimed at operationalizing production and establishing a network of business relationships with subcontractors.

In the area of relations, the business model defines customer segments, which due to the relatively high price of the product, will include wealthier customers from urban areas, financially well off freelancers who value originality and functionality. It is incorrect to call this a niche market as the product is widely used and produced. However, what makes this product unique, is the added value for its users (product customization), or the possibility to co-create the product. According to the presently valid strategy, the bicycles will be sold mainly through the company's website, with the personal support of the owner and the Facebook community, and their production will be possible based on the major partner – the Boomers International company. The possible risk of uninterrupted supply of the main component, the bamboo wood bicycle frame, cannot be ignored, especially if we take into account the shortcomings that may arise in production capacity of the company. Production downtime can result from frequent power outages in this part of Africa (time-consuming manual production). At this stage of early development of the company, unit costs (fixed) of manufacturing a bicycle will be quite high, and creating

economies of scale and scope requires time, which would perhaps lower the price of the product. But then would proposition of added value in the form of brand, the status associated with the use of the product inaccessible for most buyers, be the *raison d'être*?

4. Conclusion

This article is an attempt at presenting an innovative business model of the company operating in the bicycle industry, based on the theoretical business model which has repeatedly been subjected to empirical verification⁴, as in the hereby case study.

Focusing on the methodology of the business model canvas alone, it should be emphasized that this is a static approach, a framework for the coherent description of its main components and their relationships. At this stage, it is nonetheless quite sufficient to determine what the business model of a company really is. And we should not expect anything more here. The inclusion of more advanced models, tools, analytical management techniques and indicators to measure the effectiveness is justified when the model is more stable in terms of resources, activities, is advanced in its development, in which the individual components of the model are sufficiently developed and eligible to be analyzed, simulate, or change.

The concept of Osterwalder and Pigneur seems a rigid structure in which the business model is analyzed. It must be remembered, however, that its nature is to organize and characterize the model (what it consists of). Without these components (no matter what they are, because every author's concept is different), it would be difficult to compare models against each other and define a universal structure of the model. For the new companies, which, by definition, are flexible because the market demands this flexibility and adjustment of actions – the business model is not and cannot be a hindrance but merely a direction on how to create, deliver and capture value for the customer and the company. Often the company founders themselves are a

4 As it has been mentioned above, the Author is involved in the research project under the European Union 7th Framework Programme for research, technological development and demonstration under grant agreement no. 324448 (FP7-PEOPLE-2012-IAPP), entitled Reinvent, the aim of which is to develop knowledge about how SMEs in creative sectors – SMEs operating in both digital and non-digital markets – can implement business model innovation as a means to enhance competitive advantage, and put this knowledge into practice in three SMEs. Reinvent will create opportunities to evaluate and validate business model innovation as a competitive tool for European SMEs through empirical research among SMEs in the partner countries. The research to be conducted in Reinvent is particularly relevant right now as Europe faces the challenge of finding ways out of the current economic recession. Identifying the keys to creating successful business models with which recovery based on innovation and entrepreneurship in the creative sectors can be achieved is particularly urgent. Reinvent will have substantial impact for European SMEs, which need approaches, methods and tools to develop competitive strategies. Reinvent will develop, implement and evaluate tools for business model innovation. Developing the capability for business model innovation in SMEs across a range of creative sectors will contribute to European firms' ability to create and maintain competitive advantage. A comprehensive impact and dissemination strategy has been devised, including dissemination and networking aimed at the general public, policy makers, academia and industry, particularly SMEs. This will ensure that the project impacts SMEs outside the consortium and, thereby, at a broad European level.

more severe constraint for new business models of their own companies, through their short-sightedness, lack of reliability, timeliness, lack of ideas on promotion and advertising, through neglect they miss opportunities for development offered by start-ups.

References

- Afuah, A. (2003). *Business Models: A Strategic Management Approach* (1st edition). New York: McGraw-Hill/Irwin.
- Freiling, J. (ed.) (2015). Business model innovation – a concept between organizational renewal and industry transformation. *Journal of Entrepreneurship, Management and Innovation*, (1)11.
- Jasieński, M., Candi, M., Rzeźnik, M. (2015). Bridging the academia-industry gap while innovating: Two example projects. In: M. Wirkus (Ed.), *Processes and Project Management* (pp. 61-69). Gdańsk: Wydawnictwo Politechniki Gdańskiej.
- Jasieński, M., Rzeźnik, M. (2014). Business models rethought: applying the heuristic methods of Altshuller and Osborn to improve an organization's fitness in a variable environment. In: B. Domańska-Szaruga, T. Stefaniuk (Eds.), *Organization in changing environment. Conditions, methods and management practices* (pp. 100-109). Warsaw: Wydawnictwo Studio Emka.
- Jasieński, M., (2013). Citation analysis as a practical tool for managers and entrepreneurs: selected scientometric concepts relevant for business model improvement. *Zeszyty Naukowe Wyższej Szkoły Bankowej w Poznaniu*, 51, 151-167.
- Jasieński, M., Rzeźnik, M., Candi, M. (2013). Understanding and innovating business models: Some basic methodological issues. In: R. Knosala (Ed.), *Innovations in Management and Production Engineering* (pp. 51-58). Opole: Oficyna Wydawnicza Polskiego Towarzystwa Zarządzania Produkcją.
- Magretta, J. (2002). Why business models matter. *Harvard Business Review*, 80(5), 86–92, 133.
- Osterwalder, A., & Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers* (1st edition). Hoboken, NJ: John Wiley and Sons.
- Teece, D. J. (2010). Business Models, Business Strategy and Innovation. *Long Range Planning*, 43(2–3), 172–194. <http://doi.org/10.1016/j.lrp.2009.07.003>
- Ujwary-Gil A. (2015). Analyzing Business Model and Intellectual Capital Components. In: A. Garlatti, M. Massaro (Eds.), *The Proceedings of 16th European Conference on Knowledge Management* (pp.790-796). Italy: University of Udine, 3-4 September.

- Ujwary-Gil, A. (2014a). Modele biznesowe a kapitał intelektualny przedsiębiorstwa. *Marketing i Rynek*, 5, 648-653.
- Ujwary-Gil A., Candi, M. (2014b). Analyzing business model components using the sensitivity model. In: A. Ujwary-Gil, A. Nalepka (Eds.), *Business and Non-Profit Organizations Facing Increased Competition and Growing Customers' Demands* (pp. 84-102), Volume 13. Nowy Sącz: Wyższa Szkoła Biznesu – National Louis University.
- Wirtz, B. W., Pistoia, A., Ullrich, S., & Göttel, V. (2015). Business Models: Origin, Development and Future Research Perspectives. *Long Range Planning* (in press).

IMPORTANCE OF ACCOUNTABILITY IN SUPPORTING MANAGEMENT INNOVATION

Joanna Wojcik-Bubala*

Abstract

Innovation can be defined differently but it always leads to the invention of a novel solution. Every organization wants to be innovative, but none of them become innovative overnight. It is a process of building a positive attitude and to encouraging individuals to invent beyond the-state-of-the art, in the particular area of interest. In this article, the thesis states that accountability supports management of innovations. As a result of the analysis, accountability is tied with the model of Management Innovation Framework formulated by Birkinshaw, Hamel and Mol (2008). The article also highlights the fact that accountability and management innovation are the background for the business model Canvas.
Keywords: *accountability, The Oz Principle, management innovation framework, business model.*

1. Introduction

The article presents the concept of accountability² as the success factor for the management innovation and the baseline for the business model (Martin-Rios, 2015; Michelman, 2005; Simons, 2013, 2010). The article is a conceptual paper developed basing on literature review. Its main aim is to present the importance of the accountability in the innovation by the inclusion into the management innovation framework of Birkinshaw et al. (2008). Accountability is presented as a factor stimulating innovativeness and increasing the probability of successful implementation of innovative projects.

The article is structured into five sections, including introduction and conclusion. It presents the key findings of the global innovation surveys. Further, it discusses the management innovation as the process and incorporates the accountability concept The Oz Principle (Connors, et al., 2010, Hamel, 2006) into the management innovation framework. The accountability and management innovation are highlighted as the baseline for the business model Canvas (Osterwalder & Pigneur, 2010).

* Director in i3D S.A, experienced in project management and continuous process improvements, ul. Bojkowska 43C, 44-100 Gliwice, e-mail: joanna.bubala@i3d.pl .

2 Accountability is a personal choice to rise above one's circumstances and demonstrate the ownership necessary for achieving desired results: to See It®, Own It®, Solve It®, and Do It.® (*Oz Definition of Accountability*).

2. Innovation is the process driven by the organization

The Global Innovation Index (GII), covering 143 economies worldwide, places Switzerland as top global innovator, followed by the United Kingdom, Sweden and Finland. Poland is ranked as 45th.³ The 45th position of Poland in the innovation index creates the question how the innovation can be improved and supported.

Even though the GII compares many of the different factors such as education, business environment, and knowledge, one of the key conclusions is that the talented innovators tend to cluster in the same places, even at the same institutions. That leads to the assumption that the organizational culture is crucial for the innovation (Januszczyńska, 2013) .

Another study brings the impression that almost every organization wants to be innovative, but not all implement the mechanisms supporting and managing innovation. The 17th Annual Global CEO Survey⁴ performed by PWC among 1344 large organizations of 68 countries, gives the conclusion that most of the CEOs want to improve their company's ability to innovate- 86% aim to alter their R&D functions but only 27% of CEOs have already started or completed the changes, to make their companies more innovative. The studies show that there are problems within many organizations with successful implementation and smooth flow of the innovation process. The increase in the innovation success rate is expected by the top managements and therefore, the innovation models and theories are created. Birkinshaw et al. (2008) introduced the Management Integration Framework which represents the complexity of the management innovation process. This framework includes key actions performed by the internal and external stakeholders, as well as the internal and external organizational context. Management innovation is defined as invention and implementation of a practice, process, structure, or technique that is new to the state of the art and is intended to further organizational goals (Birkinshaw et al., 2008; Brown & Anthony, 2011). This definition suggests that the further organisational goals are communicated to the organization and built into the strategy and the business model.

The management innovation is the process consisting of the phases:

- 1) Motivation – is supported by the organizational culture that allows experimentation.
- 2) Invention- refers to the lab and theoretical experimentation with the new practice.
- 3) Implementation- leads the innovation to the full operation for the first time.

³ Johnson Cornell University, INSEAD, WIPO. (2014). *The Global Innovation Index 2014, The Human Factor in Innovation*.

⁴ 1,344 CEOs in 68 countries participated in the PWC Global CEO Survey in 2014.

- 4) Theorization and labelling- brings rationale and adopts the implemented innovation within the organization’s business model.

This process is the bottom line in the Management Innovation Framework presented in Figure1.



Figure 1. Management Innovation Framework

Source: Birkinshaw et al. (2008).

The innovation process begins within the organization and is initiated by the internal resources (internal change agents). In the next process steps, the interactions with the external resources are required (external change agents) to ensure that final innovation results meet the stakeholders requirements.

Birkinshaw et al. (2008) built the unique framework linking the external and internal environments of the organization and the roles and activities of the key sets of stakeholders involved into the management innovation process. The Global Innovation Index 2014 implies that the organizational culture has significant influence on the growth of the talented innovators and through that, it impacts the innovation success rate. The management innovation process proposed by Birkinshaw et al. (2008) mentions the organizational and environmental context. However, it is important to highlight that the innovation process is based on the strategy, built into the business model, initiated and run by internal resources. Therefore, it is also very important to incorporate organizational culture into the framework .

3. Accountability motivates the innovation

Innovation brings immediate association with creativity but rarely with the process or accountability. Innovation is experimentation which often fails and end-results can be questionable as the experimentation does not always lead to the expected result (Collins & Porras, 1994). The independent survey⁵ shows that 28% of employees are afraid of making a mistake on the job. However, history shows that innovations also happens as consequence of failure: Coca-Cola, Corn flakes, penicillin. Failure can become great success as Sochiro Honda said, and making mistakes is inevitable in innovation. Organizational culture which supports innovation does not blame the unsuccessful teams, but takes the challenge of further trials. It is important to accept lessons learned and not to hold employees accountable for the failure. Otherwise, individuals lose motivation for further changes.

Accountability within the organizational culture supports the management innovation process at each stage. Accountability motivates individuals to change and successfully implement all innovative solutions. The change can only be done by individuals who feel the owner of the problem and want to make an effort to find a solution. According to Judge (2012), the accountable culture is one of the dimensions of organizational capacity for change. It is the degree to which an organization holds its members accountable for results.

The change based on accountability mobilizes the resources to deliver within the budget and on time and presents opportunity to find honourable explanation of the failure.

Some of the publications (Brands & Kleinman, 2010) point out that creativity (thus innovation as well) is driven by chaos and it does not match timely delivery, so it needs to be managed and the responsibility for delivery has to be assigned.

Connors et al. (2010) define accountability in the Oz Principle as a personal choice to raise above one's circumstances and demonstrate the ownership necessary for achieving desired results to See It, ® Own It, ® Solve It, ® and Do It. ®.

The Oz Principle, highlights the role of individuals' accountability in achieving desired results, which can be either experimentation or implementation of the innovative solutions.

The Oz Principle is the metaphor of *The Wizard of Oz* to illustrate the impact of individuals' accountability in achieving results. The Oz Principle defines the key steps to take the ownership for the getting results (Steps To Accountability). Organizations focus on blaming unsuccessful teams

⁵ *Accountemps*, staffing service for temporary accounting and finance professionals, 2012 Survey <http://accountemps.rhi.mediaroom.com/workplace-fears> date of access: 20.09.2015.

(undesirable organizational attitude) is Below The Line, which is the virtual boundary to the culture supporting accountability (desired organizational attitude). The Oz Principle concept is presented in Figure 2.

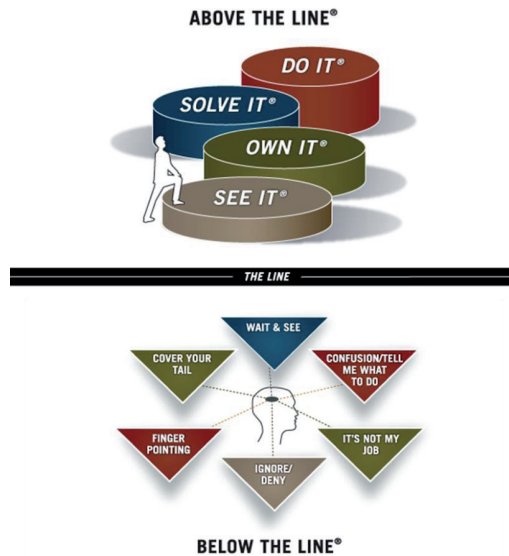


Figure 2. The Oz Principle

Below The Line attitudes are not desired by the organization as they do not lead to achieving strategic targets and innovation. The Steps To Accountability are the key steps in the process of implementing the culture of accountability into the organization and when imprinted into organizational culture, support positive changes:

- 1) See It- identifying the problem.
- 2) Own It- decision to influence the situation and to solve the problem.
- 3) Solve It- finding possible solutions.
- 4) Do It- implementing the solution (action).

The Oz Principle defines the importance of the individual's ownership and involvement in delivering the desired "products" to the organization. The concept has become popular in the business practice as it provides organizations with guidelines how to support innovation.

Incorporating the desired attitude- Above The Line steps into the management innovation framework, highlights the importance of the individual's accountability in the entire management innovation process (Figure 3).

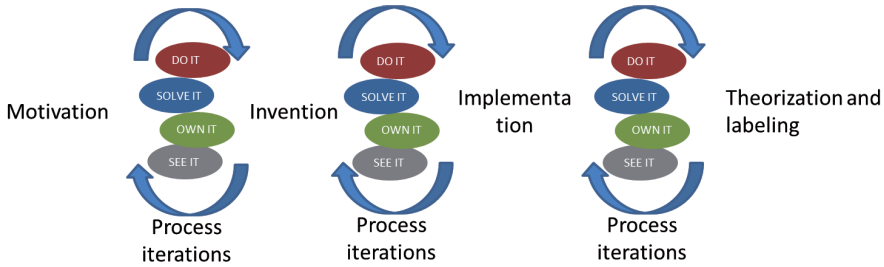


Figure 3. Steps to accountability of The Oz Principle built into the Management Innovation Process Framework.

The Steps to Accountability (Above The Line Steps) are critical to bringing the innovation to the next process phase e.g. from motivation to invention, from invention to implementation.

Step 1: See It- allows organizations to collect the feedback from other parties involved in the process (internal and external stakeholders). The feedback will bring the answers to what the problem is and what should be done to meet the innovations stakeholders' requirements.

Step 2: Own It- links the problem and the solution with the accountability tie. It empowers the stakeholders to the creative solution, with every step of innovation. The single element of management innovation framework of Birkinshaw et al. (2008) could not be successful without the individuals' ownership and the decision to find solution.

Step 3: Solve It- actions that remove obstacles and lead for alternative solutions in innovation.

Step 4: Do It- offers benefits of applying other steps. This step results involving the problem in the innovation road-to-success.

4. Accountability and management innovation are the baseline for business models

Osterwalder and Pigneur (2010) created the business model simplifying the complexity of business reality. As the model is relatively simple and easy to use, it became popular among the companies of all sizes and industries.

It covers nine elements of business environment and key assumptions for the existing activities:

- 1) Customer Segments: Who are you selling to?
- 2) Value Proposition: What are you selling?
- 3) Channels: How do you reach your customer segments to deliver your value proposition?

- 4) Customer relations: What Type of relationship will your business have with its customers?
- 5) Revenue Streams: How do you make money? How do customers pay for what you are selling?
- 6) Key resources: What are the most important assets to make your business work?
- 7) Key Activities: What are the most important things your business must do to succeed?
- 8) Key partners: Who will you partner with to make your business work?
- 9) Cost Structure: What are the costs to run your business?

The illustration of the Business Model Canvas in presented as Figure 4.

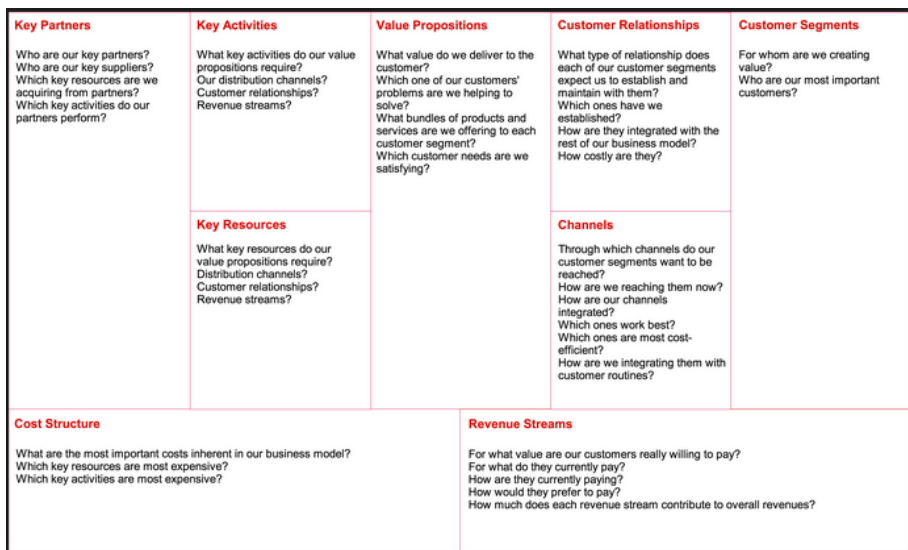


Figure 4. Business Model Canvas

Source: Osterwalder & Pigneur (2010).

The questions in Canvas business model reflect accountability as art of organizational culture and should be considered in all blocks. The importance of accountability in management innovation and its impact on change is described earlier in point 3. Accountability also has significant influence on the business model. Operating business model has to be always supported by the individual's commitment and ownership of the areas described in the business model. It seems obvious that the accountability is key baseline in business model as it is conditional to the business operation success.

Management innovation is almost as important as accountability. The end result of the management innovation process gives new value proposition to the business model and thus, it is the success factor for the organization.

5. Conclusion

The key accountability question is “What else can I do?”, while the key management innovation question can be “How can I solve the problem and give unique solution that brings benefits to my organization and adds value to my customers?” Management of innovation awards the individual’s proactive attitude and the organizations’ management with novel, innovative solutions resulting in the organization’s performance.

The article answered the question of the importance of accountability in the organization, its impact on the management innovation and business model. This article describes the theoretical inclusion of the accountability and Birkinshaw’s framework of management innovation, and their tie to the business model canvas. The amended framework can be further operationalized for the purpose of empirical research to test its validity.

In business operations, the organizations are focusing on talent management and developing skills. Development of an organization driven by accountability should be also put on the executives’ agenda and (as there is a clear relationship between business success and accountability) innovation and business model operating by the organization.

References

- Birkinshaw, J., Hamel, G., Mol, M.J. (2008). Management innovation. *Academy of Management Review*, 4(33), 825-845.
- Brands, R., Kleinman, M. (2010). *Robert’s Rules of Innovation: A 10-Step Program for Corporate Survival*.
- Brown B., Anthony, S. (2011). *How B&G Tripled Its Innovation Success Rate*. Harvard Business Review.
- Collins, J.C., Porras, J.I. (1994). *Built to Last: Successful Habits of Visionary Companies*. New York: Harper Business.
- Connors, R., Hickman, C., Smith, T. (2010). *The Oz Principle, Getting Results through Individual and Organizational Accountability*.
- Hamel, G. (2006). The why, what and how of management innovation. *Harvard Business Review*, February.
- Januszewska, J. (2013). *Wpływ kultury organizacyjnej na innowacyjność. Wspólna odpowiedzialność. Rola innowacji*. Forum Odpowiedzialnego Biznesu.

- Johnson Cornell University, INSEAD, WIPO. (2014). *The Global Innovation Index 2014, The Human Factor in Innovation*.
- Judge, W.Q. (2011). *Building Organizational Capacity for Change: 9: Organizational Capacity for Change Dimension 7: Accountable Culture*. Business Expert Press.
- Judge, W.Q. (2012). *Focusing on Organizational change*.
- Martin-Rios, C. (2015). Innovation in organisational control systems: toward greater accountability. *International Journal of Business Performance Management*, 4(16), p. 373-388.
- Michelman, P. (2005). *Methodology: Tap into the Power of Accountability*. Harvard Business Review Press Book.
- Osterwalder, A., Pigneur, Y. (2010). *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers*.
- PWC (2014). *The 17th Annual Global CEO Survey, Fit for the future Capitalising on global trends*.
- Schoemaker, P. (2012). *Why Failure Is the Foundation of Innovation*. Inc. com.
- Simons, R. (2013). *The Entrepreneurial Gap: How Manager Adjust Span of Accountability and Span of Control to Implement Business Strategy*. Harvard Business School.
- Simons, R. (2010). *Accountability and Control as Catalysts for Strategic Exploration and Exploitation: Field Study Results*. Harvard Business School.

III.
FINANCIAL ASPECTS OF
ORGANIZATIONAL MANAGEMENT

THE OPERATION MODELS OF MUNICIPAL COMPANIES OF LOCAL PUBLIC TRANSPORT

Krzysztof Wąsowicz*

Abstract

The economic and legal circumstances of the operation of local public transport are a set of framework guidelines, which form the image of the sphere of transport activity of local governments. The purpose of this paper is to analyze the economic and legal circumstances of the organization and operation of the transport system. This paper presents models of solutions for the organization and operation of the local public transport system: the current model and the new market model. Individual statements are presented in the final conclusions of this work. The article is further supported with illustrations.

Keywords: *local public transport, transport system, models of organization of local public transport system.*

1. Introduction

High quality of service and public good – this is what people usually expect from public utility companies. Their activity is of great significance for the local community. Water shortages, temporary loss of electricity, gas or transport services may have a great impact on people and very often are connected with unfavorable economic effects.

The thesis of this dissertation is that a municipal company of local public transport, by its relation to the owner (a commune), does not make use of the full organizational and financial capabilities and potential of providing the highest quality services.

The aim of this paper is to present the performance of the municipal companies of public utility of the local public transport in the current organizational and financial environment. Moreover, a development direction has been proposed that could be an interesting alternative in comparison to the current system. This article has presented the alternative path of action for

* M.A., at the Department of Industrial Policy and Ecology, the Cracov University of Economics, ul. Rakowicka 27, 31-510 Kraków, e-mail: wasowick@uek.krakow.pl. Project was finance by: Formy upowszechnienia i popularyzacji wyników przeprowadzonych badań z grantu uczelnianego dla Młodych Naukowców (BMN) oraz Uczestników Studiów Doktoranckich (na podstawie umowy nr 166/WF-KPPE/05/2015/M/5166).

further conduction of works within the scope of constructing a performance model for the public transport system in Poland.

This elaboration has determined the features of municipal companies of public utility, including also the companies of local public transport, presented the character of the public goods provided by those companies, as well as their meaning for the local community. The legal and economic circumstances for the performance of municipal companies has been described through a presentation of their formation, relations with the local government entities, competences, scope of operation, and the eventual paths of development for the system of providing local transport services.

2. The functioning policy of the public utility municipal companies of local public transport

The political system changes on the turn of 1989 and 1990 introduced a new economic order. According to art. 6 of the Local Government Law of 8 March 1990, the commune is responsible for all the public issues of local character that are not reserved for other entities. This means that all public matters of commune (local) significance belong to the commune as the local territorial corporation. This article has also indicated that the satisfaction of the collective demands of the public is a part of the assignments of the commune. In practice, this means that the commune conducts activities of public utility character through, among others, municipal companies of public utility.

Such companies, as territorial, especially local, government organizations, are of great meaning to the public sector, since their main function is to operate in order to satisfy the needs of the citizens as the inhabitants of a particular area. The public utility municipal companies may be, then, considered as a complex whole that has characteristic features for all organizations that distinguishes itself with a specific system of public organization values and doctrines that find resemblance in its mission and goals. The mission and formal goals of public utility companies show a general character of interaction with the environment. In the general overview, they are established due to the public goals (Grzymała, 2011, p. 13).

The collective needs of the community satisfied by the public utility municipal companies are especially related to (Dylewska & Filipiak, p. 451):

- waterworks and supply of water, sewer system, removal and cleaning of municipal waste,
- maintenance of order and cleanliness, and sanitation facilities, dumps and disposal of municipal waste,
- provision of thermal energy and gas,
- local public transport.

During the first half of the 1990s, during the qualification of the degree of works on doctrines and ideas about local governments in relation to the economic demands of the contemporary economy, it was stated, that the interpretation of tasks of the commune authorities set in the Local Government Law (Act of 1990) had been expanded and deepened. It was stated that the provisions of this act about execution of public tasks of local character and satisfying the collective needs of the community must be re-interpreted in the expanded terminology context that was to provide the commune with the proper legal bases required to execute any needs of the members of its local self governing community. The above thoughts resulted in creation of the Act of 20 December 1996 on municipal management (Act of 1996).

This act determines the rules and forms of municipal management of local government units *that concern execution of own assignments by this unit in order to satisfy the collective needs of the self governing community* (Act of 1996). Municipal management concerns, in particular, the public utility municipal companies, including the companies of local public transport the task of which is to satisfy the collective needs of the population on a current and continuous basis by providing publicly available services.

The character and form of dependencies between the local government units and the public utility municipal companies are regulated by the Act on municipal management. Unless otherwise specified, the decision-making authorities of the local government units, according to the act, decide on the choice of the method of conduction and form of operation for public utility municipal companies.

The municipal companies that provide public utility services by execution and organization of local public transport, are usually in the form of commercial law companies. The companies of local public transport in the form of limited liability or joint-stock companies are regulated by the Commercial Companies Code (Act of 2000).

Entities that provide services of local public transport may also be organized in the form of budgetary entities or enterprises that do not have legal personality. A self governing budgetary entity operates on the basis of a statute, which determines, in particular, its name, office and scope of activity, including the basic activity. In accordance with the Public Finance Law (Act of 2005), budgetary entities are such organizational entities of the public finance sector which cover their expenditures directly from the budget, while the collected revenues are respectively paid into the account of the government budget or the budget of the local government unit.

During the reform of the public utility municipal companies, they gained a partial autonomy within the national economy system. The economic and organizational independence of a local public transport company may be

analyzed from the perspective of the realized functions and the scope of activities. This means that the entities which manage the company, make, as a matter of fact, almost all decisions concerning the company. This, however, does not change the fact that the development direction given by the entities of local government within the public sphere of the municipal sector may be prescriptive and oblige the public utility municipal companies, including the municipal companies of local public transport, to perform ordered behavior at the expense of their own visions of development. The economic policy that formulates the boundary conditions for determining the character of economic space which holds the position of the resolution of the decision-making authority and, thus, being actually the local law, obliges the executive authority to comply with its provisions during every day work (Grzymała, 2010, p. 86). In the face of that, all the municipal entities (including the companies of local public transport) that participate in the activities of a particular economic space are obliged to comply with the regulations of the enacted economic policy.

As the element of the local public transport, urban public transport is one of the most common services that an average citizen of our country may encounter every day. There are three models of managing urban transport by the communes (Komunikacja w liczbach [Transportation in numbers], 2012):

- 1) Choose a management entity for public transport from the administrative structures e.g. the Municipal Transport Authority in Warszawa, the Municipal Infrastructure and Transportation Board in Kraków, the Road and Transportation Board in Łódź.
- 2) A proper department of the city office e.g. the City Office of Białystok.
- 3) Assignment of all the responsibilities to the urban transportation company.

Among the entities of urban public transportation in Poland, ninety-eight of them function as limited liability companies, three as associations of communes, four as joint-stock companies, twenty-six as budgetary enterprises, and eight as self governing budgetary entities.

3. Circumstances of the functioning of public utility municipal companies of public transport

A public utility company, which organizes local transport, must be facilitated with proper tools in order to be able to carry out the tasks ordered by the owner. For the funds paid and left at the disposal of the public utility company by its owner open possibilities of economic actions for the company, creating the foundation for its economic and legal independence. They are the first and, at the same time, the most important form of owner's contribution in a public utility company. The source for acquiring share capital by public utility

municipal companies, in accordance with particular acts, is the contribution made by the commune in form of the property of the entity, the place of which was taken by the public utility company.

The decision-making authorities of local governments decide on the level of prices and fees, or on the manner of determining the prices or fees for municipal services of public utility character, as well as for using the public utility objects and facilities of local government entities. The cost of offered services must be formed in a way that can be socially accepted by the members of the self governing community. This results in the necessity of distributing service production costs among their actual recipients and the community – as a whole. In practice, such a mechanism means that the decision-making authority is obligated to finance the activity of the public utility municipal company, especially in the case of companies such as the companies of local public transport, the activity of which is usually unprofitable, yet necessary in order to satisfy the needs of the local community (Wolański, 2011, p. 55). During the period after the political system changes, it is possible to distinguish several forms of owner's contributions in a company of local public transport used depending on the finance and subject model of balancing the services of public utility character.

In the past, the financing model for the activity of municipal companies providing transport services was based on the same principles that concern the activities of a business company. They provided services of public utility nature and received, in return, a particular payment from the users of those services. It is, however, important to remember that according to the above analyses, the level of prices and fees, as well as the scope of the transport service and the extent of trips at reduced price or free of charge is regulated by the decision-making authorities of the local government units. A trip of a passenger who paid the reduced price or travels free of charge makes the carrier incur the same costs as in the case of a passenger who paid the whole price for the service.

A construction in which the size of income was uncorrelated with costs resulted in the necessity of increasing the capital in public utility municipal companies of local public transport by the owner (the second basic source of financing).

In such a model, the public utility company that operated, for instance, in the form of a joint-stock company, could be recapitalized by an issue of shares the total of which is included in the commune. The difference between the nominal and the issue price increases the reserve capital, which covers the loss resulting from provision of public services and goods. The above mentioned mechanism has been presented by the following formula (Famielec, 2008):

$$KZ = n(C_e - W_n) \tag{1}$$

where:

KZ – share capital

n – number of issued shares

C_e – issue price of shares

W_n – nominal value of shares

Increasing the equity in the municipal companies of local public transport allowed the carrier to receive funds from the owner. Such funds were used to cover the losses resulting from the procurement for such transport work and could not be covered with the income from sales of tickets at the prices set by the City.

Another way of financing public transport (that is currently used) concerns the proposition that makes a substantial change in the scope of assigning rights to responsibilities i.e. the authority, the entity ordering the transport work pays for execution of the service, the tariff settler accepts, in particular, the financial results of its usage. In this model, the particular emphasis is put on the public utility of the public transport systems, with the inclusion of the principle of distributing the functioning costs of the transport service contractor – between the consumer of the service who makes the fractionated payment that is not equal to the aggregated functioning costs of the whole system, and the financing of the transport activity from public funds in order to realize the public interest of the members of the local government community. The boundary circumstances of the transportation organizer in this model has been presented by Figure 1.

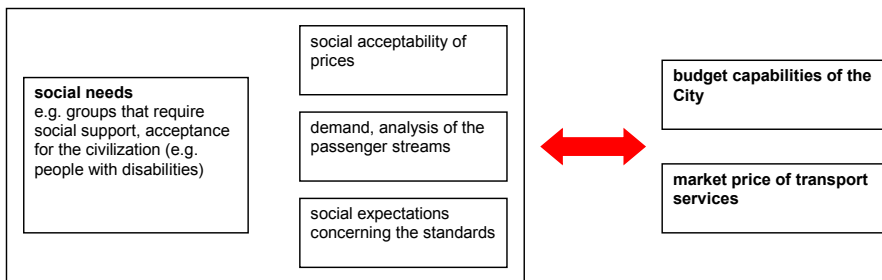


Figure 1. Boundary circumstances of the transportation organizer in a town or city

Source: Own analysis based on Kołodziejczyk (2004) and Wolański (2011).

The method of financing public transport is based on the assumption that the commune, on the basis of a proper agreement, orders provision of services of public utility character to a municipal company. The agreement concluded

between the above mentioned entities sets out the scope and extent of ordered services and the form and amount of payment for their execution. In the case of such a model, the payment made by the commune to the company for execution of the ordered services constitutes the form of contribution. Figure 2 presents the process of procurement of a transportation service.

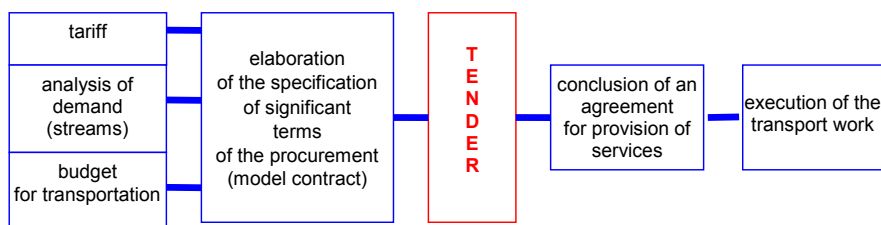


Figure 2. The process of procurement of a transportation service by the commune
Source: Own analysis based on Wąsowicz (2009).

The main responsibility within the organizational and financial area lies with the unit of the local government. The carrier and the public utility municipal company of local public transport perform a marginal role in the creation of transport policy and managing the transport system as a whole. It is the commune that determines the tariff, balances the public expectations concerning individual costs of transport with the budget capabilities, plans the service, organizes tenders for execution, and provides sales and control of tickets. The carrier only concludes an agreement with the city as a result of the conducted public procurement.

The commune, through the transport authority, determines the transport policy of the city or town, determines the availability of particular areas, prepares the timetable, monitors the quality of transport services (manages its own traffic control units), and manages the transportation infrastructure. The general idea of financial flows has been presented in Figure 3.

The presented model of financing of public transport used to be applied, among others, in Kraków and Łódź, and nowadays is used in e.g. Warszawa or Gdańsk. However, it has one significant problem related to the obvious conflict of interests when the company providing transport services is owned by the commune. In such cases, the commune has a double function, one of the owner and the other of the ordering party. In other words, the City is on both sides of one transaction i.e. of ordering and procurement of transport services. It may, theoretically, make the City act to the detriment of the Company or block the tender proceedings by other contractors.

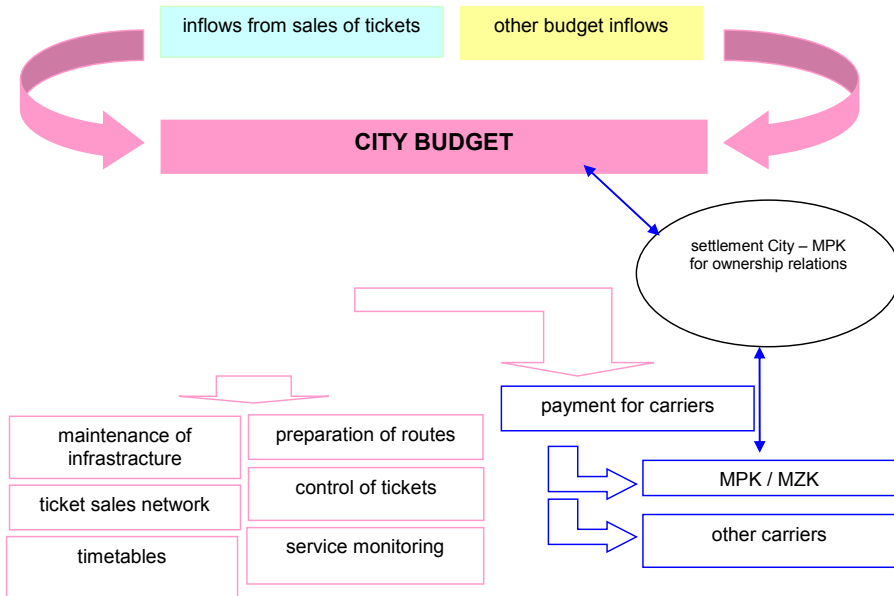


Figure 3. Financial flows in the organization model of urban transport on an example

Source: Own analysis based on Wąsowicz (2009).

Currently, the presented model has been replaced with the so-called provision of transport services without a bidding process – entrusting. This simplifies the procedure for procurement of transport work. On the same organizational and financial principles, instead of organization of tenders, it is possible to entrust provision of services to a public utility municipal company of local public transport. The principles of entrusting transport services are set out in Regulation (EC) no. 1370/2007 of the European Parliament and Council of 23 October 2007 on public passenger transport services by rail and by road and the repealing Council Regulations (EEC) no. 1191/69 (EEC) no. 1107/70 (Regulation EC, 2007). Unfortunately, the so-called entrustment does not free the organization system of local public transport services from the discussed problems. On the contrary, it perpetuates them.

This provokes a question whether it would be advisable to use another model that within the scope of urban transport would be aimed at separating the role of the urban transport company, being a commercial company, from the duties of the city. This would mean that the city must not use its ownership position during the procurement of the service, but it might take into account only the commercial, not social and public, orientation of the public utility municipal company.

4. The directions of market facilitation of the public utility municipal companies of local public transport

The basic assumption of the original model of organizing and financing public transport is to propose appropriateness of market orientation of any activities on the market of public transport services. Its characteristic is to function with maximum autonomy and be independent from the budget subsidies of the local government. In practice, it enforces adjustments of the price level of provided services to the costs of transport work made by the company. Figure 4 presents the boundary circumstances of the transportation organizer in the proposed model.

The way of financing public transport in this model is based on the assumption that the carriers operating on a particular market present the offer to the consumers on the basis of the analysis of incurred costs and the market acceptability of prices. Healthy competition, as well as the offered quality of services, is a very important factor that determines the price. In this model, one of the consumers is the commune, which balances the social expectations concerning individual costs of transport with its financial capabilities and employs the carrier's tariff (as in the case of neighboring communes). The commune establishes the scope of concessions for purchase, selects the carriers from whom it orders the service in the case of a particular offer. The carriers, including the public utility municipal company, conduct all of the matters that concern the transport and determine the tariff.

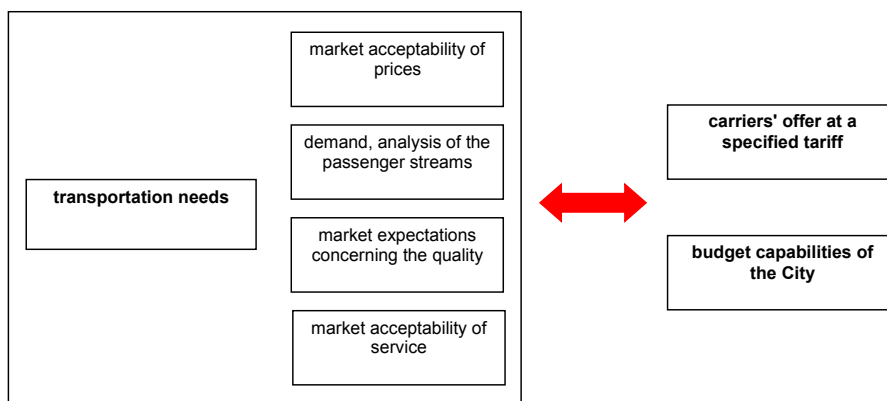


Figure 4. Circumstances of the transportation organizer in the commercial model

Source: Own analysis based on Wąsowicz (2009).

The commune determines the availability of particular zones of the urban agglomeration and, on the basis of its own analyses of streams and demand, it specifies the requirements for the carriers and monitors whether they fulfil the traffic parameters included in the offer. The entrepreneurs of the local public transport elaborate the offer of supply of services for a particular tariff and, on the basis of their own analyses of streams and demand, they shape the transportation system.

The local government unit determines the level of financing transport outside the standard offer (concession purchase, additional transport), impose penalties on carriers for non-executed transport offers, finances transport work (or purchases concessions) within the area that is not covered by the commercial offer of the carriers. Public utility municipal companies of local public transport gain income from sales of tickets, acquire payment for additional services (through the basic service) to the City, and, moreover, search for other sources of financing by using the spare resources available.

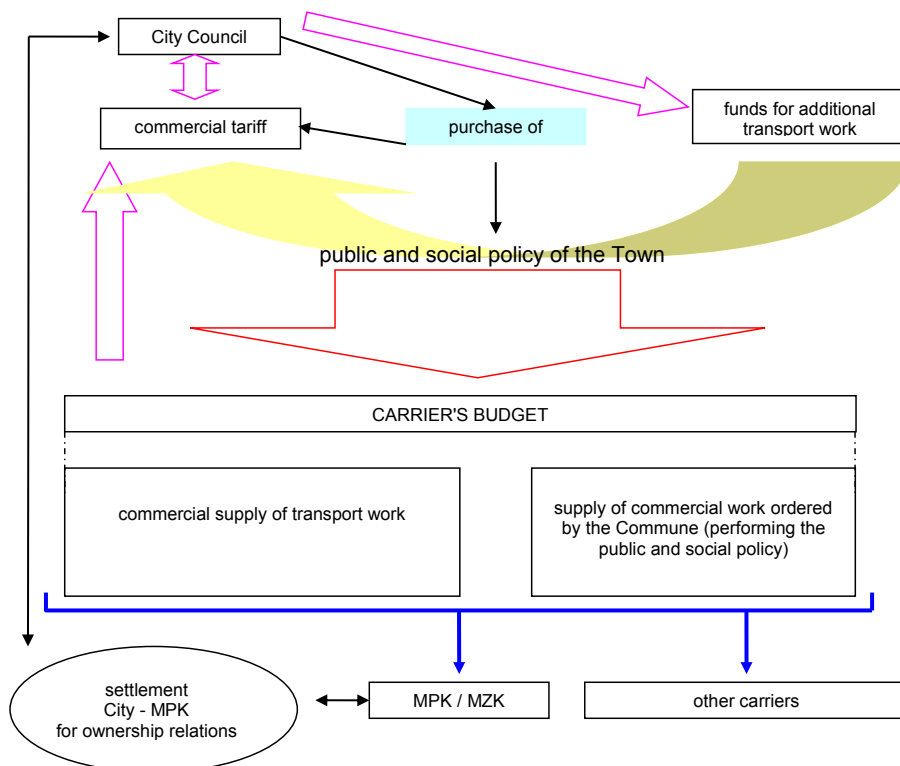


Figure 5. The idea of financial flows in the commercial organization model of urban transport

Source: Own analysis based on Wąsowicz (2009).

An important element of the presented solutions is the fact that the Commune still remains the owner of the public utility municipal company of local public transport and, thanks to this, it can create policy of activities for this entity through establishing, for example, its break-even point. Being justified from the point of view of the nature of provided services, non-profit activity has influence on the carrier's price offer on the market of provided services. Figure 5 presents the idea of financial flows in the proposed organization model of urban transport.

As the basic assumption that conditions this model, one must take into consideration that the fundamental goal is to provide enhancement of the quality of municipal services provided by the entities of local public transport. A goal corresponding to the main goal is, without a doubt, releasing the city authorities from the inconvenient role of the facility that creates the apparent market of public services.

This is a significant matter since, as it has already been mentioned, in the current model of performing the communal management the commune is the ordering party – the provider – the recipient of the set of municipal services offered to its public users. In practice, this means that the commune holds a total monopoly for creating and purchasing products of the publicly available municipal services.

Summing up, the organizer of urban transport has a slightly different role in the case in which the market has several, not one, entities providing transportation services at a similar scope of potential actions. This is convenient, since methods of competitiveness may lower the partial costs that are incurred by the commune on the respective transportation lines, but it results in the need of controlling the actions of the (supply) participants of the system, so that their competition would not result in decreasing the efficiency of the system as a whole.

However, the presented model, based on solutions used, among others, in Edinburgh and Dresden, has some disadvantages. There is a major threat that the competition concerning passengers might result in a "race to the depot" or a significant lowering of the standards at the expense of the comfort and safety. Thus, the result will be reverse to the premeditated one. In the case of services of public utility character, quality is the most important matter and that is why a deep analysis of the eventual directions of changes should be treated as a basic factor.

5. Conclusion

The result of introducing the regulation of the transport system, set by organizational orientation of the presented models, is its ability to

commercialize. This means a susceptibility to the orientation changes of sources of equity capital – units performing the transport component of the commune municipal services sector. The issue that constitutes the development direction of the orientation for public transport model is the relation of the contractors of municipal transport service to the issue of public utility of the conducted activities. The effect of actions that lead to ownership changes in the system components is the withdrawal from the monopoly model of the transport company to the model of a market with freedom of competition among carriers. A barrier of the process is the character of natural monopoly of the performed profession that determines the natural tendency of the local government transport system to solve the duties of "local public transport" through administrative and legal regulations.

It is then visible that the presented solutions for communal management systems in the sector of organizing networks for public transport have their advantages and disadvantages. The basic task for finding an optimum solution for an urban area is to choose the path of development. Aiming at gradual changes in the current resource, which constitutes the legacy of previous periods, would lead in the direction of the model demanded from the point of view of the changed interests of the self governing local community. This provides a warranty of having time to react to the events related to inertia of the system that is obligated to a constant and continuous provision of services at a given level of quality, with constant and continuous implementation of organizational changes.

References

- Famielec, J. (2008). *Materiały dydaktyczne z przedmiotu Zarządzanie przedsiębiorstwami użyteczności publicznej*. Kraków
- Flejterski, S., Panasiuk, A., Perenc, J., Rosa, G. (2005). *Współczesna ekonomia usług*. Warszawa: Wydawnictwo Naukowe PWN.
- Grzymała, Z. (2010). *Restrukturyzacja sektora komunalnego w Polsce. Aspekty organizacyjno-prawne i ekonomiczne*. Warszawa: Oficyna Wydawnicza Szkoła Główna Handlowa.
- Grzymała, Z. (2011). *Podstawy ekonomiki i zarządzania w gospodarce komunalnej*, Warszawa: Oficyna Wydawnicza Szkoła Główna Handlowa.
- Kołodziejczyk, H. (2004, Czerwiec). *Prywatyzacja komunikacji miejskiej*. Ogólnopolska konferencja o prywatyzacji podmiotów komunalnych. Gdańsk
- Komunikacja w liczbach*. (2012) Warszawa: Wyd. Biuletyn Komunikacji Miejskiej IGKM.

- Kornberger-Sokołowska, E. (2001). *Decentralizacja finansów publicznych a samodzielność finansowa jednostek samorządu terytorialnego*. Warszawa: Wydawnictwa Prawnicze PWN.
- Wąsowicz, K. (2009, Wrzesień). *Prawno-ekonomiczne aspekty funkcjonowania komunikacji miejskiej*. Ogólnopolska konferencja związków zawodowych działających w branży komunikacji. Łódź
- Wąsowicz, K., Ostrowski, T. (2003). *Przedsiębiorczość komunalna*. Warszawa: Wydawnictwo Izba Gospodarcza Komunikacji Miejskiej.
- White, P. (2007). Public transport, Its planning, management and operation, *Spon Press*, 28 (1), 17-37.
- Wolański, M. (2011). *Efektywność ekonomiczna demonopolizacji komunikacji miejskiej w Polsce*. Warszawa: Oficyna Wydawnicza Szkoła Główna Handlowa

Legal acts

- Ustawa z dnia 8 marca 1990 roku o samorządzie gminnym Dz. U. 2001 nr 142 poz. 1591 z późn. zm
- Ustawa z dnia 20 grudnia 1996 roku o gospodarce komunalnej, Dz. U. 1997 nr 9 poz. 43 z późn. zm
- Ustawy z dnia 15 września 2000 roku Kodeks spółek handlowych Dz. U. 2000 nr 94, poz. 1027 z późn. zm.
- Ustawa z dnia 30 czerwca 2005 roku o finansach publicznych Dz. U. 2005 nr 249 poz. 2104 z późn. zm, art. 20
- Rozporządzenie (WE) nr 1370/2007 Parlamentu Europejskiego i Rady z dnia 23 października 2007 r. dotyczące usług publicznych w zakresie kolejowego i drogowego transportu pasażerskiego

WEIGHTED COEFFICIENT MODEL FOR BANK INVESTMENT PORTFOLIO OPTIMIZATION

Mykhailo Kuzheliev*, Igor Britchenko, Maksym Zhytar*****

Abstract

The article investigates conceptual positions of providing financial flexibility of decision making in the bank's investment activity. It emphasizes the use of the mechanism, which includes the choice of investment strategy on the basis of institutional flexibility of decision-making; optimization of bank investment portfolio taking into account market flexibility; evaluation and regulation of managerial flexibility of decision making.

Keywords: *financial flexibility, institutional flexibility, market flexibility, managerial flexibility, investment strategy.*

1. Introduction

The modern state of the banks on the securities market is characterized by its dynamic development, as data of the National Bank of Ukraine evidenced. The significant growth in dynamics of total assets has been observed for the last ten years. During the period from 2004 to 2008 it increased to 157.2%. However, despite the substantial deceleration of increasing the value of bank assets in 2009-2012 and the deployment of financial and economic crisis, its growth amounted to 111,1%. At the same time, under the condition of general increase of total assets of banks, their investments in securities increased at a slower rate, and therefore domestic banks still do not pay enough attention to the investment activities, focusing usually on traditional operations and services. Taking into account the necessity of intensification of the activities of banks on the securities market and creation of conditions for their stable functioning, the development and implementation of measures to ensure financial flexibility of the decision making in the bank's investment activity become relevant. The aim of our research is to develop a theoretical framework and conceptual provisions to ensure financial flexibility of the decision making in the investment activity of banks.

* Ph.D., Director of the Educational and Research Institute of Finance and Banking, National University of State Tax Service of Ukraine, Ukraine, Tel. + 38 050 981 24 19, e-mail: m-kristo@yandex.ua.

** Ph.D., The Professor of the Department of Social and Computer Sciences, Wyższa Szkoła Biznesu - National-Louis University, Poland, Tel. +48 888 629 730, e-mail: ibritchenko@gmail.com.

*** Ph.D., Associate Professor at the Department of Banking and Financial Monitoring, National University of State Tax Service of Ukraine, Ukraine, Tel. + 38 050 577 92 40, e-mail: zhytarmaksym@gmail.com.

2. State of the art

Taking into account existing approaches, which determine the flexibility of the positions of various economic theories, it is established that the financial science has developed its own approach, which considers flexibility as the ability to change the capital structure – the possibility of company to adjust the capital structure, depending on operating conditions. This property reflects the system's ability to change their states in response to changes of factors in both external and internal environments which do not deteriorate the efficiency of its function. (Zhytar, 2014). Therefore, for a better understanding of the essence of flexibility it is appropriate to consider the concept of “financial flexibility of the decision making in the bank's investment activity” in the broad and narrow senses. In the broad sense, financial flexibility of the decision making in the banks' investment activity means different opportunities in decision-making in investment activities; in a narrow sense it is the ability to change the structure and composition of the investment portfolio of the bank at minimal cost and (or) loss of value in accordance with the changing conditions of implementation of investment activities by the banks taking into account the operation of market, institutional and managerial restrictions.

On the basis of summarizing the existing theoretical achievements and considering the inherent features of banks' investment activities, which were determined by the specifics of invested object, by the sphere of its implementation and factors of influence of institutional environment, it is useful to distinguish three types of financial flexibility in decision-making: market, institutional and managerial financial flexibility (Figure 1).

Despite the fact that financial flexibility of making investment decisions depends of such parameters as profitability, liquidity and risk, it is an integral characteristic not of the biggest financial tool, but it is a peculiar feature of decision-making process.

Actually, market flexibility absorbs the property of asset liquidity as a possibility of immediate asset realization without tangible loss of its value. Taking into account the influence of a number of factors which limit the liquidity of investment assets, we can single out systematic factors (liquidity of the stock market) and specific factors (individual characteristics of the securities, the financial condition of the issuer).

One of the first definitions of liquidity was given by Keynes, who considered liquidity as a combination of time necessary for the transaction and the costs arising in connection with it (Keynes, 1999). Besides this definition, there are other very close in content. Some authors understand liquidity as the possibility of buying or selling units of the assets at any time at fair market price, while it is understood that the difference in the prices of buying and

selling assets on the market should always be insignificant (Koch, 2002). In this case the measure of liquidity of the securities is the average daily value of course spread quotes on major exchanges.

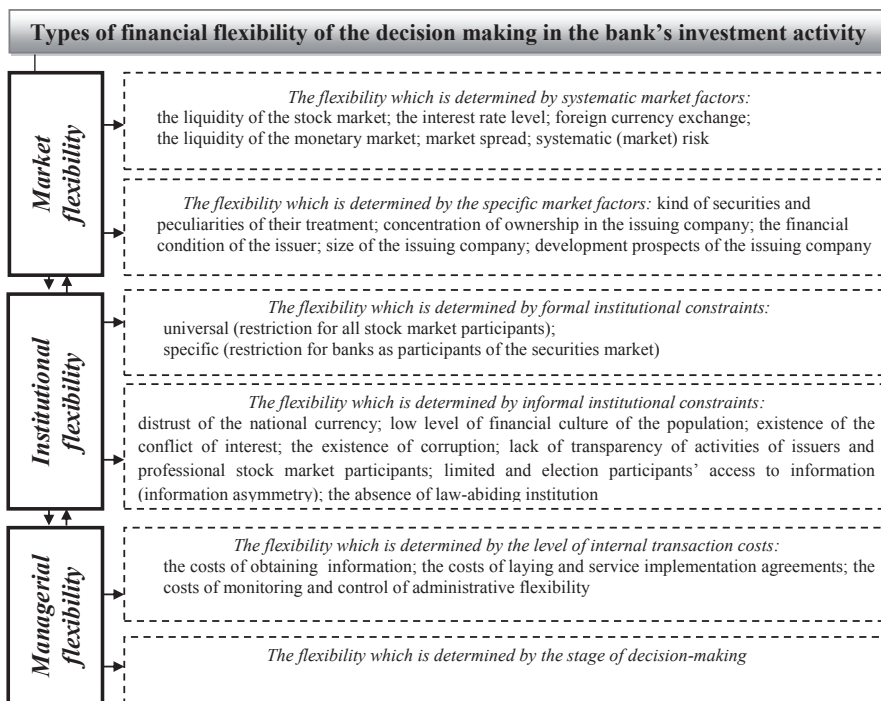


Figure 1. Types of financial flexibility of the decision making in the bank's investment activity

A number of foreign scientists give their definitions of liquidity, by which they mean possibility of selling or buying at any given time the required number of assets with insignificant fluctuations in prices (Brennan et al., 2012). Sodenberg (2011) defines liquidity as the possibility of buying or selling large quantities of assets quickly and at low cost, which will be of interest for portfolio managers and practitioners in the sphere of risk management.

The liquidity of the asset is the ability to transform into cash, and the degree of liquidity is determined by the duration of the interim period during which this transformation can be carried out (Kovalenko, 2011).

Meanwhile, all these interpretations are characterized by certain limitations of considering liquidity from only one of its sides. We should therefore appeal to the definitions which more clearly distinguish the characteristics or signs

of assets liquidity, allow moving from the abstract character of liquidity to its more understandable form.

Thus, some authors note that liquidity includes properties such as time (rapid conclusion of the agreement), transaction costs (lower transaction costs), volume (big deal size) and price (no strong influence on prices) (Chaykun, 2009). M. O'Hara points at a large volume of agreements, at the same time the agreement should not have a strong impact on the price of the asset (O'Hara, 2004). Other authors clarify, that in addition to the individual characteristics of the securities and the current state of the market, the level of liquidity depends on a given investment conditions, including the volume of the package, the supposed immediacy of investments, the activity strategy of portfolio management, the availability of this market for investors and other factors (Nord, 1997).

In turn, the main feature of liquidity, according to most scientists is efficiency, which in turn depends on two main factors: the ability of the market to absorb or provide adequate volumes of stock values (absolute market size) and the volume of the alleged transaction. Besides immediacy, the main indicator of assets liquidity, which estimates the time required for the transaction, we will identify others indicators, which, in our opinion, affect the level of liquidity of the asset, namely: the tightness, the depth and the resilience.

The indicator of depth reflects the possible scope of the agreement and does not carry a significant impact on price; the indicator of tightness is associated with the costs implementation of agreements and reflects the deviation of the contracts' prices from average market price; the indicator of resilience reflects the speed with which prices reach a new equilibrium level due to strong fluctuations, which are caused by the conclusion of major transactions (Harris, 1990).

It should be noted that these liquidity indicators are closely intertwined with such characteristics as time, transaction costs, volume and price. Therefore, in our opinion, we can accept the views of the foreign scientists Dong et al. and identify the main characteristics of liquidity which are similar to each other and, ultimately, are analogues: time and immediacy, volume and depth, transaction costs, tightness, price and resilience (Dong et al., 2007).

Institutional flexibility is determined by the general-legal, indicatively-legal, contractual and largely informal constraints which determine the speed and cost of reaction of investment activity of a bank, its adaptation to the changing macroeconomic market conditions (Madu, 1994).

General legal restrictions are presented by legislative normative acts which determine the conditions and procedure for issuance of securities (stocks, bonds, treasury bills, savings certificates); issues of regulation of mediation activities in organization of securities circulation; normative acts which define the structure of the banking system, economic, organizational and legal principles

of establishment, operation, reorganization and liquidation of banks and the procedure and size of the formation of the share capital of bank; regulations of range of banking operations (including securities transactions); normative acts which determine legal principles of state regulation and control over securities market, and forms of government regulation and structure of its implementation, powers and tasks of the National Commission on Securities and Stock Market and powers of self-regulatory organizations in the securities market.

The main administrative universal restrictions include establishment of rules and standards for transactions in the securities market and control of their compliance; limitations in the form of need to obtain licenses for carrying out a certain type of activity of stock market participants; state guarantees of conditions for implementation of investment activity, observance of rights and legal interests of its subjects; restrictions due to the conditions of suspension or termination of professional activities without a special permit for this activity.

The administrative specific institutional constraints of banks as securities market participants should include limitations on possibility of realization underwriting, brokerage and dealer activities of banks in the stock market; restrictions which arise out of the division of banks into universal and specialized; limitations which determine necessity of reorganization of the bank into a specialized one in case of excess structure of its assets in securities of a certain value; limitations of the possibility of bank investment in the share capital of subjects of non-financial economy sector, restrictions caused by the ban on the vote on shares by power of attorney. Therefore, the feature of administrative institutional constraints is their use in defining qualitative and quantitative parameters of banks. They are mostly used at the stage of making decisions about the admission of banks in the market.

Indicative and legal institutional constraints are mainly specific restrictions for banks. The standards which directly impact the investment activity in Ukraine should include investment regulations of each institution and the total amount of investments, the standards of maximum amount of credit risk on one counterparty and large credit risks in part of the bank's operations with bonds. Normative values should not exceed for universal banks – 60%, for clearing banks – 10% for investment – 90%. Such regulatory restrictions on rational diversification of the investment portfolio do not significantly affect the investment activities of banks.

The introduction of severe restrictions is caused by the necessity to form the mandatory reserve for reimbursement of losses from operations with securities. The creation of such reserve is regulated by the Regulations on the procedure for calculating the reserve to cover possible losses on securities transactions and the Regulations on the procedure for determining the fair

value for decrease usefulness of securities, approved by the National Bank of Ukraine № 629 and № 561, respectively.

Managerial flexibility involves the organization and administration of management processes that cause certain transaction costs, costs of agency conflicts and others.

Thus, for effective guarantees of financial flexibility of decision making in investment banking activities based on a synthesis of experience of different scientific schools of economic theory and by using a systematic approach we propose conceptual provisions to ensure the financial flexibility of decision-making in investment activities of banks the purpose of which is to protect the real value of bank equity capital from the impact of investment risks through the introduction of financial flexibility (Figure 2).

According to the conceptual provisions, assigned tasks can be solved with the use of the mechanism that includes: choice of investment strategy based on institutional flexibility of decision-making; optimization of bank investment portfolio taking into account market flexibility; evaluation and regulation of managerial flexibility of decision making.

The basis of the scientific and methodological approach to the choice of investment strategy based on institutional flexibility of decision making is building a hierarchical structure which consists of four stages and begins with determining the selection methods of investment strategy banks and the classification of the factors of causing it (La Porta, 1997). The final result of construction of the hierarchy is the choice of optimal alternative variants according to the classification of portfolios and types of securities.

These portfolios are classified according to the following principles: state and municipal bonds in the bank's portfolio of fixed profitability and trading portfolio; corporate bonds in the portfolio of non-fixed profitableness in the context of different industries; shares in the bank's portfolio of non-fixed profitableness in the context of different industries; corporate bonds in the portfolio of securities for sale.

The determination of weighting coefficients (table 1) made it possible to obtain an integrated assessment of the degree of attractiveness and an appropriate choice of investment strategy (P_l):

$$P_l = \sum_{i=1}^n s_{li} \cdot w_{li} \quad (1)$$

s_{li} – i -th criterion for assessing the l -th investment strategy; w_{li} – i -th weight coefficient that meets the criteria i ; n – number of selected indicators.

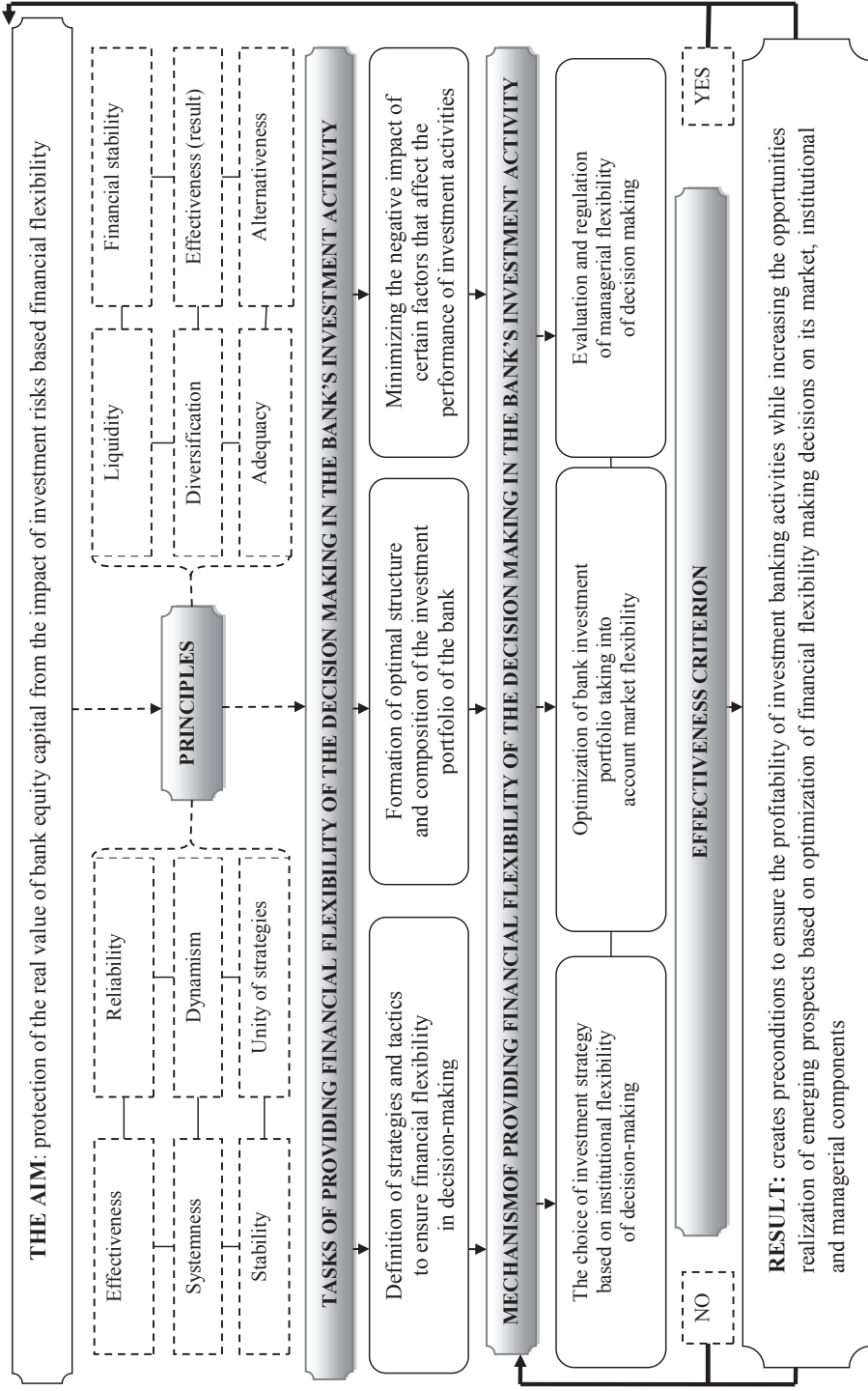


Figure 2. Conceptual provisions of providing financial flexibility of the decision making in the bank's investment activity

Table 1. Two levels of constructing a matrix of analysis of hierarchy to select the investment strategy

The criteria for selecting	The criteria for selecting (Pi)	Normalized vector (Wi)	Component of the own vector (Pi)	Normalized vector (Wi)	Component of the own vector (Pi)	Normalized vector (Wi)
	Type of investment strategy					
	Portfolio (PTBT, PTBF)	Portfolio (PCBP, PCBB, PCBM, PCBC, PCBO, PCS)	Portfolio (PSVP, PSVB, PSVM, PSVC, PSVO)			
THE EXTERNAL FACTORS						
I. Institutional flexibility (IF) – 0,57						
1. Formal universal restrictions	0,76	0,13	0,76	0,13	0,73	0,13
2. Formal specific restrictions	2,16	0,37	2,16	0,37	1,84	0,32
3. Informal restrictions	0,23	0,04	0,23	0,04	0,01	0,02
4. Indicative and legislative restrictions	2,68	0,46	2,68	0,46	3,20	0,53
Total	5,83	1,00	5,83	1,00	5,78	1,00
III. Market indicators of investment activity (MI) – 0,11						
1. Profitability	3,91	0,43	3,91	0,43	3,66	0,45
2. Liquidity	2,48	0,27	2,48	0,27	1,22	0,15
3. Level of risk	1,08	0,13	1,08	0,13	1,63	0,21
4. Stock index dynamics	0,64	0,07	0,64	0,07	0,64	0,08
5. Interest rates	0,48	0,05	0,48	0,05	0,48	0,06
6. Spread of defaulting corporate and government securities	0,43	0,05	0,43	0,05		
7. Premium for market risk					0,43	0,05
Total	9,02	1,00	9,02	1,00	8,06	1,00
IV. Macroeconomic factors (MF) – 0,05						
1. Rate of GDP growth	2,55	0,47	2,55	0,47	2,55	0,47
2. Inflation rate	1,8	0,33	1,8	0,33	1,8	0,33
3. Currency rate fluctuations	0,86	0,16	0,86	0,16	0,86	0,16
4. Balance of payment	0,23	0,04	0,23	0,04	0,23	0,04
Total	5,44	1,00	5,44	1,00	5,44	1,00
THE INTERNAL FACTORS						
II. Investment potential of bank (IO) – 0,27						
1. Resource potential	0,58	0,25	1,44	0,43	1,44	0,43
2. Reserve potential			1,44	0,43	1,44	0,43
3. Effective potential	1,73	0,75	0,48	0,14	0,48	0,14
Total	2,31	1,00	3,36	1,00	3,36	1,00

Obtained results indicate that the most important factor when choosing investment strategies depending on the classification of portfolios and types

of securities is institutional flexibility of the decision making in the bank's investment activity, which considers indicators of the institutional constraints that affect the formation of long-term strategies of the bank.

Of all financial instruments the most important one is setting limits that restrict market risk (0,13-0,16). The specific factors are the following: for domestic government bonds – exemption from reserve formation (0,15), for corporate bonds – adherence to the norms of the maximum credit risk (0,11) and reserve requirements for bank's portfolio (0,13), for shares – adherence to the norms of investment (0,16).

Among the market factors an important place is occupied by indicators of profitability and liquidity. However, it should be noted that choosing strategy which is focused on investing mainly in shares, the bank devotes due attention to assessing the level of risk. Less significant market indicators of investment activity of bank should include interest rate, spread of defaulting government and corporate bonds and premium for market risk for shares, which are on average 5% of the total volume of all market indicators. Macroeconomic factors have the same weight for all securities. The most important ones are indicators of GDP (gross national product) growth and inflation rate. In our opinion, understanding of structure with the use of method of analysis of hierarchy can be the basis for selecting long-term strategy considering institutional flexibility of the decision making in the bank's investment activity.

In modeling the optimal structure of the investment portfolio taking into account market flexibility we consider systematic factors of market flexibility (affecting all securities that are traded on the stock market, and the impact of which cannot be eliminated through diversification of investments), specific factors of market flexibility (determined by the individual characteristics of securities, the financial condition of their issuer), and resource potential of the bank. It allows to form a vector of development depending on finding actual profitableness of a positive (negative) range of values and provides substantiation of the decision making in the bank's investment activity both in the short and long term.

It is obvious that the result of the optimization of investment activity of the bank is the creation of a balanced structure of the investment portfolio sorted by the type of securities and considering external risk factors and market flexibility of the decision making in the bank's investment activity (Figure 3).

The implementation of the proposed scientific and methodical approach to the optimization of the investment portfolio allows developing options of management of market flexibility of the decision making in the bank's investment activity. These parameters are quantitatively determined basing on the value of the error of theoretical profitableness of securities taking into account the given of probability and unsystematic risk.

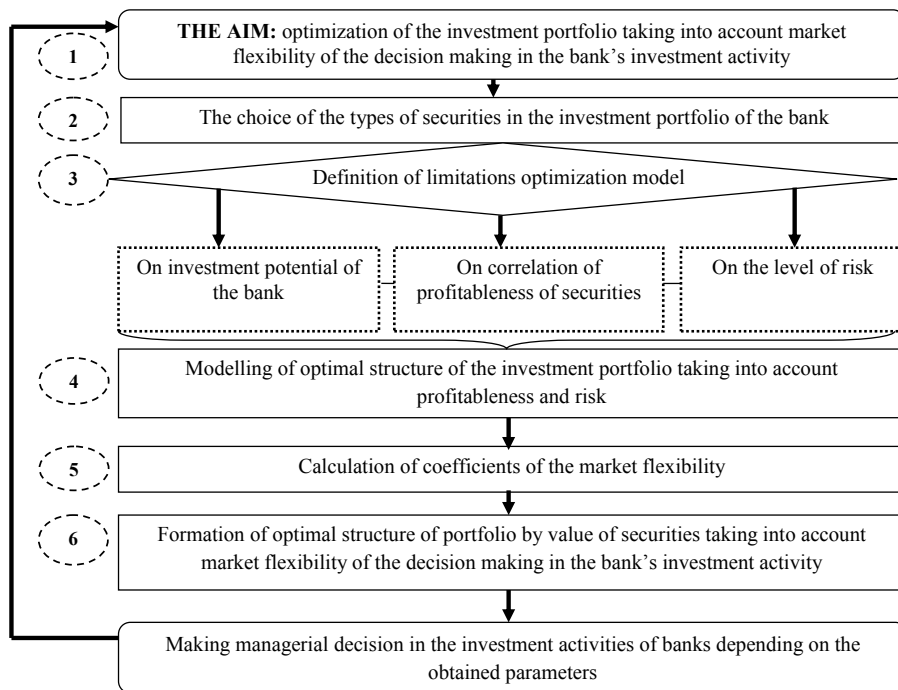


Figure 3. Scientific and methodical approach to the optimization of the investment portfolio taking into account market flexibility of the decision making in the bank's investment activity

In order to organize and administrate investment processes in the bank we improved scientific and methodical approach to the evaluation and regulation of managerial flexibility of the decision making in the bank's investment activity taking into account indicators which are elected from a position evaluation, structure, quality and quantity of the subsystem of administration of the bank (Table 2).

Proposed system of indicators can be considered as indicators of evaluation and regulation of managerial flexibility of the decision making in the bank's investment activity. However, considering the fact that it has multidirectional impact on managerial flexibility of the decision making in the bank's investment activity, it is advisable to integrate them in the general indicator:

$$F_A = \frac{1}{n} \sum_{i=1}^n \gamma_i \cdot K_i \quad (2)$$

F_A – integral indicator of managerial flexibility of the decision making in the bank's investment activity; K_i – standardized value of features; γ – weighting coefficients.

Table 2. The indicator system of managerial flexibility of the decision making in the bank's investment activity

Factors of managerial flexibility of the decision making	Indicators of managerial flexibility of the decision making	Stimulants and destimulants of flexibility of the decision making	The threshold values
Quantitative and qualitative of composition bank staff	The coefficient of quality of personnel potential (K_{KP})	+	$0 < K_{KP} \leq 1$
	The coefficient increase of level qualifications of personnel (K_{PK})	+	$0 < K_{PK} \leq 1$
	The coefficient of provision of human resources (K_{OK})	+	$0 < K_{OK} \leq 1$
	The coefficient of stability of personnel (K_{SK})	+	$0,08 < K_{SK} \leq 1$
	The coefficient of personnel turnover (K_{TK})	-	$0,03 < K_{TK} \leq 0,08$
The degree of centralization or decentralization of the bank	The coefficient of centralization of functional management structure (K_{CS})	-	$0 < K_{CS} \leq 1$
	The coefficient of functional specialization (K_{FS})	+	$0 < K_{FS} \leq 1$
	The coefficient of concentration of management functions (K_{KF})	-	$K_{KF} \leq 1$
	The coefficient of structural tension (K_{SN})	-	$K_{SN} \leq 1$
Type of organizational structure of the bank	The coefficient of operational work of the administrative apparatus (K_{OR})	+	$K_{OR} \leq 1$
The importance and the number of the decision making in the bank	The coefficient of effectiveness of implementation of decisions (K_{ER})	+	$0 < K_{ER} \leq 1$
The degree of control over the processes in the bank	The coefficient of degree of control (K_{DC})	+	$0 < K_{DC} \leq 1$

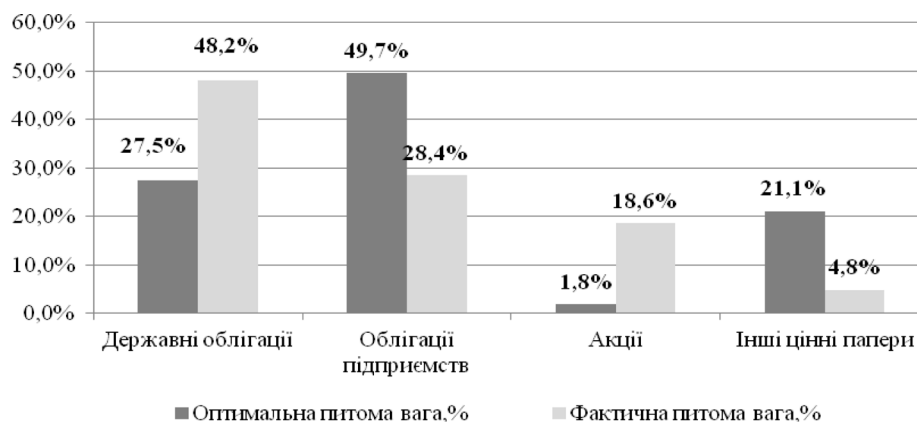


Figure 4. Optimal and actual specific weight of securities in the investment portfolio of PJSC CB «UkrSotsbank

The presented mechanism of ensuring financial flexibility of the decision making in the bank's investment activity was approbated on the example of Public joint stock company Commercial Bank «Ukrasotsbank» (which is one of the ten largest banks in Ukraine) for the period of 2007-2014 . Based on the obtained coefficients of financial flexibility and normalized coefficients of optimization we defined the structure of securities in value in the investment portfolio of PJSC CB «Ukrasotsbank» (Figure 4).

As shown in Figure 4, optimization of investment portfolio of the bank (in 2014) involves reducing the share of government bonds from 48,2 to 27,5%, stocks – from 18,6 to 1,8% by increasing the proportion of bonds from 28,4 to 49,7%, other securities – from 4,8 to 21,1%. Basing on approbation model to ensure financial flexibility of the decision making in the bank's investment activity we made the optimization of the investment portfolio of PJSC CB «Ukrasotsbank» considering the profitability of securities, the value of non-systematic risk and market flexibility. According to the results of optimization the economic effect in amount of 83 thousand UAH was obtained, as the difference between overall incomes of investment portfolio for the optimal investment portfolio structure and actual, considering the profitability of securities and portfolio value of 5 million UAH. Calculations of economic effects during research were carried out with the help of the following algorithm:

1. Overall profitability of the portfolio R_{total} is calculated as a weighted average on the actual and optimal structures:

$$R_{total}^{fact} = \sum r^{fact} \cdot d_i^{fact} = 13,5 \% \quad (3)$$

$$R_{total}^{opt} = \sum r^{fact} \cdot d_i^{opt} = 15,16\% \quad (4)$$

2. Overall effect Ef is calculated as a result of multiplying the difference between profitability on the actual and optimal structures of the value of the investment portfolio of the bank S :

$$Ef = (R_{total}^{opt} - R_{total}^{fact}) \div 100 \cdot S = (15,16 - 13,5) \div 100 \cdot 5 = 0,083 \text{ mln. UAH.}$$

3. Conclusion

Thus, summarizing the results of the research allows the following conclusions:

- 1) we offered conceptual provisions of providing financial flexibility of the decision making in the bank's investment activity on the basis of a systematic approach, which combines general scientific and specific principles, goals, objectives, elements of the mechanism of their implementation, the criterion of efficiency, and creates conditions

- to ensure the profitability of investment banking activities and at the same time increases the possibilities of implementation of emerging prospects due to optimization level of financial flexibility of making decisions on its market, institutional and administrative components;
- 2) scientific and methodical approach to the choice of bank's investment strategy on the basis of institutional flexibility in decision-making uses method of analysis of hierarchy that takes into account the impact of market, macroeconomic factors of investment activity and investment potential of banks (resource, reserve, effective), and on the basis of the received hierarchical structure depending on the classification of portfolios and types of securities allows to substantiate the choice of strategic orientation of the investment strategy of the bank;
 - 3) scientific and methodical approach to the optimization of the investment portfolio allows to form a vector of development depending on finding actual profitableness of a positive (negative) range of values and provides substantiation of the decision making in the bank's investment activity both in the short and long term;
 - 4) scientific and methodical approach to evaluating and regulating managerial flexibility of the decision making in the bank's investment activity takes into account indicators that are selected from a position evaluation, structure, quality and quantity of bank management subsystems (numerical and qualitative composition of the staff, the degree of centralization and decentralization of bank, type of organizational structure, the importance and the number of decision making in the bank, the degree of control over the processes in the bank), which makes it possible to reduce transaction costs and the level of investment risk, increase profitability and the quality of decisions, and to ensure continuous control over personnel involved in the investment process of the bank.

References

- Brennan, M., Chordia, T., Subrahmanyam, A., Tong Q. (2009). Sell-side Illiquidity and the Cross-Section of Expected Stock Returns. London: Cass Business School. Retrieved from http://www.cass.city.ac.uk/__data/assets/pdf_file/0009/69957/Chordia.pdf.
- Chaykun, A. (2009). The choice of indicators for measuring the liquidity of securities. *State management in the twenty-first century: tradition and innovation*, 3, 159–167.
- Dong, J., Kempf, A., Yadav, P. (2007). Resiliency, the Neglected Dimension of Market Liquidity. New York: *Empirical Evidence from the New York Stock Exchange*. Retrieved from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=967262.

- Harris, L. (1990). Liquidity, trading rules, and electronic trading systems. *New York University Salomon Center Monograph Series in Finance and Economics*, 4, 31.
- Keynes, J. (1999). *General Theory of Employment Interest and Money*. Moscow: Helios ARV.
- Koch, I. (2002). The principles assessing the liquidity of the securities. *Socio-economic problems of formation and development of market economy*, 274–276.
- Kovalenko, Y.M. (2011). The essence of the institutional environment of the financial sector of the economy. *Economic Bulletin of Donbas*, 1(23), 92–97.
- Kuzheliev, M. (2014). Evaluation and regulation of administrative flexibility of the decision making in the bank's investment activity. *Scientific Bulletin of National Lviv Technical University of Ukraine*, 24(9), 328–337.
- La Porta, R. (1997). Legal Determinants of External Finance. *The Journal of Finance*, 3, 20.
- Madu, C. (1994). Optimum information technology for socioeconomic development. *Information Management and Computer Security*, 2(1), 4–11.
- North, D. (1997). *Institutions, Institutional Change and Economic Performance*. Moscow: Foundation of the Economic book “Beginning”.
- O'Hara, M. (2004). Liquidity and Financial Market Stability. *NBB Working Paper*, 1–13.
- Regulations on the procedure of calculation of the allowance for compensation of possible losses of banks from securities transactions (1999). Kyiv: *Ordinance of National Bank of Ukraine*, 629. Retrieved from <http://zakon4.rada.gov.ua/laws/show/z0045-00>.
- Sodenberg, J. (2006). Is It Cold up North? The Liquidity on the Scandinavian Stock Exchanges. *Working Paper*. Vaxjo: Vaxjo University. Retrieved from http://www.researchgate.net/publication/228973332_Is_it_cold_up_north-The_liquidity_on_the_Scandinavian_stock_exchanges.
- The Financial Development Report (2012). Retrieved from <http://www.weforum.org/reports/financial-development-report-2012>.
- The main indicators of activity of banks of Ukraine (2015). Kyiv: National Bank of Ukraine. Retrieved from <http://www.bank.gov.ua>.
- Zhytar, M. (2014). Selection of the Bank Investment Strategy on the Basis of the Hierarchy Analysis Method. *Scientific journal «Business Inform»*, 2, 342–347.

TALENT MANAGEMENT BASED ON STATISTICS. THE MONEYBALL PERSPECTIVE

Daniel Gajda*, **Michał Bartoszewicz****

Abstract

This paper presents the issue of the usage of statistics in sport clubs players management and its possible transfer to talented employees management. The main aim of the study is to present the genesis and discuss the example of usage of the statistical analysis in management of sport talents, as well as, the implication of this solution from the sport to the ground of organization and management theory, in order to extend the set of existing talent assessment techniques. The most important conclusion from this theoretical study reveals, that assessment based on statistical analysis, widely used in sport, can be adopted into business – for assessment of talented employees, because it is more precise and objective than traditional, more subjective assessment conducted by a manager or HR specialist. Authors make their reflections on the basis of in-depth literature studies. The article has been supplemented by the case study which uses the statistical analysis.

Keywords: *talent management, talent assessment, statistical analysis, sport.*

1. Introduction

The world of sport increasingly opens up to statistical analysis, understanding that it can tip the balance in favour of one or the other club. When the game is played for prestigious trophies and millions of euros, managers, coaches and players are able to do a lot, in order to ensure themselves the advantage over the rivals (Anderson and Sally, 2014, p. 12). Although the usage of statistical analysis in sports was postulated in the 1970's, a significant interest in this issue took place in the last decade. The proof for this could be the growing attendance at the “MIT Sloan Sports Analytics” annual conference organized to discuss the future of sports analytics. The first edition of this event – in 2006, attracted only 60 members, one of the last edition hosted nearly 2.3 thousand participants: researchers, journalists and managers from more than 70 clubs (Grynkiewicz, 2012).

* M.A., Faculty of Human Resource Management, University of Economics in Katowice, ul. 1 Maja 50, 40-287 Katowice, e-mail: daniel.gajda@ue.katowice.pl.

** M.A., Faculty of Human Resource Management, University of Economics in Katowice, ul. 1 Maja 50, 40-287 Katowice, e-mail: michal.bartoszewicz@ue.katowice.pl.

The derivative of the usage of statistical analysis in sports was the change in players assessment method. In order to eliminate the subjectivity in assessment carried out by the coach or people responsible for hunting sports talents, sports clubs started to assess players based on individual statistics. Michael Lewis, in his book *Moneyball: The Art of Winning an Unfair Game*, asks a rhetorical question, whether the problem of unfair assessment refers only to professional athletes? (Lewis, 2011, p. 92). Sport managers, before implementation of players assessment based on statistics, as well as the company managers, make mistakes in assessment of employees, by undervaluing or overvaluing their talents. The question is why not apply statistical analysis, like sport clubs did, to assess the talented employees in a company?

The main aim of the study is to present the genesis and discuss the example of the application of statistical analysis in the management of sport talents, as well as the implication of this solution from the sport to the ground of organization and management theory, in order to extend the set of existing talent assessment techniques.

2. The genesis of statistical analysis in sport

The pioneer of the usage of statistical analysis in players assessment was the American baseball club Oakland Athletics (A's) (Grynkiewicz, 2012). In the 1990's, the CEO of the club – Billy Beane – rejected the existing principles of building the sport team that had been improved over a hundred years of the history of baseball, because Oakland A's, having a much lower budget at their disposal compared to that of their competitors, were doomed to failure. The best players of Oakland were going away to generous clubs, moreover A's had no money to employ valuable successors³ (Stec, 2011). In addition, the process of recruitment of new players amongst amateurs was ineffective. Beane had said: “The draft⁴ has never been anything but a fucking crapshoot. We take fifty guys and we celebrate if two of them make it. In what other business is two for fifty a success?” (Lewis, 2011, p. 30).

Billy Beane, with his assistant – Paul DePodesta, inspired by publications of Billy James and Eric Walker that discussed the usage of statistics in baseball, implemented the unconventional concept of assessment and selection of the players basing on statistical analysis (Lewis, 2001, p. 80-81). They

3 In 2001 Oakland A's lost three top players to wealthier clubs: Jason Giambi, John Damon and Jason Isringhausen. Giambi went to the New York Yankees club that offered him a 7-year contract worth \$ 120 million. Damon went to the Boston Red Sox, signing a four year contract worth \$ 32 million, while Isringhausen signed a contract with St. Louis Cardinals worth \$ 28 million (Lewis, 2011, p. 36).

4 Draft – practiced mostly in the United States is the method of selecting new players to the professional leagues, mostly among the young players just starting a professional career. Players reported to recruitment are being picked by clubs, in each round each club can pick only one player.

recommended hiring players with conspicuous flaws, rejected by other clubs⁵, which, however, as statistics had shown, displayed a single trait desirable in a baseball player. Those player with the remarkably developed quality, were then positioned in such a way, that the players complemented each other. The main aim of Bean and De Podesta was to minimize the impact of individual players' weaknesses on the game, yet maximize their extraordinary attributes and to bring the game to a higher level of teamwork (Stec, 2011). The starting point for achieving this aim has become a statistical analysis of individual players. According to the adopted approach, scoring the points resembled the production process rather than a symptom of talent. If each player performed his tasks at the production line and the production became a routine, the points could be produced in mass (Lewis, 2011, p. 76).

Earlier, the selection of players was based on observation and intuition of scouts – people responsible for hunting talents. Such method of assessing players was encumbered with high subjectivity and inaccuracy. During the baseball game a lot of things are hard to see because human senses tend to be unreliable. In addition, the scouts, mainly ex-players, had a tendency to generalize conclusions basing on their own experiences. An important mistake was also the fact of applying exaggerated attention to the player's last performance, because it does not guarantee similarly satisfactory performance in subsequent games (especially with a new team). The new way of looking at the players uncovers the illusions created by people "steeped" in baseball (Lewis, 2011, p. 31).

Statistics allow to break down the scouts' prejudices. For Billy and Paul the young players were not what they looked like or what they could become, but players who could do certain things. This simple and logical assumption was considered heresy among other scouts who did not see anything interesting in the history of the achievements of a player (Lewis, 2011, p. 53). They paid more attention to the athletic and mental attributes of the players. Scouts and coaches' attachment to the action was the biggest problem in implementing the new approach to assessing players, and a source of internal conflict in the Oakland club (Stec, 2011).

Finally Beane, thanks to his position and persistence in achieving goals, stood his ground, and Oakland A's won 20 games in a row, which is still an unbeaten record for the Major League Baseball. This victories convinced the scouts that the new approach was legitimate. Unfortunately, with the current constraints of the Oakland club, Beane was unable to reach the championship, but was able to achieve excellent results with several times lower in comparison

⁵ Reasons for rejecting the players were many: age (players either too young or too old), too short or too tall, too high or too low body weight, low running speed, poor psychological test results, short fuse and bad temper, poor grades in school, unwillingness to learn in college, tendency to abuse the law, or even excessive affection for a girlfriend or the father's conviction for pornography (Lewis, 2011, p. 38-41, 141).

with other clubs, budget. Shortly thereafter, the methods used in Oakland Athletics were implemented in one of the richest baseball clubs – the Boston Red Sox, which resulted in achieving their first championship title after 86 years (Stec, 2011). Describing the story of unequal struggle of Oakland A’s with more affluent clubs, Michael Lewis describes it as Moneyball – game of a certain concept against the money (Lewis, 2011).

Successes of Oakland and Boston Red Sox helped to popularize the so far niche science – Sabermetrics⁶ – sophisticated statistical analysis aiming to find objective knowledge about baseball (Lewis, 2011, p. 102). While the term “sabermetrics” appeared in the scientific literature as early as in the ‘70s of the last century, a significant increase of interest in this field of science has been observed only in the last decade, as testified by the turnout at the aforementioned conference the “MIT Sloan Sports Analytics” (Grynkiewicz, 2012).

Baseball started the statistical revolution in all sports, especially in football. As can be observed, for several years now football clubs have been evolving into global corporations with annual budgets of hundreds of millions of euros. Competing at both the sporting and financial level, they want to acquire the knowledge that will give them an advantage over other clubs. Given the fact that footballers playing in one of Europe’s leading leagues earn 1-3 million euros per season⁷, it is worth of involving legions of analysts who reduce the risk of choosing and contracting the wrong player. Scouts from European football clubs started to travel across the ocean in order to develop their knowledge of analytics and learn from America’s best sabermetrics practitioners (Stec, 2011).

Nowadays, analysts employed at football clubs gather thousands of statistical data on the behavior of individual players during matches and training, using special video equipment, and then analyze collected data using dedicated software. The growing demand for this type of data and analysis can be proven by the emergence of specialized companies, such as: Amisco, Match Analysis, Opta, Prozone or StatDNA, which, commissioned by sports clubs, do all off the analytical work so that the club manager receives a substantial report, based on which he can make personnel decisions. Apart from data on players, clubs also collect medical data and data on sales – e.g. on the quantity and value of sold tickets, soccer gadgets (shirts, scarves, etc.) or snacks and beverages sold at the stadium (Anderson and Sally, 2014, p. 13). To provide better understanding of the meaning of the use of statistical analysis in assessing players, the next part of this article presents a case study.

6 The name derives from the acronym SABR, meaning the Society for American Baseball Research (Lewis, 2011, p. 102).

7 The average annual player’s salary in Europe’s top leagues is as follows [amounts in euros as of 14/11/2014]: England – 2 859 308; Germany – 1 832 055; Italy – 1 652 337; Spain – 1 525 731; France 1 242 614. The best players get tens of millions of euros per year (Sośnicki, 2014).

3. The example of the use of the statistical analysis in assessing players – Manchester United Case Study

The most successful English football club – Manchester United, won the last championship in 2013 (Robinson, 2014a). In the same year, after 26 years of work, head coach of United, Sir Alex Ferguson announced his retirement. That was a big loss for the club, because during his 26 years at the club, Ferguson won 38 different trophies (Blitz, 2013). This was the beginning of the problems for the club. The new United manager – David Moyes, after 8 months of work, was fired because players that won the championship the year before, took 7th place in the English league (Kuper, 2014). In 2014 Manchester United recruited a new manager – experienced and charismatic Dutch coach Louis van Gall (Robinson, 2014b). In his first season he led Manchester to 4th place in the league. Statistics showed that there was progress in the game (Gill, 2015). Although, in order to compete for the championship the following season, the team needed strengthening the squad. The new coach had two answer two questions: what skills are crucial, and who has these skills?

Scored goals are the essence of football because the team that scores more goals wins the match. Goals secure victories, victories score points, and points ensure the place in the league table (Anderson and Sally, 2014, p. 104). Chris Anderson and David Sally, in their book “The Number game. Why Everything You Know About Football is Wrong”, using data from 2000 to 2011 concerning the 4 best leagues in Europe have calculated how many points a team scores, depending on the number of goals they get. The relation between these variables is shown in Figure 1.

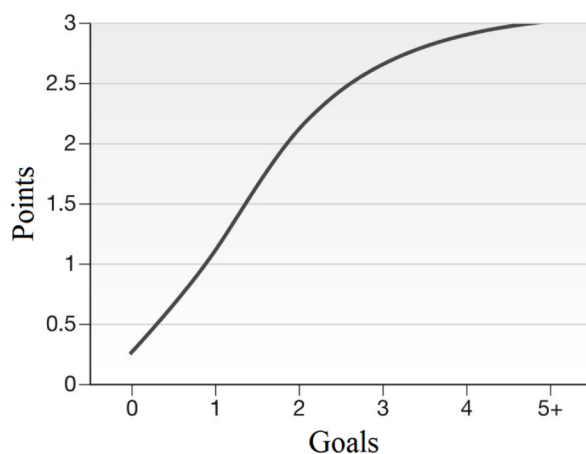


Figure 1. Goals and points per game in four strongest European leagues, years 2000-2011

Source: Anderson and Sally (2014, p. 105).

As shown above, the more goals scored, the greater the chance of winning the match. According to the analysis shooting 5 or more goals almost guarantees three points. It should not be surprising, that if the team does not score any goal, it will not get too many points, but at the same time it does not mean that lack of goals does not provide us any points. In 8% of the matches there were scoreless draws, which gave both teams one point. From the statistical point of view, one goal guarantees one point, two goals bring the team closer to the win, but scoring even three or four goals does not guarantee a three points.

Looking at the final table of the English league matches of the season 2014/2015 (Figure 2) it is easy to see the difference between the number of goals scored by Manchester United and the number of goals scored by the team that won the championship – Chelsea.

Pos	Team	P	W	D	L	GF	GA	GD	Pts
1	Chelsea (C)	38	26	9	3	73	32	41	87
2	Man City	38	24	7	7	83	38	45	79
3	Arsenal	38	22	9	7	71	36	35	75
4	Man Utd	38	20	10	8	62	37	25	70

Legend:

Pos. – Position in English league table

W – number of wins

D – number of draws

L – number of losses

P – number of played games

GF – Goals for

GA – Goals against

GD – Goal difference

Pts – number of points

Figure 2. Fragment of the final table of the English soccer league, season 2014/2015

Source: <http://eurosport.onet.pl/pilka-nozna/liga-angielska/tabela/?tid=p74p0>.

In the season 2014/2015 United scored 62 goals, while Chelsea scored 73. The data shows simple conclusion that Manchester scored too few goals to win the Championship. The difference in the number of goals scored by both teams has definitely impacted the final standings in the league. We took a closer look at the statistics of strikers – players who are most responsible for scoring goals.

Individual statistics of Manchester United and Chelsea strikers are summarized in Table 1.

Table 1. Individual statistics of Manchester United and Chelsea strikers in season 2014-2015*

Manchester United FC				
Surname	Name	Number of appearances	Number of goals	Goals per game
Rooney	Wayne	33	12	0,36
van Persie	Robin	27	10	0,37
Falcao	Radamel	26	4	0,15
Wilson	James	13	1	0,08
Total		99	27	0,96
Chelsea London FC				
Surname	Name	Number of appearances	Number of goals	Goals per game
Costa	Diego	26	20	0,77
Remy	Loic	19	7	0,37
Drogba	Didier	28	4	0,14
Total		73	31	1,28

*The list includes players who played for their clubs at least 10 matches in season 2014/2015 in English league. Source: own study based on data from the website <http://www.goal.com/en/>

As shown in Table 1, four of Manchester's forwards scored 27 goals, while three Chelsea's strikers scored 31 goals. Although the number of goals scored by forwards of both clubs is similar, a lower number of Chelsea forwards scored more goals than United forwards. The Manchester United did not have any forwards who could score approximately 20 goals per season. Moreover, Chelsea forwards, thanks to Diego Costa, had a higher average of goals per game. In order to answer the question who could fill this gap, the statistical analysis based on individual performance of strikers in season 2014/2015 has been conducted. The search criteria were as follows:

- position: striker,
- age: in order to match the club policy – under 30 years of age,
- former employer: club from outside of the forefront, i.e. not present in the Champions League in season 2014/2015, player playing for the top club, may not express desire to leave,
- experience: at least 20 games last season in the top European league: English, German, Spanish, Italian or French.

Based on the statistical analysis a short list of names of players who could be recommended for Manchester has been created (Tables 2 and 3).

Table 2. List of recommended players according to the criterion of the number of scored goals

Surname	Name	Age	Club	Number of appear.	Number of goals	Goals per game	Market value (€m)
Lacazette	Alexandre	24	Olympique Lyon	33	27	0,82	30,00
Icardi	Mauro	22	Inter Milan	36	22	0,61	32,00
Kane	Harry	21	Tottenham Hotspur	34	21	0,62	50,00
Gignac	André-Pierre	29	Olympique Marseille	38	21	0,55	10,00
Bacca	Carlos	28	Sevilla FC	37	20	0,54	25,00
Austin	Charlie	25	Queens Park Rangers	35	18	0,51	9,00
Higuain	Gonzalo	27	SSC Napoli	37	18	0,49	43,00
Gradel	Max	27	AS Saint-Étienne	31	17	0,55	6,50

Source: own study based on data from the website <http://www.transfermarkt.de/>.

Table 3. List of recommended players according to the criterion of the average number of goals per game

Surname	Name	Age	Club	Number of appear.	Number of goals	Goals per game	Market value (€m)
Lacazette	Alexandre	24	Olympique Lyon	33	27	0,82	30,00
Dost	Bas	26	VFL Wolfsburg	21	16	0,76	6,50
Kane	Harry	21	Tottenham Hotspur	34	21	0,62	50,00
Icardi	Mauro	22	Inter Milan	36	22	0,61	32,00
Gignac	André-Pierre	29	Olympique Marseille	38	21	0,55	10,00
Gradel	Max	27	AS Saint-Étienne	31	17	0,55	6,50
Bacca	Carlos	28	Sevilla FC	37	20	0,54	25,00
Austin	Charlie	25	Queens Park Rangers	35	18	0,51	9,00

Source: own study based on data from the website <http://www.transfermarkt.de/>.

The Tables were created by authors based on statistical data referring to three hundred forwards. Players were classified according to two criteria: the number of scored goals and the ratio of scored goals to the number of appearances. Considering both criteria, the most effective player is the Frenchman, Alexandre Lacazette, who plays for Olympique Lyon. Specialized portal *transfermarkt.de* put this player's value as thirty 30 million euros. Since the value of the player is high, the best relation of value to effectiveness would be achieved by Manchester if they could attract such players as Charlie Austin from Queens Park Rangers or Bas Dost from Wolfsburg.

The case study presented here demonstrates very basic possibilities of the use of statistical data in the evaluation of players. Only limited data set

was taken into consideration out of a significantly larger set on on each player playing in the major league. The following section of the article is an attempt to show implications of the idea for business.

4. Implications for business

Considerations carried out within this article do not relate exclusively to sport. From the presented case study we can draw several implications for business. Assessment based on statistical analysis can be successfully used not only in sport but also in other areas. Such approach is presented by statistician Nate Silver. In 2008, using the system to predict the course of the careers of players, he predicted the winners of the elections to the electoral college in 49 out of the 50 states, as well as the results of the competition for all 35 seats in the US Senate (Grynkiwicz, 2012). At this point a question arises whether the described solution can be applied in business?

If a professional baseball player can be underestimated or overestimated, the same may be done about the employees. If several thousands of audience in the stadium and a several million audience in front of the TV can make a mistake in the evaluation of the player, what can we say about evaluation of an employee by a single supervisor? Similarly as managers of baseball clubs before sabermetric revolution, many company managers and HR professionals make mistakes in assessing their employees (Bovis, Pressman, Gagne & Sisco, 2012).

Unfair evaluation may result in the loss of trust, poor motivation and commitment to work, further more it can raise the level of stress and emotional tension, cause conflicts among the employees or employees and superiors, which undermines the atmosphere in the organization. In addition, it may create a feeling of undervaluation, aversion to developing qualifications, insecurity of employment, and, as a result, cause spontaneous departure of talented employees from the company (Tadrała, 2001; Królik, 2006). Errors in assessment made during the recruitment and selection process, may lead to the exclusion of some talented candidates. When the knowledge, skills, attributes and motivation of employees are not synchronized with the requirements of the job, it will be a loss for an employee, his team and the entire organization (Bovis et al., 2012).

Even if the statistical analysis used to assess the players is not the most accurate, it may still be more accurate than subjective assessment of the manager. Why, therefore, companies do not assess their employees based on their performance statistics, in the spirit of the idea of Moneyball? It is worth re-verifying solutions currently used in organization problem solving policy, including those related to employee evaluation. Changing global demographic

trends make it harder to find high-performing employees suitable for the changing job requirements. Statistical analysis may be harder to conduct in business than sport because of the vast variety of skills, activities, metrics and even definitions of success. But harder does not mean impossible. In past decades, data for performance evaluation was minimal. Nowadays, companies can use sophisticated employee-assessment tools to gather and convert data and find better metrics for assessing employees' efficiency.

Many arguments speak in favor of the usage of statistical analysis for the assessment of employees' efficiency. Evaluation based on the statistics is more objective, compared with the evaluation based on observation only. Statistics allow us to see things, which could not be normally noticed, which is extremely important especially in the process of assessment and selection, if we do not want to lose talented employees. The usage of statistical analysis in the assessment of employees' may increase the return on investment in employee (Bovis et al., 2012).

5. Implications for business – example

To provide better understanding of presented idea of transfer of statistical analysis from sport to talented employee assessment, authors decided to present a theoretical example applied in business. For the need of the example we assume there is an IT company focused on providing specialized software for all sort of industries. Lately, the company engineers have created a completely new product, which is going to create a new niche on the market, because no other IT company is providing such software solutions to its clients. The board of the directors have decided that it is crucial for the company to gain a big market share before other software providers develop such system, as on the IT market there is a tendency to copy products. During the strategy meeting it was agreed that there is a need to create a very efficient sales team that will be able to reach high sales goals to gain a substantial market share.

The sales Director, Product Manager and HR Manager were asked to work together on this case. In typical approach, the company would either search for best sales representative internally, externally or both. In the presented case we are concentrating on the fact that time is crucial, the team must be reliable and, at the same time, by creating the team we do not want to affect the current sales strategy by e.g. withdrawing best sales representatives from other teams, thus risking conflicts with team managers etc. The Sales Director together with the Product and HR Managers, decided to use statistical analysis for this case. They started with creating the list of most important, crucial characteristics of a successful sales representative in IT business. They are presented below:

- 1) Effectiveness in arranging meetings over the phone.
- 2) High efficiency in concluding agreements.
- 3) Ability to retain customers – satisfactory post-sales sale service together with the ability to receive recommendations.
- 4) Ability to upsell⁸

The main difference between traditional approach and the proposed one is that the team, instead of concentrating on finding best sales representatives based on their general results and opinions “who is the best”, decided to use data that company gathers about its sales forces, and then statistically analyze it to find extraordinary performers. The team looked at the data that company is gathering on sales representative that relates to earlier defined crucial features/abilities. Their findings were:

- 1) Effectiveness in arranging meetings over the phone – company for many years has been setting goals and gathering data on numbers and effectiveness of the so called “cold calling”⁹. Statistics: average number of performed calls per week; effectiveness of the calls (how many out of all led to meetings).
- 2) High efficiency in concluding agreements – company possess detailed data on every signed agreement by each of the employees. Statistics: number of signed agreements per quarter; value of signed agreements – amounts.
- 3) Ability to retain customers – company possess detailed history on customer retention, which salesperson has lost how many contracts etc. Statistics: average length for the customer loyalty measured in relation to salesperson that was responsible to provide after sale services; number of contracts lost per salesperson; number of recommendations that a salesperson received from the customers.
- 4) Ability to upselle – company possess detailed history of all of the systems that were sold to each customer. Statistics: how many times a sales representative sold new software to the current customer; how many times a salesperson sold an upgrade of the system; what was the amount.

Having these criteria at their disposal, the team consisting of Sales Director, Product Manager and HR Manager were able to choose the best employees of the sales force in the relation to the metrics. The problem was, that they did not want to corrupt the life of sales team by taking the so called best salesperson from the team. At the same time they all agreed that it would be acceptable to divide the sales process into stages with individual sales

⁸ Upselling refers to a sales process, to upsell means to sell more expensive products, upgrades or to sell new products or services to existing customer of current product, service.

⁹ Cold calling refers to the sales process, defined as the solicitation of business from potential customers who have had no prior contact with the salesperson conducting the call, therefore making the call cold. Cold calling is used to attempt to convince potential customers to purchase either the salesperson’s product or service or to agree to meet with the salesperson to see the product.

representatives responsible for each stage: cold calling, giving presentations, signing the contract, and the post-sale service. They decided to run statistical analysis against the given criteria on company available data to find exceptional performers in each category. What is interesting, they decided that in case of the concluded agreements criterion, they were going to search for the most effective salesperson, meaning someone that had signed the biggest number of contracts in number and amounts in relation to the number of meetings he had conducted. The process of cold calling would be conducted by someone who was not the best salesperson but his ability to arrange meetings over the phone was exceptional. The process of post-sale service would be transferred to a person with best statistics in terms of retaining customers and upselling.

The approach presented here suggests there is another way of creating a successful sales team, where all of the team members are possibly average sale representatives, but put together, all are exceptional in their specialization and may be complementary for each other, creating a very successful sales force. What is interesting, the whole process may be conducted without corrupting current sales strategy by taking out best sales people from the teams. Thanks to statistical analysis run on the data collected, the company can put together employees with exceptional skills which are complementary and necessary for the success of the project.

The above example needs to be tested in real life situation, but there are arguments that speak in favor of it. Mainly, because such approach may guarantee high effectiveness on each of the steps of building sales results, as well as it can highly motivate the employees as they would be in charge of the stages of the process in which they feel strong. Obviously, these theoretical assumptions have some limitations and threats e.g. how to adjust the sales provision system, etc., but it is worth examining with greater care.

6. Conclusion

Statistical analysis is much more than numbers. It is open to all sorts of data and information – official and unofficial, ordered and unordered, recorded, collected and stored, to find any regularities, patterns and relationships that they can hide. Baseball, football or other sports decided to use it for people assessment. Business, where managerial intuition plays an important role, remains distrustful to it.

The proposed approach does not constitute a revolution in the field of talent management. Today's businesses have access to a wide range of advanced tools for data collection and data conversion in the area of human resources. The question is how many managers and specialists use these data in the employee assessment.

The authors do not claim that the existing methods of employee assessment are incorrect and should be rejected. Very often, data analysis can confirm the truth of what was seen and what was believed. Employee assessment based on statistical analysis can, however, reveal the facts that are hard to see intuitively only, and which may change existing beliefs.

The authors present a theoretical example of the use of statistical analysis in assessing employees to create a successful sales team. Despite its limitation, it may be an interesting object of further studies.

References

- Anderson, Ch., Sally, D. (2014). *Futbol i statystyki. Dlaczego wszystko, co wiesz o piłce nożnej, jest nieprawdą*. Wrocław: Bukowy Las.
- Blitz, R. (2013). United's global brand reaches crossroads. *Financial Times*, 9 May 2013, 3.
- Bovis, B., Pressman, A., Gagne, D., Sisco, B. (2012). Quantitative Talent Management: A Moneyball Perspective. *Human Resource Executive Online*. Retrieved from <http://www.hreonline.com/HRE/view/story.jhtml?id=533348084>.
- Gill, K. (2015). The numbers game: Louis van Gaal vs David Moyes... both had 37 points after 21 games but only one spent £153m... so, have Manchester United made ANY progress? *Dailymail*, Retrieved from: <http://www.dailymail.co.uk/sport/football/article-2906578/Louis-van-Gaal-vs-David-Moyes-Manchester-United-progress.html>.
- Grynkiewicz, T. (2012). Algorytmy w służbie sportu. *Gazeta Wyborcza*, Retrieved from: http://wyborcza.biz/biznes/1,101562,12331624,Algorytmy_w_sluzbie_sportu.html
- Królik, G., (2006). Ocenianie pracowników. In: H. Bieniok (Ed.), *System zarządzania zasobami ludzkimi przedsiębiorstwa*. Katowice: Wydawnictwo Akademii Ekonomicznej im. Karola Adamieckiego w Katowicach.
- Kuper, S. (2014). Moyes caught offside by his inability to master Manchester Utd PR game. *Financial Times*, 23 April 2014, 1-2.
- Lewis, M. (2011). *Moneyball. Nieczysta gra*. Katowice: Wydawnictwo Sonia Draga.
- Robinson, J. (2014a). David Moyes Out as Manchester United Manager. Scotsman's Departure Comes After Less Than Year in Charge at Premier League Soccer Club, *Wall Street Journal*, 22 April 2014.
- Robinson, J. (2014b). Louis van Gaal Named Manchester United Manager; Ryan Giggs Named Assistant Manager After Calling Time on Playing Career. *Wall Street Journal*, 19 May 2014.
- Sośnicki, J. (2014). Średnie zarobki piłkarzy według lig. *Przegląd sportowy*. Retrieved from: <http://www.przegladsportowy.pl/pilka-nozna/ligi->

zagraniczne,srednie-zarobki-pilkarzywe dlug-lig-najwiecej-placi-sie-w-premier-leagueekstraklasana26miejscu,artykul,518356,1,4 23.html.
Stec, R. (2011). Mit, w którym zagrał Pitt. *Gazeta Wyborcza*. Retrieved from:
http://wyborcza.pl/duzyformat/1,127291,10779475,Mit__w_ktorym_zagrał_Pitt.html
Tadrała, D. (2001). Warunek udanych ocen. *Personel i Zarządzanie*, 9, 36-37.

Internet sources

<http://eurosport.onet.pl/pilka-nozna/liga-angielska/tabela/?tid=p74p0>
<http://www.goal.com/en/>
<http://www.transfermarkt.de/>

IV.
BUSINESS AND NON-PROFIT
ORGANIZATIONS – GLOBAL AND
REGIONAL ASPECTS

THE ANALYSIS OF POLISH ECONOMY'S TRANSFORMATION TO KNOWLEDGE BASED ECONOMY ON THE BASIS OF KNOWLEDGE ASSESSMENT METHODOLOGY

Justyna Sokołowska-Woźniak*

Abstract

The main aim of this paper is to analyze the transformation of Poland to knowledge based economy on the basis of World Bank's Knowledge Assessment Methodology. The analysis of change will be used to compare the performance (strengths and weaknesses) of Polish economy in 1994, 2004 and 2014 with regard to the main aspects of knowledge based economy.

Keywords: *knowledge –based economy, knowledge assessment methodology, human capital, ICT system, innovation system.*

1. Introduction

The current era of capitalist development is called "knowledge based economy" (KBE). As defined by the Organisation for Economic Cooperation and Development (OECD), this term was developed to describe the trend in developed economies, that the economic progress relies more and more on the level of knowledge, information and skills, and easiness of business and the public sector access to these factors (OECD, 2008). In the most popular definition it is stressed that the knowledge-based economy is one in which production, absorption and spread of knowledge is a key factor for competitiveness and development of economies at different levels (eg. Dahlman, 2003; Arvanitidis & Petrakos, 2011)

This study uses the concept of knowledge-based economy developed by the World Bank, which assumes that knowledge economy is based on four pillars: Innovation Systems (SI) Education and Training (Human Capital) (E&HC), Dynamic Information and Communication Technologies (ICT) Economic Incentive and Institutional Regime. These pillars of knowledge-based economy do not differ from the assumptions of modern economic theories, which also indicate the importance of human capital, innovation, R&D or institutional system in creating long-term economic growth.

* Ph.D., Associate Professor in Department of Economics, Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu – National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: sokolowj@wsb-nlu.edu.pl

Knowledge differs from other factors of production, which has implications for the functioning of the knowledge-based economy. Knowledge is not material, but it can be fixed in various forms, e.g. patents, computer programs, or rooted in the minds of people and organizations. Knowledge as a public good is a non-rival good (the usage by a single entity does not reduce the benefits that are reached by another entity using this good) and non-excludable (no one can be excluded from the use of this good if it is publicly available, unless it is protected by patents). Using knowledge does not diminish its value, on the contrary, the more people use it, the greater its value and social benefit. The appearance of externalities to create, spread and use knowledge, are the premise to justify government intervention in this regard.

The policy objective of most countries or communities of countries has become a support to the development of the knowledge economy. Supporting the development of the pillars of the knowledge-based economy (KBE) has become then the objective of policy development at both national and regional levels. The increase of innovativeness, development of human capital, entrepreneurship or ICT system became the main aim of the European Union and many of its member states' strategies and programs. Poland is not the exemption. Since Polish accession to the European Union (EU) structures, most of the development policy funds come directly from the EU budget. They are allocated both by the central government (central programs) and local authorities (regional operational programs) but the distribution must be consistent with the objectives set on the EU level. In the 2007-2013 programming period a huge part of EU funds was dedicated for the Lisbon Strategy for jobs and growth's goals². The main aim of this strategy was to create "the most competitive and dynamic knowledge-based economy by 2010" (CEC, 2000). In the new 2014 – 2020 programming period the funds should be basically directed to the achievement of Europe 2020 Strategy objectives, so they should be focused on stimulating smart sustainable and inclusive growth. Smart growth means based on knowledge and innovation (CEC, 2010).

If the instruments aimed at supporting KBE development are effective, first of all the this phenomenon has to be clarified and measured. The aim of this article is to present one of the most popular methodology of measuring KBE development and try to assess the transformation of Poland to knowledge based economy. The analysis of change will be used to compare the performance (strengths and weaknesses) of Polish economy in 2004³ and

² More on this issue in: Sokolowska-Woźniak and Woźniak (2008), Sokolowska-Woźniak (2013).

³ The analysis of strengths and weaknesses of the Polish economy in making the transition to the knowledge economy can be found in Sokolowska-Woźniak (2004)

2014 (and 1995 if possible) with regard to the main aspects of knowledge based economy.

2. The concept of knowledge-based economy developed by the World Bank

The concept of knowledge-based economy developed by the World Bank assumes that the country could fully profit from the knowledge-based economy, if the pillars of the knowledge economy have the following characteristics (www.web.worldbank.org › ... › *Knowledge Economy*):

- Innovation Systems (SI) – a network of research centers, universities, private companies and social groups that can contribute to adaptation of the existing global knowledge to local needs, but also to creation of the new knowledge;
- Education and Training (Human Capital) (E&HC) – suitably qualified and educated society that it is able to create, disseminate and use knowledge effectively;
- Dynamic Information and Communication Technologies (ICT) – including a variety of tools which support effective communication and processing of information (radio, the Internet, among others).
- Economic Incentive and Institutional Regime – allowing free movement and creation of knowledge, fostering entrepreneurship and enabling flexibility adjustments of enterprises, institutions and markets.

Also in modern economic theories, the importance of human capital, innovation, R & D or institutional system in creating long-term economic growth is stressed. The positive and high correlation between economic performance and the development of the Knowledge Economy (calculated on the bases of World Bank Methodology) was stated in the Study: “Measuring Knowledge in the World’s Economies” and is visualized in Figure 1. Although this positive correlation does not determine a causal relationship between the level of knowledge economy and economic development, further econometric tests revealed a statistically significant causal relationship which suggests that the level of knowledge accumulation influences future economic growth (World Bank Institute, <http://siteresources.worldbank.org/INTUNIKAM/Resources/KAMbooklet.pdf>).

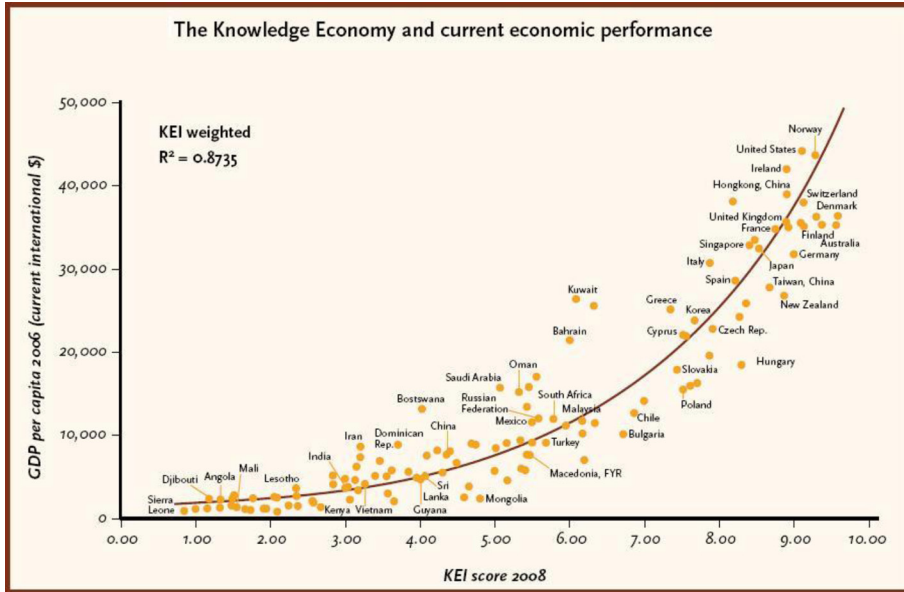


Figure 1. The Knowledge Economy and current economic performance

Source: World Bank Institute, Measuring Knowledge in the World's Economies, <http://siteresources.worldbank.org/INTUNIKAM/Resources/KAMbooklet.pdf> 15.07.2015.

3. World Bank's methodology of Knowledge Economy Assessment

In 1999, the World Bank initiated the programme Knowledge for Development (Knowledge for Development -K4D), which aims to help developing countries increase the usability of knowledge for economic and social development by assessing the state of development of KBE development programs. One of the tools under this programme is called KAM (Knowledge Assessment Methodology), a method of assessing the potential and the level of the country in building the knowledge-based economy, thus allowing for comparison of the economy with other countries. Using KAM the strengths and weaknesses of a country in transition to knowledge-based economy can be assessed (as well as the opportunities and threats) which may be used to determine the policy of the country, as well as priority investments.

The list of countries, as well as of the structural and qualitative indicators that served as proxies for the above-mentioned four pillars of the knowledge economy, was being developed in the period of the program (K4D) implementation. To compare: KAM 2004 index consisted of 76 and allowed to compare 121 countries and KAM 2012 index comprised 148 indicators and the performance of 146 countries could be measured.

The basic tool, which can be used to compare countries on the basis of transformation into knowledge economy, is the Knowledge Economy Index (KEI). KEI is calculated as the average of four sub- indexes, representatives of the four knowledge economy’s pillars. Each sub-index (pillar) is calculated on the basis of three indicators. Figure 2 depicts the relation between knowledge indexes, sub-indexes and indicators used to calculate them.

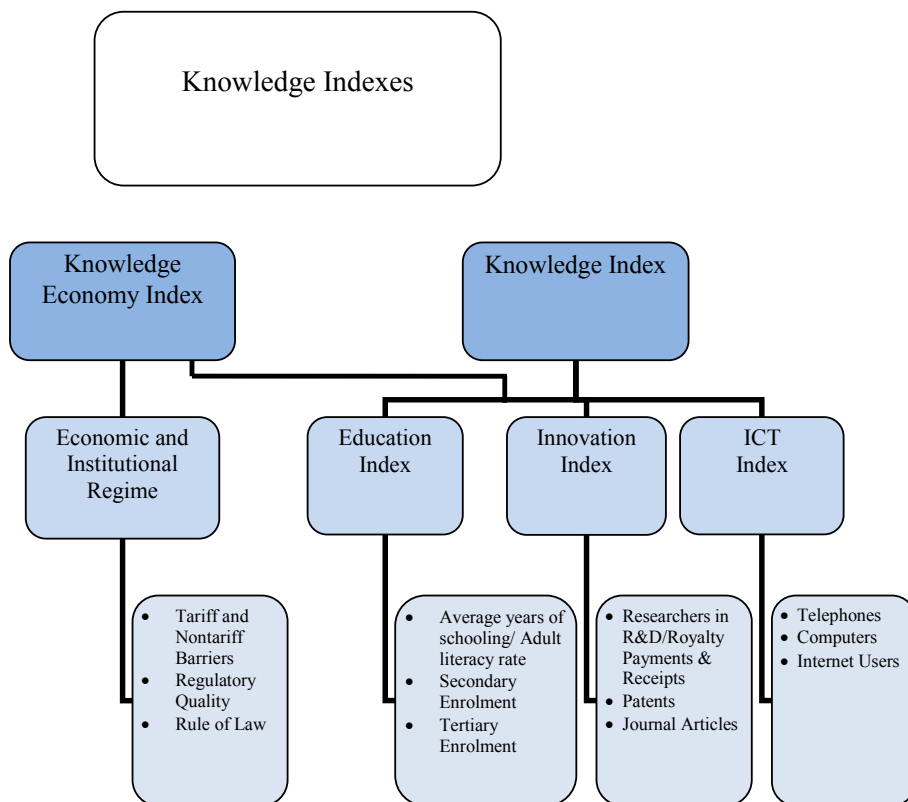


Figure 2. Knowledge economy indexes, sub-indexes and indicators in the World Bank’s KAM

Source: World Bank, Knowledge Economy Index (KEI) 2012 Rankings, available: <http://siteresources.worldbank.org/INTUNIKAM/Resources/2012.pdf>.

It should be emphasized that the values of indicators used to calculate KEI index are normalized values on the scale from 0 to 10, where 10 implies relatively good performance as compared to other countries, and the score close to 0 indicates relatively poor development (thus KEI is also from 0-10). The usage of normative values, which show the comparative performance of

a country, to evaluate the change in time should thus be applied with caution. If a country's performance is worse with regard to a certain variable, it may mean that the situation of a country has deteriorated in absolute terms or the situation of a country improved but the countries to which it is compared made greater progress.

KEI is therefore a synthetic indicator. Such indicators are useful for estimating the complex, multi-dimensional concepts (which it is impossible to portray using one indicator) from various areas of socio – economic development such as the environment, competitiveness, integration of the single market and finally the knowledge economy. The analysis of such a synthetic index over time can capture the trends and direction of change, and in the context of economic policy, make it easier to create and evaluate effectiveness. Summary of advantages and disadvantages of synthetic indicators contained in the OECD (2008) manual for the construction of synthetic indicators is presented in Table 1.

Table 1. Advantages and disadvantages of synthetic indicators

Advantages	Disadvantages
<ul style="list-style-type: none"> • Sum and illustrate the complex, multidimensional phenomenon, supporting the decision making process. • They are easier to interpret than a set number of individual indicators. • Assist in evaluating the progress of the economy in terms of a given phenomenon. • Reduce the apparent size of a set of indicators without neglecting basic information, enabling more information to conclude within the existing size limit. • Situate topics related to the achievement of the results and progress of the economy at the center of attention in the political arena. • Support communication with the public and promote credibility. • Allow users to compare complex dimensions effectively. 	<ul style="list-style-type: none"> • May send wrong signals to policy if poorly constructed or interpreted. • May cause political simplistic conclusions. • They can be poorly used, for example to promote desirable policies if the construction process is not clear and / or is not supported by solid statistics and conceptual basics. • The selection process for indicators and their weights can cause political disputes. • May conceal serious deficiencies in some dimensions and increased difficulties in identifying appropriate corrective action if the process of construction is not transparent structure. • Can lead to inappropriate policies if the dimensions which are difficult to measure are ignored.

Source: OECD (2008).

4. The classification of selected countries based on KEI in 1995, 2004 and 2012

The classification of selected countries (countries of Western Europe, 13 new members of the EU, US, Canada and Japan) based on Knowledge Economy Index, is shown in Table 2.

Table 2. Classification of selected countries using KEI

Place 2012	Place 2004	Place 1995	Place 1995-Place 2012	Country	KEI 1995	KEI 2004	KEI 2012
1	1	1	0	Sweden	9,20	9,25	9,43
2	2	2	0	Finland	9,14	9,14	9,33
3	3	3	0	Denmark	9,11	8,97	9,16
4	7	7	3	Netherlands	8,80	8,66	9,11
5	4	5	0	Norway	9,02	8,84	9,11
6	10	6	0	Canada	8,95	8,53	8,92
7	11	10	3	Germany	8,61	8,37	8,90
8	8	8	0	Switzerland	8,82	8,65	8,87
9	16	15	6	Ireland	8,21	8,01	8,86
10	6	3	-7	United States	9,11	8,67	8,77
11	9	9	-2	United Kingdom	8,82	8,62	8,76
12	13	11	-1	Belgium	8,45	8,27	8,71
13	5	14	1	Iceland	8,83	8,73	8,62
14	12	13	-1	Austria	8,37	8,30	8,61
15	18	18	3	Estonia	7,82	7,75	8,40
16	17	17	1	Luxembourg	7,90	7,93	8,37
17	19	19	2	Spain	7,65	7,68	8,35
18	14	12	-6	Japan	8,48	8,25	8,28
19	15	16	-3	France	8,47	8,08	8,21
20	25	24	4	Czech Republic	7,15	6,79	8,14
21	24	25	4	Hungary	6,67	6,88	8,02
22	22	23	1	Slovenia	7,19	7,28	8,01
23	20	20	-3	Italy	7,57	7,38	7,89
24	28	28	4	Malta	6,15	6,60	7,88
25	27	29	4	Lithuania	5,91	6,70	7,80
26	31	30	4	Slovak Republic	5,67	6,31	7,64
27	21	21	-6	Portugal	7,25	7,32	7,61
28	29	26	-2	Cyprus	6,48	6,55	7,56
29	23	22	-7	Greece	7,15	7,06	7,51
30	26	31	1	Latvia	5,57	6,70	7,41
31	30	27	-4	Poland	6,47	6,53	7,41
32	32	32	0	Croatia	4,45	6,29	7,29
33	34	33	0	Romania	5,37	5,27	6,82
34	33	34	0	Bulgaria	6,03	6,19	6,80

Source: Own calculations based on: http://info.worldbank.org/ctools/kam2/KAM_page5.asp.

The analysis of the data in the table above indicates that in the period 1995- 2012 the Nordic countries are constantly leaders (the first three places) in this ranking. The biggest progress was achieved by Ireland, which occupied 15th place in 1995 and 9th place in 2012. The largest decrease in the ranking is experienced by countries such as Portugal, Greece, Japan and United States. The development of Polish economy toward knowledge economy is not impressive as our country dropped in the ranking to one of the last places (Slovak Republic, Lithuania and Latvia placed ahead of our country).

5. The change analysis of selected indicators used for KBE assessment

Looking at individual indicators, whose average constitutes the KEI, the strongest side of our economy from the perspective of building a knowledge-based economy in all analysed years is the educational system. A more detailed analysis is possible to be carried out when the 14 indicators included in the KEI for Poland are compared. Figure 3 depicts normalized variables for Poland which were taken into account for KEI 1995, KEI 2004 and KEI 2012 calculations.

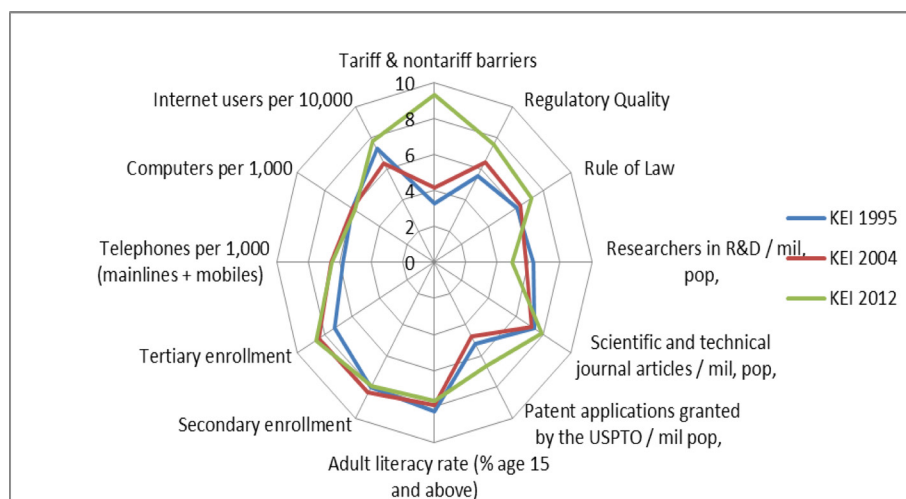


Figure 3. Comparison of KEI Indicators for Poland in 1995, 2004 and 2012

Source: Own study based on: http://info.worldbank.org/etools/kam2/KAM_page5.asp.

Table 3. Comparison of KEI 1995, KEI 2004 and KEI 2012 variables

Variable	KEI 1995	KEI 2004	KEI 2012	KEI 1995	KEI 2004	KEI 2012
	normal- ized	normal- ized	normal- ized	actual /	actual	actual
Adult literacy rate (% age 15 and above)	8,26	7,93	7,67	99,7	99,7	99,51
Average years of schooling	n.a	8,65	6,69	na	9,84	9,87
Secondary enrolment	8,02	8,35	7,93	97,6	101,35	98,94
Tertiary enrolment	7,27	8,42	8,65	34,97	55,54	71,35
Researchers in R&D / mil, pop,	6,3	5,83	4,93	1360	1474,59	1928,73
Royalty Payments & Receipts / pop	n.a.	n.a	6,96	n.a	n.a.	43,12
Scientific and technical journal articles / mil, pop,	7,33	7,17	7,86	108,48	117	187,24
Patent applications granted by the USPTO / mil pop,	5,23	4,77	6,64	0,21	0,41	1,08
Telephones per 1,000 (mainlines + mobiles)	5,79	6,53	6,48	150	657,7	1420
Computers per 1,000	6,02	6	5,82	28,5	85,4	170
Internet users per 10,000	7,27	6,36	7,79	65	983	590
Tariff & nontariff barriers	3,25	4,17	9,3	4	6	87,6
Regulatory Quality	5,54	6,45	7,6	0,34	0,67	0,93
Rule of Law	6,08	6,36	7,12	0,44	0,65	0,68

Source: Own study based on: http://info.worldbank.org/etools/kam2/KAM_page5.asp.

Educational system is represented by three indicators, namely Adult Literacy Rate (% age 15 and above) Gross Secondary Enrollment rate Gross Tertiary Enrollment rate. All three indicators in all years have the relative values around 8, which suggests strong performance of our country within this field. It has to be mentioned that in KEI 2012 “adult literacy rate”, (which slightly decreased in the last period of analysis in absolute and relative terms) was replaced by “average years of schooling” (the normative value of this

indicator decreased in the last period of analysis although its actual value slightly increased, which suggests that other countries improved even faster). The indicator of secondary enrolment increased in KEI 2004 but decreased in 2012 in both absolute and relative values. The ratio of tertiary enrollment increased in the whole period and the improvement is also reflected in normalized scores.

Innovation system, which is the second pillar of KBE, is represented by three indicators: Researchers in R&D (which was replaced in KEI 2012 by Royalty Payments & Receipts per population with normalized value for Poland less than 7), Patent applications granted by the USPTO and Scientific & Technical journal articles. Although the value of the first indicator increased significantly in the last year of analysis, its normalized score decreased from 6.3 to less than 5. The indicator which represents scientific and engineering articles published in the following fields: physics, biology, chemistry, mathematics, clinical medicine, biomedical research, engineering and technology, and earth and space sciences per million of population improved slightly both in actual and relative terms. The last indicators used to assess innovation system in KEI show the number of U.S. patent documents (i.e., utility patents, design patents, plant patents, reissue patents, defensive publications, and statutory invention registrations) granted per million of people. The progress both in absolute and relative values can be observed in the last period, which is a positive signal.

Telephones, Computers and Internet Users (per 1,000) are the next three indicators taken into account while assessing the ICT System. The normalized values of these indicators did not change much in the years under research. Although the indicator of telephone mainlines + mobile phones almost doubled, its comparative value slightly decreased. The same can be observed in case of number of personal computers per 1,000 inhabitants. Due to the change of the source of data, Internet users per 10,000 people in actual values can not be compared. In terms of normalized values Poland improved its performance with regard to this issue.

The last pillar, Economic and Institutional Regime, is measured by the following indicators: Tariff & nontariff barriers, Regulatory Quality and Rule of Law. All the normative values of these indicators improved, but the biggest improvement was achieved in the score assigned to each country on the basis of tariff and non-tariff barriers to trade (import bans and quotas as well as strict labeling and licensing requirements) analysis. Probably such an improvement was caused by the accession to the European Union structures. Again, it is not possible to assess the change of absolute values due to the change of the methodology used to calculate Tariff & nontariff barriers indicator. The indicators which measure the incidence of market-unfriendly policies and the

extent to which agents have confidence in and abide by the rules of society increased in actual and comparative values.

6. Conclusion

From the analysis above, the following conclusions can be drawn:

- In terms of the level of development of the knowledge-based economy (measured by KEI) Polish position in the ranking (compared to some 34 countries) decreased by 4 places in 2012 compared to 1995.
- Looking at individual variables which are used to calculate KEI, despite the increase in current value, the decrease in normalised values of some values can be observed, which implies faster development of the other countries in this regard.
- We need to analyze the movements of other indicators showing KBE

References

- Arvanitidis, P. A., Petrakos G. (2011). *Defining Knowledge-Driven Economic Dynamism in the World Economy: A Methodological Perspective* (pp. 15-39). In: *Innovation, Growth and Competitiveness, Advances in Spatial Science*, P. Nijkamp and I. Siedschlag (eds). Springer-Verlag Berlin Heidelberg.
- Commission of the European Communities, CEC. (2000). *Presidency conclusions: Lisbon European Council, 23 and 24 March 2000*. Retrieved from: http://www.europarl.europa.eu/summits/lis1_en.htm.
- Commission of the European Communities, CEC. (2010). *Communication from the Commission, Europe 2020 A strategy for smart, sustainable and inclusive growth*.
- Dahlman, C. (2003). *World Bank Knowledge Economy Products and Strategy: Emerging Lesson*. Washington DC: PREM Learning Week.
- OECD (2008). *Handbook on Constructing Composite Indicators. Methodology and User Guide*. Paris: OECD.
- OECD (2008). The Glossary of Statistical Terms: knowledge-based economy. Retrieved from: <https://stats.oecd.org/glossary/detail.asp?ID=6864>.
- Sokołowska-Woźniak, J. (2013). Knowledge Economy Policy in Polish Regions. *Studia Regionalia*. Wydawnictwo KPZK PAN, 129-147.
- Sokołowska-Woźniak, J., Woźniak D. (2008). Cele Strategii Lizbońskiej w regionalnych programach operacyjnych. In: *Organizacje komercyjne i niekomercyjne wobec wzmożonej konkurencji oraz wzrastających wymagań konsumentów*, A. Nalepka (red.). Nowy Sącz: WSB-NLU.
- Sokołowska-Woźniak, J. (2004). *Pomiar stopnia rozwoju gospodarki opartej na wiedzy w wybranych krajach Europy w oparciu o metodologię Banku Światowego*. In: *Organizacje komercyjne i niekomercyjne wobec*

wzmoczonej konkurencji oraz wzrastających wymagań konsumentów, A. Nalepka (red.). Tarnów: WSB.

World Bank, The Four Pillars of The Knowledge Economy. Retrieved from <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/ECAEXT/EXTECAREGTOPKNOECO/0,,contentMDK:20422383~menuPK:921081~pagePK:34004173~piPK:34003707~theSitePK:677607,00.htm>.

World Bank Institute, Measuring Knowledge in the World's Economies. Retrieved from <http://siteresources.worldbank.org/INTUNIKAM/Resources/KAMbooklet.pdf>.

THE STUDY OF THE RELATIVE EFFICIENCY OF SELECTED COMMUNE OFFICES LOCATED IN NOWY SACZ, LIMANOWA AND GORLICE POVIATS

Piotr Czarnecki*, Robert Szarota, Dariusz Woźniak*****

Abstract

The main aim of this paper is to analyze the efficiency level of the local administration units supporting the self-government authorities in gminas. The elaboration objects were 28 gminas from the Nowosądecki, Limanowski and Gorlicki poviats (southern Poland). The analysis was carried out for years 2009 and 2010. The authors used the DEA method (CCR model) for calculating relative efficiency of the selected units.

Keywords: *efficiency, DEA, CCR DEA, local administration.*

1. Introduction

Self-governing gminas became commonplace in Polish institutional landscape 25 years ago. During this period, the local government has been the subject to constant evolution, which aims to best meet the needs of mass society. The current crisis of the government (understood as one of the institutional sectors in the economy) is associated in part with the sphere of public finances (Łaski, 2011). This crisis also affects the local government of gminas. During the crisis the question of the effectiveness of the government becomes one of the most important issues of interest.

On the basis of these premises the team of the Regional Science Institute in WSB-NLU in collaboration with the students of Management in Public Administration specialization in the Faculty of Business and Management, took on the challenge to analyze the efficiency of the offices of gminas.

The issue of efficiency, including its measurement, possesses, neither in theory nor in practice, proven and widely used uniform solution. Traditional methods of assessing the efficiency (at least at administration level) are based on a variety of financial indicators. But the studies of the cases where effects

* Ph.D., Managing Director at Pijalnia Wód in Krynica.

** M.A., Lecturer in Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu – National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: rszarota@wsb-nlu.edu.pl.

*** Ph.D., Associate Professor in Faculty of Social Sciences and Informatics, Wyższa Szkoła Biznesu – National Louis University, ul. Zielona 27, 33-300 Nowy Sącz, e-mail: dwozniak@wsb-nlu.edu.pl.

or inputs necessary to take action are not only form of payment related, constitute a real challenge for economists. In recent years in Poland, there has been a rapid development of analytical techniques to support this kind of analysis in the public sector⁴.

The main objective of this study is to compare the efficiency of self-government offices in gminas which are located in the study area (area districts of Nowy Sacz, Gorlice and Limanowa). Apart from obtaining a picture of the overall effectiveness of the authorities, the results will help to identify areas of offices' activities that can be corrected to achieve higher efficiency. The test method consists of a number of techniques, but the central component is a non-parametric technique derived from linear programming called Data Envelopment Analysis in CCR form (DEA CCR).

The article consists of four parts. The first presents the role of gminas' offices in local self-government administration against the background of financial problems of the local government sector. In the second part, the concept of the relative effectiveness and DEA technique is described. The third part shows the progress and results of the study, and in the fourth part the main conclusions of the study are drawn.

2. The efficiency of commune (gmina) offices' actions in the context of local self-government finances

Public finance situation is best illustrated by public sector debt (Figure 1 and 2). Since the local government reform in 1999, a steady increase in debt which now reaches more than PLN850 million (more than 50% of the annual gross domestic product) has been observed. It should be noted that the obligations of the Treasury (over 90% of the total) hold a dominant position in the structure of debt.

⁴ What, in major part, is an effect of the EU funds and its evaluation, see: <https://www.ewaluacja.gov.pl/Strony/glowna.aspx>.

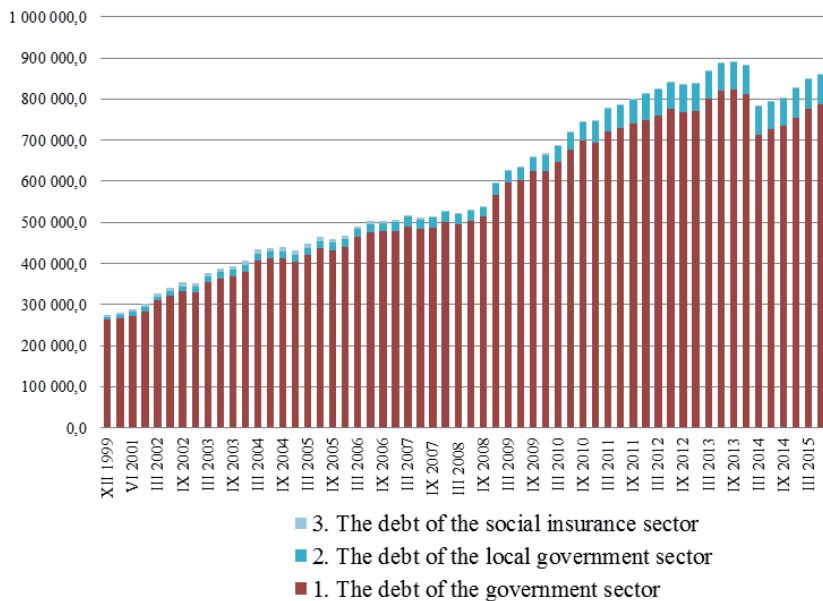


Figure 1. The debt of public finance sector in the years 1999 to 2015 (after the consolidation, nominal values)

Source: Own study based on data from the Ministry of Finance, the database: public finance sector debt, available at: <http://www.finance.mf.gov.pl/web/wp/szeregi-czasowe>, accessed: 20.09.2015.

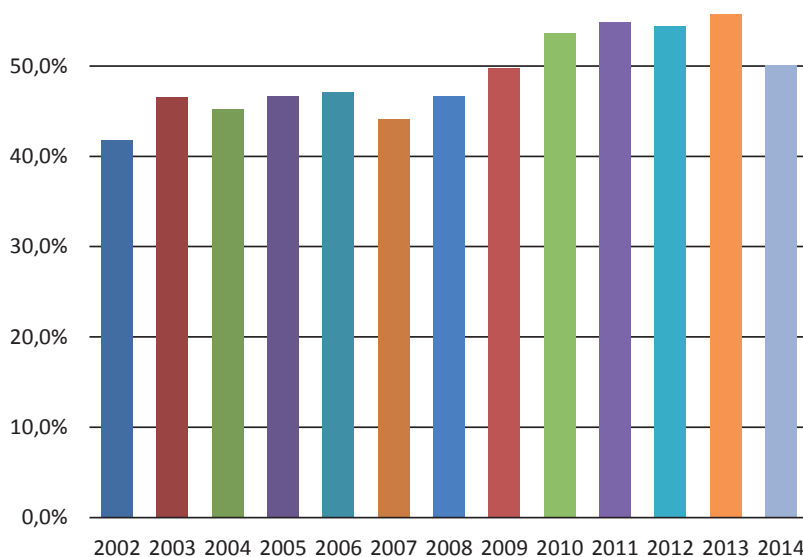


Figure 2. Public finance sector debt in relation to gross domestic product

Source: Own study based on data from the Ministry of Finance, the database: public finance sector debt, available at: <http://www.finance.mf.gov.pl/web/wp/szeregi-czasowe>, accessed: 20.09.2015.

The local government sector debt increased significantly in the previous financial perspective of the European Union and reaches more than PLN70 billion 95% of this debt are the liabilities of local self-governments and their associations. The dynamics of the phenomenon creates a large discussion on the causes and consequences of this state of affairs (see e.g. Korolewska & Marchewka-Bartkowiak, 2011; Heller & Farelnik, 2013; Satola, 2012).

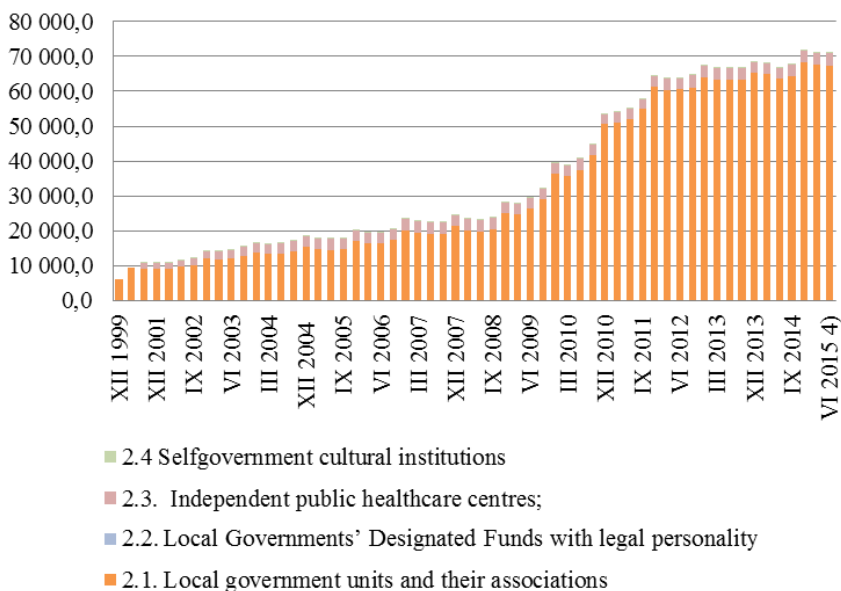


Figure 3. The local government sector debt (nominal value)

Source: Own study based on data from the Ministry of Finance, the database: public finance sector debt, available at: <http://www.finanse.mf.gov.pl/web/wp/szeregi-czasowe>, Accessed: 20.09.2015r.

From the perspective of this article, the influence of the situation in this sector on the efficiency of gminas is essential. Theoretical foundations of the activities of gminas and its bodies' evaluation are rooted in praxeology, the general theory of efficient operation. The assessment of actions will be perceived on the ground of praxeology as some practical values of actions ascribed to them in terms of efficiency (Kotarbinski, 2000). The most important features of the operation efficiency are the effectiveness and economy (now often referred to as efficiency). An effective action means such an action undertaken by public authorities, which leads to the intended purpose. Action can be effective or ineffective, which means either counterproductive or indifferent with respect to the purpose. Economy takes the form of either performance or cost savings. The procedure is the more efficient the higher the total output obtained (specifically its value) in relation to the inputs/ expenditures incurred. Saving is understood as a reduction of inputs required to

produce a given amount of output. Both features are gradable, and this means that the operation may be more or less effective and more or less efficient.

The deteriorating financial situation of the local government sector has increased efforts of local authorities at all levels, aimed at increasing efficiency and effectiveness. The subject of this study is the efficiency of offices' activities in gminas. Commune (gmina) offices are auxiliary units of Voits, Mayors or City Presidents. The basis of their functioning are the provisions of the Act on Commune Self-Government, and the organization and scope of the auxiliary unit are determined by the gmina councils in a separate statute that contains, among others (articles 33-35 of Act on Commune Self-Government, consolidated text in OJ 2015 No. 0 pos. 1515):

- the name and area of the auxiliary unit,
- the rules and procedures for the election of the auxiliary unit organs,
- organization and responsibilities of the auxiliary unit,
- the scope of tasks transferred to the unit by the municipality and the manner of their implementation,
- the extent and forms of control and supervision of the gmina authorities over the activities of the auxiliary unit organs.

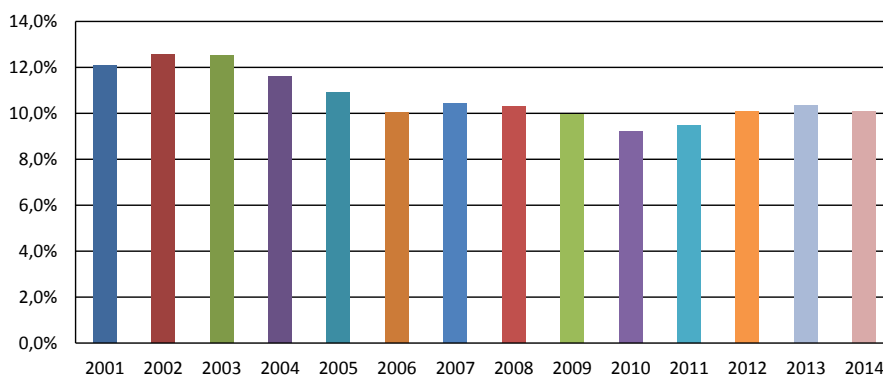


Figure 4. The share of expenditure in section 750 – Public administration in total expenditures of municipalities (excluding cities with poviat status)

Source: own study based on the Local Data Bank, the database is available at <http://stat.gov.pl>, Accessed: 20.09.2015.

It is worth noting that the activities of commune (gmina) offices are of course related to the functioning of the whole community, but the present study attempts to focus on efficiency of gmina offices' operations itself (as of organizational units') and not on the efficiency of the entire gmina. The area of analysis is to focus on activities reflected in section 750 (Public Administration) in accordance with the Regulation of the Minister of Finance form 2nd March 2010 on the detailed classification of incomes, expenses,

revenues and expenditures and the funds coming from foreign sources (text uniform, OJ 2014 pos. 1053). The share of this section in total expenditures of gminas (excluding cities with poviat status) is currently about 10% (Figure 4).

3. The concept of efficiency and DEA method

The issue of effectiveness, including its measurement has, neither in theory nor in practice, proven and widely used uniform solution. Traditional methods of assessing the effectiveness, various financial indicators, have been enriched with more complex tools which include Data Envelopment Analysis (DEA). In the literature devoted to the study of the effectiveness the parametric and non-parametric approach can be noticed.

Parametric models in econometrics rely on determination of the production function, which defines the relationship between inputs and effects. Nonparametric approach is based on the linear programming known as the DEA method.

The authors of the DEA method (Charnes et al., 1978), often referred to as the CCR model, using the concept of productivity formulated by G. Debreu and MJ Farrell which defines the measure of productivity as the ratio of a single output (effect) and a single input, applied it to the situation in which we have more than one input and more than one output.

DEA therefore focuses on the study of the relationship between the level of multiple inputs and multiple effects. This method allows to determine the production frontier, which includes all of the most effective units in the surveyed population. The DEA method uses the so-called Decision Making Units (DMU) as the objects of analysis. The DEA calculates the efficiency of a DMU relative to the best performing DMU or DMUs (when more than one DMU are the most efficient). Moreover, the DEA assigns an efficiency score of one (100 percent) to the most efficient unit, and the low-performing DMUs efficiency can vary between 0 and 100 percent in comparison to the most efficient DMU(s). For detailed formulas of the DEA calculations see Charnes et al. (1978).

In 1984, Banker proposed the development of the CCR model in such a way that it takes into account the constant economies of scale (CRS DEA) model, assuming variable economies of scale (VRS DEA) (Banker et al., 1984; Charnes et al., 1978). In the literature this model is known as BCC model. This model, however, does not identify economies of scale. Only Fare et al. (1997) modified it by introducing additional assumptions concerning the convexity, which in turn led to a model assuming not grown in economies of scale (NIRS DEA). In the last twenty years, the DEA models have been the subject to many modifications and supplements (e.g. broad discussion on this issue in Guzik, 2009, Cooper et al., 2007).

In order to classify models of the DEA two criteria are used simultaneously: the type of economies of scale and orientation of the model. The first criterion indicates whether expenditures are minimized or results are maximized. The second criterion specifies, however, what kind of assumptions about economies of scale have been adopted in the model (VRS variables, constants CRS, non-growing NIRS). DEA method is well known and often used in different areas and for many applications, e.g. in the analysis of hospitals (Matawie & Assaf, 2010), banks (Brockett et al., 1997), universities (Wolszczak-Derlacz, 2015) or the individual sectors of the national economies in the regions (Czarnecki et al., 2010).

4. The course of study and results

As noted in the introduction, the main aim of the research conducted by the team was to use the DEA method to measure the relative efficiency of commune (gmina) offices in selected poviats of Malopolska Voivodship. It should be emphasized that the study was not about measuring the efficiency of gminas but the offices, treated here as individual decision units. In this study, the term Decision Making Unit (used in the DEA method) we shall mean therefore the commune (gmina) offices in a given calendar year.

The basic assumption underlying the study, was the statement that in the case of gmina offices it is difficult to talk about measuring the absolute efficiency of units, because it is difficult to determine its ideal level. It is therefore preferable in this case to use relative measures.

The main problem the research team faced was to identify the characteristics-variables that would be used to measure the effectiveness of the local government. On one hand, it was obvious to the team that this measurement should not be based solely on the financial dimension of gmina office activities. The effectiveness of the institution is a concept much broader, related to its efficiency, dependent to a large extent on its level of management. And it should be analyzed in many dimensions, including qualitative (Zawicki & Mazur, 2004). In practice, the financial dimension of the commune (gmina) offices' functioning is closely related to the expenditures which are incurred by the local community for its operation. And the results of their work have a much more qualitative dimension, very difficult to express in financial terms.

On the other hand, the purpose of research related to the application of the DEA method for measuring the relative efficiency of the commune (gmina) offices, imposes the need to identify those variables that satisfy the requirements of that method – and so have the characteristics of the variables.

In other words, at this stage of research, the main task of the team was to identify inputs and outputs relevant to the functioning of commune (gmina)

offices. In the initial phase, based on literature studies, a fairly broad set of inputs and outputs was proposed. Subsequently, the proposals were discussed with experts – employees of commune (gmina) offices (10 experts, direct interview), responsible for their management. As a result a set of variables was set, which included:

Inputs:

- the number of people employed under a contract of employment,
- remuneration of employees, resulting from contracts of employment (salaries and their derivatives).
- the number of people employed on the basis of civil law contracts,
- the value of civil-law agreements,
- expenditure on office staff training,
- expenditure on the purchase of fixed assets,
- expenditure on travel, business trips,
- expenditure on the technical infrastructure,
- expenditure on computerization of the office (software, training, etc.).
- Outputs:
- the total number of cases processed in the Office (units),
- the average processing time for a case on the basis of the Code of Administrative and the tax code,
- the average processing time for a case based on other provisions (including the Civil Code),
- the number of cases submitted and processed electronically,
- the funds to implement their own tasks derived from external sources (e.g. EU funds),
- the number of projects implemented by the Office during the year, related to the activities of the municipality – own investments and funded from external sources,
- the number of outsourced tasks, carried out by the Office,
- the value of outsourced tasks, carried out by the Authority.

Variables included above, became the basis for constructing the questionnaire addressed to the heads of gminas. The survey covered the gminas of poviats: Gorlicki, Limanowski and Nowosądecki. The survey was conducted in June and July 2011 by the students of postgraduate studies at the Faculty of Business and Management WSB-NLU in Nowy Sącz. The questions in the survey concerned the years 2007-2010.

After the initial analysis of data obtained, the team verified the list of variables presented above and rejected some of them. The reasons for this action were as follows:

- some variables basically did not show any differentiation, in consequence causing no variation in efficiency. This was primarily a variable concerning the time length of proceeding one case by the

office. Almost all offices indicated the number of days resulting from the provisions of law,

- to obtain information about some variables became impossible. For example, the vast majority of offices did not provide information about the number of projects carried out and supervised by the office and the number of tasks assigned and carried out by the office.

Many offices transmitted incomplete information (they mostly confined to the period 2009-2010), which in turn has prevented its application in the case of the DEA method, using predetermined variables. This fact forced the team to reduce the number of offices and years of analysis (DMU), for which efficiency was analyzed. In case of two values used in the analysis the team completed missing data using the method of „hot deck imputation”. As a result, only in case of 28 DMU (offices) out of the 130 DMU which were initially planned to be analyzed, the team had complete data for the years 2009 and 2010, so they were classified for further study.

The final set of variables which meet the conditions of their use in the analysis of DEA (CCR) are as follows:

Inputs:

- the number of people employed under a contract of employment (LZUP),
- remuneration of employees resulting from contracts of employment (salaries and their derivatives) (WL),
- the number of people employed on the basis of civil law contracts (LOUC),
- the value of civil-law agreements (WUCP),
- expenditure on office staff training (WS),
- expenditure on the purchase of fixed assets (WST),
- expenses on travel, business trips (WW),
- expenditure on the technical infrastructure (WII),
- expenditure on computerization of the office (software, training, etc.) – WIU).

Outputs:

- the total number of cases processed in the Office (units) (LSZ),
- the funds to implement their own tasks derived from external sources (SZWZZ),
- the number of outsourced tasks, carried out by the Office (WZL).

Using the data obtained, the analysis of the effectiveness of selected gmina offices using DEA method was carried out. The software used for the calculation was DEA Solver Professional. The basic results of the research are presented in Table 1. The gmina offices which were analyzed are hidden under the codes from G1 to G28.

As can be seen from Table 1, 18 offices proved to be 100% effective, i.e. they lie on the efficiency frontier (boundary). These are the offices with the score 1. In contrast, the efficiency of 10 offices turned out to be worse. The office with the lowest effective use of inputs is G15, its efficiency is more than three times worse than that found in the best municipal offices. In practice, this means that to achieve efficiency comparable to the best authorities, it would have to reduce spending by more than 70%, while maintaining the current results of operation.

Table 1. DEA analysis results for the commune offices

DMU	Score	Position
G1	1	1
G2	1	1
G3	1	1
G4	1	1
G5	1	1
G6	1	1
G7	0,9844368	19
G8	1	1
G9	1	1
G10	1	1
G11	1	1
G12	1	1
G13	0,4514262	24
G14	0,3234666	27
G15	0,2819976	28
G16	1	1
G17	1	1
G18	1	1
G19	1	1
G20	1	1
G21	0,4388171	26
G22	0,6181478	21
G23	0,5154287	23
G24	0,7288626	20
G25	1	1
G26	1	1
G27	0,4421891	25
G28	0,6108083	22

To illustrate more clearly the results and conclusions that we can obtain using the DEA method, the further analysis will focus on one selected DMU – G15. The detailed results of the study for this office are presented below.

Table 2 shows a set of weights for inputs and outputs for commune (gmina) office G15, which helps to identify the factors most important to the efficiency of the unit.

Table 2. A set of weights for inputs and outputs for office G15

DMU	Score	V(1) LZUP	V(2) WL	V(3) LOUCH	V(4) WUCP	V(5) WS	V(6) WST	V(7) WW	V(8) WH	V(9) WIU	U(1) LSZ	U(2) SZWZZ	U(3) WZL
G15	0,2819976	0	0	0	8,36E-06	2,36E-05	0	0	0	0	2,29E-05	1,57E-07	0

According to the data contained in Table 2, in case of the G15 office, the variables that most affect the level of this unit’s efficiency are: WUCP and WS on the inputs side and the LSZ and SZWZZ on the output side. Information contained in Table 2 indicates that relatively small reductions in WUCP and WS factors can have a considerable effect in terms of improving the relative efficiency of the unit. Similarly, any increase in LSZ and SZWZZ could have a considerable effect on improving the relative efficiency of the office. In case of the other inputs and outputs, the effects will be negligible, i.e. for example, reducing the number of employees (LZUP) will have very little impact on improving the efficiency of the unit.

Table 3 presents the weighted results of the DEA for the office G15.

Table3. Weighted DEA analysis results for the office G15

DMU	Score	VX(1) LZUP	VX(2) WL	VX(3) LOUCH	VX(4) WUCP	VX(5) WS	VX(6) WST	VX(7) WW	VX(8) WH	VX(9) WIU	UY(1) LSZ	UY(2) SZWZZ	UY(3) WZL
G15	0,2819976	0	0	0	0,6978766	0,3021234	0	0	0	0	6,88E-02	0,2132029	0

As we can see in Table 3, the quotient of the sum of weighted inputs and a weighted sum of the outputs give the final result (assessment of the effectiveness): 0.281976 for a unit G15.

Table 4 shows a list of benchmarks for the office G15. These are the offices, which are located on the border of efficiency and their use of inputs to which the office expenses of G15 should seek to follow.

Table 4. Set of benchmarks for the office G15

DMU	Score	Position	Referential data (lambda)					
G15	0,2819976	28	G3	3,19E-02	G16	9,30E-02	G18	4,70E-02

As shown in Table 4, the benchmarks for the G15 office are the following offices: G3, G16 and G18. On the basis of a set of inputs and outputs of these three offices, taking into account technological factors (λ set for each benchmark unit), we can obtain the desired image of the use of inputs and their conversion into effect for office G15. This desired image is called projection.

Table 5 includes changes in the value of individual variables that would allow the office G15 to improve their efficiency to a level comparable with the best offices, according to the above presented technological factors.

Table 5. Projections of costs and effects for the office G15

No.	DMU	Score			
	I/O	Data	Projection	Difference	%
15	G15	0,2819976			
	LZUP	34	8,8300622	-25,169938	-74,03%
	WL	1468107,1	393275,62	-1074831,5	-73,21%
	LOUCI)	13	3,5422527	-9,4577473	-72,75%
	WUCP	83440	23529,878	-59910,122	-71,80%
	WS	12824	3616,3369	-9207,6631	-71,80%
	WST	8012776,9	26962,412	-7985814,5	-99,66%
	WW	39894,12	4372,5277	-35521,592	-89,04%
	WII	13509,63	3369,7351	-10139,895	-75,06%
	WIU	20000,37	3824,8125	-16175,558	-80,88%
	LSZ	3000	3000	0	0,00%
	SZWZZ	1361356,6	1361356,6	0	0,00%
WZL	373784,66	647048,49	273263,83	73,11%	

As can be seen in Table 5, in order to achieve the effectiveness of the best offices, unit G15 would have to reduce significantly the use of inputs. The largest reduction in the spending should concern the office's purchase of fixed assets, which should be reduced by more than 99.5%, and expenses for business trips, which should be reduced by 89%. Other inputs of office G 15 should also be reduced significantly by more than 70%.

The reduction of inputs by G15 alone will not be enough to recognize this entity as effective within the meaning of the DEA analysis. For this purpose, the office should also significantly increase the tasks assigned from the amount of PLN373 784 to over PLN647 thousand. Only completion of the actions described above (including the reduction of inputs while increasing one type of outputs) will allow the office to be recognized as an effective one.

Table 6 summarizes the deviations for the inputs and outputs of office G15 (slacks), i.e. the differences between inputs (effects) optimal and expenditures (effects) proportional.

Table 6. Summary of effects shortcomings and of inputs surpluses for the office G15

		Excess										Shortage		
DMU	Score	LZUP	WL	LOUCI	WUCP	WS	WST	WW	WII	WIU	LSZ	SZWZZ	WZL	
		S-(1)	S-(2)	S-(3)	S-(4)	S-(5)	S-(6)	S-(7)	S-(8)	S-(9)	S+(1)	S+(2)	S+(3)	
G15	0,2819976	0,7578553	20727,026	0,1237158	0	0	2232621,2	6877,5173	439,94782	1815,2434	0	0	273263,83	

As shown in Table 6, in case of WUCP and WS inputs and the effects of LSZ and SZWZZ these slacks are zero, which means that optimal inputs (effects) for these variables coincide with proportional inputs (effects).

5. Conclusion

The DEA technique used in this study is one of the best techniques for measuring the effectiveness of an organization. In addition to the large methodological advancement it offers a multi-dimensional approach for inputs as well as for the effects of individual actions. The presented study is the evidence that the results of the analysis give not only the ranking of units (method requires a comparison to other similar objects), but also suggest courses of action aimed at improvement of functioning of any organization. In times of crisis in public finances sphere, it seems that this technique should be more widely applied to the analysis of the effectiveness of public sector units. It is important to note that the conducted analysis also pointed to possible difficulties and limitations in using this technique to commune offices. The identification of inputs and outputs of commune units proved to be difficult (despite consultations with the experts). This indicates a rather not clearly defined space definition of (mainly functions) of the commune office in the Polish system of local government. It should also be noted that the DEA technique is, although it uses a nonparametric approach, essentially quantitative technique and requires the assembly of large amounts of data. These, unfortunately, are not always available for all of the units and for each period. Despite these drawbacks,

the authors of this research (which can be considered as a pilot one) would like to expand the study population for the municipality of the province of Malopolska and then for the whole Poland in the future.

The team would like to thank the experts, the workers of the analyzed offices and WSB-NLU students for their help in carrying out this study.

References

- Banker, R. D., Charnes, A., & Cooper, W. W. (1984). Some models for estimating technical and scale inefficiencies in data envelopment analysis. *Management science*, 30(9), 1078-1092.
- Brockett, P.L., Charnes, A., Cooper, W.W., Huang, Z.M., Sun, D.B. (1997). Data transformations in DEA cone ratio envelopment approaches for monitoring bank performances. *European Journal of Operational Research*, 98(2), 250-268.
- Charnes, A., Cooper, W. W., & Rhodes, E. (1978). Measuring the efficiency of decision making units. *European journal of operational research*, 2(6), 429-444.
- Cooper, W. W., Seiford, L. M., & Tone, K. (2007). *Data envelopment analysis: a comprehensive text with models, applications, references and DEA-solver software*. Springer Science & Business Media.
- Czarnecki, P., Szarota, R., & Woźniak, D. (2010). Measuring the Relative Efficiency of Economic Sectors: Advices for Policy Makers in Poland. *Management Business Innovation*, (6).
- Färe, R., Grifell-Tatjé, E., Grosskopf, S., & Knox Lovell, C. A. (1997). Biased technical change and the Malmquist productivity index. *The Scandinavian Journal of Economics*, 99(1), 119-127.
- Guzik, B. (2009). *Podstawowe modele DEA w badaniu efektywności gospodarczej i społecznej*. Wydawnictwo Uniwersytetu Ekonomicznego.
- Heller, J., & Farelnik, E. (2013). Finanse i samodzielność ekonomiczna a ustrój samorządów terytorialnych w Polsce. *Studia Regionalne i Lokalne*, 2(52), 81-94.
- Korolewska, M., & Marchewka-Bartkowiak, K. (2011). Zadłużenie samorządów terytorialnych w Polsce. *Studia BAS*, 4, 99-128.
- Kotarbiński, T. (2000). The treatise of good work. *Zakład Narodowy im. Ossolińskich, Wydawnictwo Polskiej Akademii Nauk, Wrocław-Warszawa-Kraków*.
- Łaski, K. (2011). Strukturalne przyczyny kryzysu finansów publicznych w Unii Europejskiej oraz w Unii Gospodarczej i Walutowej. *Studia Ekonomiczne*, (1), 7-18.
- Matawie, K.M., Assaf, A. (2010). Bayesian and DEA efficiency modelling: an application to hospital foodservice operations. *Journal of Applied Statistics*, 37(6), 945-953.

- Satoła, Ł. (2012). Zadłużenie jednostek samorządu terytorialnego-analiza empiryczna. *Samorząd Terytorialny*, (1-2), 72-85.
- Wolszczak-Derlacz, J. (2015). Analiza efektywności działalności uczelni europejskich i amerykańskich-podejście nieparametryczne. *Ekonomia/Uniwersytet Warszawski*, (40), 109-130.
- Zawicki, M., & Mazur, S. (2004). Analiza instytucjonalna urzędu gminy. *Przewodnik dla samorządów. Wydanie II*.

CONDITIONS AND POSSIBILITIES OF CREATING A COMMUNICATION SYSTEM WITH THE PUBLIC BY PUBLIC ADMINISTRATION INSTITUTIONS

Marcin Flieger*

Abstract

The paper deals with the issues concerning creating and managing communication system with the public by public administration institutions, focusing on gminas. Thus, analyzing unique functions realized by the gminas, the author has emphasized the necessity of implementing principles of a Customer Relationship Management concept. Next, the relation between the CRM concept and the idea and measures in the field of public relations has been scrutinized. As a result, the author has analyzed the ways and principles of using various communication channels with the public, showing conditions and possibilities of their implementation by the gminas.

Keywords: *communication system, public administration, gmina, Customer Relationship Management, public relations instruments.*

1. Introduction

Operations of public administration institutions are based on two major, unique functions which are being realized simultaneously. On one hand public offices, by making administrative decisions, are entitled to enforce some actions on citizens. From this perspective it can be stated that these institutions are on an *executive* position. On the other hand, however, public administration offices have been founded in order to fulfill citizens' needs, similarly to the way a private company tries to fulfill the needs of its customers. Moreover, public administration is financed through the public budget. Thus, it can be concluded that it is the inhabitants of a country (or a region) who founded these institutions in order to serve various services for them. From this point of view it might be said that a public administration realizes a *service* function.

It is absolutely crucial to realize the two functions with equal attention, in other words – to make sure that they are balanced, especially that the executive function does not dominate over the service one.

* Ph.D., Adjunct, Management Department, General Tadeusz Kościuszko Military Academy of Land Forces in Wrocław, ul. Czajkowskiego 109, 51-150 Wrocław, e-mail: flieger11@wp.pl.

A fundamental factor which allows realizing and sustaining a strong position of the service function is active implementation of the policy of creating and managing positive, concise image of public administration institutions. In this context, one of the key instruments is a communication system, including a well thought-out client service (Knecht, 2006).

Moreover, it seems extremely important to be aware of the fact that in case of gminas (understood as local authority offices), although there does not exist a direct competition between them at a legal level (each one operates in a different region), these local institutions *do* compete between one another at other levels. All gminas put an effort to attract to the area various groups of the public.

Definitely, one of the most important groups are both current and potential investors (Maćkowska, 2005). It is an obvious fact that every region has a priority (within the confines of a local strategy) to improve economic aspect of local life. Big number of investors which set up their businesses, build plants and other companies in different industries, means bigger possibilities for the region to lower negative social and economic trends such as low public budget incomes or high unemployment rate. From investors' point of view, however, the region must be perceived as friendly and reliable. They must cooperate with well qualified local civil servants and the message sent to them by using various public relations tools must be clear and, of course, positive. Only in this way will investors get interested in some particular region.

Another group that gminas are interested in are the potential, future inhabitants of the region. In the process of deciding whether to settle down in some area, people consider and carefully scrutinize various features of the potential location, e.g. adequate road infrastructure, easy access to such institutions as a kindergarten, a hospital, a school, etc. These services are provided and managed by the local administration.

The last key group which local authorities are interested in attracting are the tourists. This quite unique group of people who visit some particular region expect adequate service. It seems important to be aware of the fact that nowadays possessing exceptional natural environment potential is not enough. This element must be accompanied by modern, well developed tourist infrastructure. Local institutions ought to take into consideration the fact that they may host various demanding visitors. All of them expect high standard of services, including events promoting local culture, which nowadays are sought-after and appreciated.

The abovementioned groups may contribute to the social and economic development of a region. For local authorities it seems essential to take up measures which will meet the groups' expectations. In these contexts concentrating on building a positive image of an institution and a region

by using public relations instruments and creating concise communication system seems undisputedly fundamental. These actions taken up by public administration ought to be well planned and coordinated.

Taking all those aspects into consideration, the author of the chapter on gminas, made an attempt to analyze conditions and possibilities of creating such a system in public administration institutions according to the principles of a Customer Relationship Management concept.

2. Idea and principles of Customer Relationship Management concept

Studying definitions of a Customer Relationship Management concept it may be concluded that although different authors emphasize different elements, their idea is the same. Thus, CRM is understood as a process whose objective is to build client's loyalty by creating and managing relations with them (Baran & Galka, 2013; Frąckiewicz & Rudawska, 2005). These relations are built as a result of a concise communication system, whose essential elements are public relations instruments, such as client service, media relations, a web page, etc. As a result of implementation of a Customer Relationship Management concept, a public institution is able to coordinate all elements of the process of the interaction with a client (Storbacka & Lehtinen, 2001).

More profound scrutiny of this philosophy is possible by looking closer at the main principles which constitute the fundament of the CRM approach:

- 1) *Making an effort to make a client satisfied pays off* – this idea is strictly connected with the basic principle of the so-called market orientation. Public office ought to concentrate on fulfilling the needs of people whom it serves. It is very important to stress that such behavior corresponds with realization of the abovementioned service function.

At this point it seems vital to say that to be able to put this rule into practice, an institution must possess the knowledge about what the real needs of its clients are. Therefore, an effective and concise system of communication is an absolute must. First of all, gminas ought to analyze who their clients are, divide them into groups (mostly according to the division shown earlier in the text) and identify their crucial features. Only in this way a public institution is able to design and adjust their services to its clients' real expectations. Thus, the communication takes place in different phases of relations with clients – the first stage of designing the service enables to learn what their needs are. The second phase ought to be perceived as the very process of providing the service. It is a chance to gain direct information whether customers are taken care of properly (by analyzing that

very process). However, this is not the last phase. It is important to remember that the relation with a client should also cover the time *after* the service has been provided. Of course, an institution can use such tools as questionnaires or interviews, but the feedback can be received also by being active in the Internet and initiating a dialog with a client. As a result, thanks to getting information about clients' satisfaction, an institution is able to change the service, improve its quality and efficiency (Yeshin, 1998).

- 2) *Relation is built by communication* – apart from the presented rules of communicating with a client at every stage of the process of providing service, it is vital to try to develop *personal* relation with every person. Nowadays it is not enough to make a general segmentation of customers, there is a need to know the individual needs of each particular client and, as a result, to satisfy them in a more efficient way (Stone et al., 2002).

Naturally, such measures are quite complicated and it is not possible to customize all elements of a public institution's services. However, gminas are in a privileged position, because it is definitely easier to customize service than a product. During the process of providing services a client must have a direct, and very often personal, contact with an institution. Hence, it is a lot easier for a gmina to adjust the service to every specific need of a customer (an inhabitant, an investor, a tourist). The other aspect of the analyzed principle is the need to be available for a client in different channels of communication. It is crucial that the customer has the comfort that they can contact an institution anytime they wish. Of course the most efficient channel in this respect is the Internet.

- 3) *Look at things from a customer's perspective* – this principle reflects very well the idea of market orientation. For an organization it is essential to understand a client's perception of the institution and its role. The service ought to be designed in such a way as to be able to match the client's needs. In other words – an institution should not focus on providing services which they are able to produce (here the most important are the resources which an institution possesses, e.g. the knowledge of people employed in an organization), but on services which are expected by a customer. So, an institution must first identify a client's needs and, basing on this information, design adequate service. Naturally, it means that an organization ought to carry out marketing research and gain information through the system of communication with customers.
- 4) *Losing clients begins with losing their trust* – this principle is especially true regarding public administration institutions, because their possibilities of using advertisements to attract different groups

of the public are limited, unlike private companies. In order to attract the public, gminas must concentrate on creating and managing their image. Thus, they must use mostly public relations tools. It means that the institutions ought to focus on creating and realizing a long term strategy of managing positive image.

As it was stated earlier, the three major groups of interest are the investors, inhabitants and tourists visiting the region. Regarding investors, they must be assured that local civil servants possess high qualifications. These virtues are visible e.g. through local public offices' successes. This aspect triggers off investors' interest in the region. In other words – it is the *image* itself which at the very beginning plays a crucial role in the process of initiating cooperation with local administration – if the perception of some region were negative, investors would not become interested in it and they would not contact gmina's representatives at all.

Regarding potential inhabitants of some particular region, similarly to investors, most often the first incentive which makes the inhabitants become interested in some particular area is not such aspect as infrastructure, but the *image*, the opinion of the place, which is expressed by the public. The people who are searching for a new place to live first get to know opinions about the region, and only if they are positive, do they decide to get into more detailed analysis of the place.

The last group, which ought to be of interest to the local offices, are the tourists. This very specific group also gets attracted to a region (or a town) mostly by positive images of these places and some expectations that are created by this perception. Of course the crucial role in the process of preparing adequate infrastructure for this group (tourists attractions, hotels, information system etc.) is that of the local administration.

Thus, investors, inhabitants and tourists constitute key groups which local institutions ought to be interested in. The groups contribute considerably to the social and economic development of a region. However, most often the initial stage of their interest is sparked off by a positive image of the chosen place. Therefore, measures taken up in the field of public relations seem unarguably fundamental. At this point it is essential to stress that this first impression is only the beginning. After those groups of public finally visit and stay in the region, it is absolutely crucial to do everything to sustain the initial good impression. To be able to do it efficiently, however, there is a need for a concise system of communication with these

people and a professional approach to exploitation of public relations instruments. Measures realized according to PR strategy ought to have a long term character and it is important to initiate dialog with the abovementioned groups. In other words, the communication must have a form of an exchange of information. Thus, only a well thought-out image management system may allow building a strong image of a region and, as a result, create loyalty of the public.

- 5) *Competitive advantage is built from scratch*– which means that public administration institutions should perceive image management as a *process*. Image itself is built from various small elements, both visual (e.g. a crest, interior design of offices, a dress code) and non-visual (different forms of direct and indirect contacts with clients), and it is a *subjective* perception. It is vital to be conscious of the fact that this positive perception may be easily damaged by one negative event (Flieger, 2013). What is worse, rebuilding positive image (after it has been dramatically worsened) takes a long time – it is very difficult to regain trust of the public, it is always built in a long term. Taking all those aspects into consideration it must be emphasized that creating and sustaining a strong positive image is possible only if there exists a concise system of its management. Only in this way it is possible to control all the elements and factors which constitute the perception of an organization.

After a profound analysis of the definition and principles which lay at the heart of a CRM concept it may be concluded that its idea is very similar to the philosophy and rules of creating and managing an institution's image. In other words, it appears that it is very much comparable to public relations measures. It is the public relations idea in which the necessity of implementing well thought-out, intentional, systematic measures is stressed. Its objective is to create long term, mutually beneficial relations. Public relations is based on a dialog and it is supposed to build relations through explaining, understanding, creating bonds (Altkorn, 2004). This approach also underlines the necessity of being sincere and communicate only true information, thanks to which atmosphere of trust appears. As a consequence, a gmina's client becomes loyal to the institution (Newsom et al., 2013).

Thus, it seems that public relations approach, similarly to a Customer Relationship Management, is focused on building long term, honest bonds between an institution and its clients. A vital role is played by a positive image of an organization and a client's conviction about a gmina's good intentions and care of mutual benefits. However, it must be emphasized that the CRM concept concentrates on achieving its goals by building and managing a concise *communication system* on various levels. What is important, a gmina's activity in those channels is mainly non-commercial,

which means that the public institution does not exploit such instruments like advertisements (which constitute a commercial message). The accent is put on non-commercial contacts, on initiating a dialog which aims at explaining all customer's doubts and educating about all aspects of an institution's activities, tasks, and objectives.

Moreover, it seems worth mentioning that implementing such a strategy of communication with a client brings one more benefit – a positive bond with a customer makes them considerably more eager to recommend an institution (and a region) to other people. It is the high level of trust which sparks off such a behavior.

Analyzing and juxtaposing the CRM and public relations concepts with reference to public administration institutions' activities and objectives it is important to underline that there are visible and at the same time important differences in possibilities and fundamentals of PR measures between public offices and private companies, which results from the fact that the nature of public institutions is considerably different to private organizations. The main differences are:

- different hierarchy of objectives – in case of public administration offices, the utmost objective is to show what matters the institution deals with and, as a result, to build the atmosphere of high assessment and social acceptance of their actions. However, the level of trust and support does not have any influence on the office's position in the administrative system, neither has it an impact on its funds nor is any department's existence in danger. In case of private organizations, the ultimate goal is to generate profits. Thus, creating a company's image is only the way to secure financial stability,
- motivation of both parties – public administration seems *obliged* to undertake actions concerning image management, especially in terms of being a source of information about public institutions' actions and initiatives. Also, it is an ethical responsibility; since public offices are financed by tax payers, it is their duty to prove that they operate in a legal, effective and honest way. Also, the decision of private companies to undertake any actions concerning image management is conditioned by possibilities of increasing their profits.
- difference concerning the initial public interest of both organizations – the unique combination of mentioned-earlier authority and service functions sparks off a permanent interest of public institutions. Those features make the public constantly monitor and judge the job performed by civil servants. In case of private companies, such initial interest does not exist. Generally, for the public it does not make any difference whether any private organization appears on the market or not. As a result, companies are forced to conjure up such curiosity themselves.

- the threat from the competition – analyzing statutory foundations of public administration institutions it appears that they do not have any real competition, since each office operates in independent, separate fields. In this context, the competition between them does not exist. Concerning private business, of course the competition in most cases is very strong. This difference leads to another interesting consequence – as a result of lack of competition, public offices may cooperate with other departments to a vast degree, they are able to exchange information and practical experiences, create associations to achieve common objectives. On the other hand, private businesses are left on their own – very few competitors would find a good reason to start cooperation.
- consequences of mistakes in creating positive image – in case of public institutions, the ultimate result of negative image means just the decrease in trust. For private companies the consequences may be considerably more perilous – they may lose the market share and even go bankrupt (Giedroń, 2004; Flieger & Flieger, 2011).

It is important to be aware of those differences, since they show more profoundly the conditions in which public administration institutions operate and, as a consequence, they let us understand what factors those offices must take into consideration in the process of building a communication system within the CRM concept.

Finally, it ought to be emphasized that the possibility of implementing CRM ideas by public offices is also determined by assumptions of different traditions of public administration. In this context it seems appropriate to mention two major models – Continental European and Anglo-Saxon. The first one is rather conservative, rational, based on strict law principles and public officers whose main objective is to obey formal regulations (Chandler, 2000). The Anglo-Saxon approach, on the other hand, is far more liberal, basing on decentralization (Painter et al., 2010). This model seems definitely more supportive regarding implementation of CRM principles. It is enough to mention that the Anglo-Saxon model constituted a ground for New Public Management concept (Horton, 2006) which developed into Public Governance (Lisiecka et al., 2011; Smith, 2004).

3. CRM as an IT system

In addition to the previously stated definitions and principles of a Customer Relationship Management concept it is important to stress that this idea might be analyzed from two different aspects. First of all, CRM is perceived as a kind of a business philosophy – all measures of a company dedicated to a client. The second way of perceiving this concept presents CRM as an IT

system, which ought to be understood as a supporting tool for client service. Thus, as a computer system it consists of three major elements:

- 1) Operational (also called a ‘front office’) – it serves two main purposes. Firstly, an operational aspect covers all activities of a public institution connected with *direct* client service, including:
 - registering visits of a public office’s clients – e.g. date, time, purpose of a visit, result of a service,
 - managing contacts with clients,
 - creating offers for an office’s clients – which is especially important in case of investors and tourists.

Secondly, it is responsible for an automation of all basic business processes, depending on a structure and tasks of a particular public office.

- 2) Analytical (known as a ‘back office’ or ‘strategic’) – this element is responsible for gathering, storing and analyzing information about an institution’s clients. This information is the subject of a thorough statistic scrutiny. As a result, a gmina is able to prepare and adjust its services to fulfill clients’ needs better. The results of this analysis ought to be used by the marketing department, especially people responsible for managing the image of the organization.
- 3) Communication (also known as ‘interactive’) – this aspect serves the purpose of creating and managing a sort of a communication centre, which integrates all channels of communication with different groups of the public. This element connects the two abovementioned ones, allowing flow of information, which of course is one of the crucial aspects of a process of creating and managing any organization’s image. It is also important to remember that this system enables efficient every-day service of an office’s visitors.

4. Communication channel with the public

Serving inquirers

One of the absolutely fundamental elements of a public administration office’s communication system is direct contact with clients. It has a crucial meaning in terms of creating its image. Therefore, it is so important to carry out thorough scrutiny of this element, plan it and ensure it works efficiently.

Undoubtedly, the key element of the system is the civil servant, because he is the representative of a public administration and has direct responsibility of dealing with inquirers’ matters. It is important to realize that there are two main aspects which constitute a professional servant (Giedrojć, 2004). First of all, administration office workers must possess profound knowledge concerning both their position and also the structure and regulations relevant

to the whole institution. They are expected to be able to handle clients' administrative matters competently and effectively. However, professional knowledge should be accompanied by another element – civil servants' appropriate behavior. In other words, they must possess unique features of character. Firstly, it is important to be helpful in coping with inquirers' problems, outgoing and friendly. At the same time they ought to be emphatic and patient. What is more, all their actions should be characterized by high ethical standards. Office workers also must be resistant to stressful situations, inevitably occurring while serving inquirers. Thus, they must be assertive, which means that civil servants have the right to stand for their rights, but they cannot hurt clients' feelings and dignity. To sum up, both adequate qualifications and good behavior constitute a professional civil servant. It is vital to realize that *both* these elements must be implemented together – only then the whole process of serving inquirers will be genuinely professional and it will support the communication system.

Another element influencing positive direct relations with a customer is the so-called front line. It consists of two aspects: a help desk and a navigation system. A help desk is a kind of reception situated at the very entrance to an institution. It ought to be run by a professional servant who must have thorough knowledge about the whole institution, all the issues which are dealt with there and about the characteristic of all processes taking place in all departments. The idea of a help desk is to be able to serve inquirers right there and provide them with all the information and documents they may require. A receptionist should have all most common forms and be willing to help clients to fill them in. So, they should serve as middlemen between a customer and a particular department. It serves two vital purposes. Firstly, a client is served with no delay and in one place, which influences their satisfaction. Secondly, other office workers do not have to be involved in the process of coping with an inquirer's problems. As a result, it increases their effectiveness, since they can concentrate on other duties.

The second element of the so-called front line is the navigation system. It is supposed to communicate how to reach every place and department in the whole institution. The abovementioned reception is the first element of the system. However, it must be supported by a system of clear signs showing directions, rooms, floor numbers, etc. It is essential to remember that this sign system cannot be limited only to the interior of the building, but it ought to also cover its surrounding. A concise system should create the situation in which a client is *led* to the institution (Giedroń, 2004).

In addition to those ways of serving a gmina's clients, this communication ought to be supplemented by written materials – they may take a form of brochures, leaflets, catalogues, newsletters etc. All of them allow

communicating both fast, short messages, and more complex information, for example about economic or social characteristic of some region, which surely will be appreciated by investors and tourists.

Summing up the analysis of all the elements of a front line, it may be said that it is supposed to build a service model in which each inquirer will feel well informed, supported and taken care of.

Web page

Analyzing the channels of communication with a gmina's clients, nowadays one of the most important indirect tools is the internet. Nowadays web pages, e-mails, newsletters constitute a very natural and common source of information and a communication tool. For administration this instrument might be a very efficient and convenient channel of communication (Flieger, 2014). Firstly, a webpage of some gmina provides the public with information permanently. As a result, it enables inquirers to adjust their contacts with an office to their daily routine. Moreover, they can choose and download documents and forms, and send them back if necessary. So, it saves time enormously. From a gmina's point of view, running their own webpage serves another vital purpose regarding building an efficient communication system – an office is able to publicize information without involving the media. It may have a form of a press service, informing about recent projects, events or an institution's successes. As a result, a public office becomes independent of any go-betweens and messages sent to gminas' customers may be more precise (Flieger & Popławski, 2013).

Media relations

Undoubtedly, one of the crucial channels of communication used by public administration ought to be the media. It is well known that media have a significant influence on the public and create its opinions. Therefore, for administration it is absolutely vital to start cooperation with them. It is important to realize that both parties have the same general goal, which is informing the public about an institutions operations and what is happening in a region. Mutual awareness of this objective seems essential to establish long, fruitful cooperation on a firm basis.

At this point it seems important to stress that in order to build effective relations with the media, public administration officers ought to learn the specification of a journalist profession (Giedrojć, 2004). The work environment is very stressful and complicated, journalists work very fast (especially in electronic media), there is a big competition in the media business. As a result,

journalists are expected to master their skills and, as a consequence, improve effects of their work. Moreover, there is a question of ethical and social aspect of their profession. All those features create very demanding and unstable work environment. Thus, public administration offices should be aware of it and adjust the cooperation to this specification. Then the mutual objectives regarding communicating information to the public can be reached effectively.

There are different ways of maintaining contact with the media within the gmina's communication system. In case of daily contacts, public administration institutions use mostly telephone conversations or meetings in order to discuss current matters. Apart from these typical ways, there are the so-called 'comments', which is a form of a public institution's reaction to the events or problems that the public is currently interested in. More complex forms of contacts with the media include an interview and a press conference, which are organized mainly in order to inform or comment more profoundly on local issues. Regarding all those ways of communication with the media it is important to emphasize that mutual relations ought to be based on professional, formal contacts with mutual respect (Flis, 2007).

No matter which instruments are used in media relations, however, the principles regarding how to create and send a message are similar and universal. Firstly, there is a general and absolutely crucial rule which says that public officers cannot tell lies. Misleading journalists deliberately is unacceptable. If this fact is publicized, it may lead to enormous damage to a gmina's image.

Moreover, it is extremely important that the message sent by an institution is interesting and current. Only such characteristic of the news can be valuable for a journalist. Otherwise, they will lose interest in the public office and, as a consequence, the communication channels will not be used actively.

Apart from these principles, public institutions' civil servants ought to learn how to plan and manage conversation with the media. There are various rules concerning the process of giving information, such as justifying refusals of answers, providing only information which is checked and verified.

One of the most important ways of communicating with the media is a press conference. The main rule is to organize a conference only if there is some really important local issue to discuss. In other words – the subject of a conference should be current and attractive enough to prepare complex and concise message. Another principle is connected with preparing adequate press conference materials. They should include not only the information directly connected with the subject of the very conference, but also more general information which shows a wider picture of an institution (information regarding other important fields of a gmina's activities, completed projects, recent successes, etc.). It is an opportunity to stress an institution's role in local life and development.

Sponsorship

At the very beginning it ought to be emphasized that there are *two* kinds of sponsoring activities in which a gmina has a possibility to get involved. First of all, there is the typical financial sponsoring – in this case an institution allocates money in local undertakings, e.g. charity campaigns, financing scholarships, meals for children, sportsmen or artists. Secondly, however, local administration may get involved in such initiatives by the so-called institutional support (Giedrojć, 2004). It consists of various kinds of non-financial help. For a gmina the most common tool is connected with managing municipal infrastructure. For instance, local institutions can make available commune buildings, telecommunication appliances, means of transport. Moreover, a gmina can provide people with different kinds of advice, for instance legal advice concerning all administrative matters, organizational and expert advice regarding solving problems connected with setting up one's own company (Flieger & Flieger, 2011).

Researching various sponsorship opportunities, it is crucial to emphasize that such activity may constitute an important element of a communication system built by a public administration institution. In this way the public is provided with the information about initiatives supported by a gmina, it shows what priorities this office has. As a result, involvement in sponsorship helps create a strong, positive image of the public administration in a very effective way.

5. Conclusion

Taking into consideration characteristics of a gmina (understood as a public administration institution), especially the need to perform the service function, it seems natural that there is a necessity to build a concise communication system. The system ought to allow fast and high standard interaction with all groups of the public, each of whom has a different characteristic and requires specific approach. Only by adjusting channels of communication and the very content of messages to each of them a public office is able to fulfill its inquirers' needs effectively.

What is extremely important, it seems that the system in question should be based on principles of a Customer Relationship Management concept. Looking closer at the idea it appears that the rules of CRM are very much similar to the foundations of the measures realized within a public relations concept (Deszczyński, 2011). They both focus on creating strong, positive long term bonds with an organization's clients. As a result, the scrutinized communication system ought to exploit all typical PR instruments.

Moreover, it is vital to stress that the whole system can and should be supported by IT applications, which have been designed and implemented within the CRM approach. These tools constitute a basis for a clear, easy and logical organization of all communication channels with an institution's clients.

Thus, it appears that a gmina has possibilities of creating a concise, effective communication system with its inquirers, basing on a Customer Relationship Management concept and using public relations instruments. Such system constitutes a base for realizing an institution's tasks and functions and, as a consequence, for professional and effective fulfillment of the clients' needs and expectations.

References

- Altkorn, J. (2004). *Wizerunek firmy*. Dąbrowa Górnicza: Wyższa Szkoła Biznesu.
- Baran, R. J., Galka, R. J. (2013). *Customer Relationship Management: the foundation of contemporary marketing strategy*. New York, London: Routledge.
- Chandler, J. (Ed.) (2000). *Comparative public administration*. London: Routledge.
- Davis, A. (2007). *Public relations*. Warszawa: Polskie Wydawnictwo Ekonomiczne.
- Deszczyński, B. (2011). *CRM: strategia, system, zarządzanie zmianą: jak uniknąć błędów i odnieść sukces wdrożenia*. Warszawa: Wolters Kluwer business.
- Giedrojć, K. (2004). *Public relations w administracji*. Ostrołęka: ALPHA pro.
- Flieger, M. (2013). Image crisis management. *Journal of Science of the gen. Tadeusz Kosciuszko Military Academy of Land Forces*, 4(170), 101-113.
- Flieger, M. (2014). Planowanie i organizowanie systemu zarządzania wizerunkiem organizacji. *Marketing i Rynek*, 5, 331-338.
- Flieger, M., Flieger, M. (2011). Image management in public administration. *Journal of Science of the gen. Tadeusz Kosciuszko Military Academy of Land Forces*, 4(162), 422-433.
- Flieger, M., Popławski, M. (2013). Conditions and Methods of Creating Efficient Public Relations Communication System. In: D. Skorupka, M. Flieger (Ed.), *Scientific Problems in Management* (pp. 309-321). Wrocław: General Tadeusz Kosciuszko Military Academy of Land Forces.
- Flis, J. (2007). *Samorządowe public relations*. Kraków: Wydawnictwo Uniwersytetu Jagiellońskiego.

- Frąckiewicz, E., Rudawska, E. (2005). *CRM jako narzędzie zarządzania relacjami z klientem na rynku usług*. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.
- Horton, S. (Ed.) (2006). *New Public Management: Its Impact on Public Servants' Identity*. Bradford: ProQuest ebrary.
- Knecht, Z. (2006). *Public relations w administracji publicznej*. Warszawa: Wydawnictwo C. H. Beck.
- Lisiecka, K., Papaj, T., Czyż-Gwiazda, E. (2011). *Public Governance koncepcją zarządzania w administracji publicznej*. Katowice: Wydawnictwo Uniwersytetu Ekonomicznego.
- Maćkowska, R. (2005). Znaczenie kreowania wizerunku samorządu terytorialnego. In: E. Hope (Ed.), *Public relations instytucji użyteczności publicznej* (pp. 197-209). Gdańsk: Scientific Publishing Group.
- Newsom, D., Scott, A., Vanslyke, T. J. (2013). *This is public relations. The realities of public relations*. Boston: Wadsworth.
- Painter, M., Guy Peters B. (Ed.) (2010). *Tradition and public administration*. Palgrave Macmillan.
- Smith, D. (2004). *Under New Public Management: Institutional Ethnographies of Changing Front-line Work*. Toronto: University of Toronto Press.
- Stone, M., Woodcock, N., Machtynger, L. (2002). *Customer relationship marketing: get to know your customers and win their loyalty*. London: Kogan Page.
- Storbacka, K., Lehtinen, J.R. (2001). *Sztuka budowania trwałych związków z klientami. Customer Relationship Management*. Kraków: Dom Wydawniczy ABC.
- Yeshin, T. (1998). *Integrated Marketing Communications. The Holistic Approach*. Oxford: Butterworth Heinemann.

IDENTIFICATION OF THE URBAN MUNICIPALITIES OF THE MAŁOPOLSKA REGION IN TERMS OF CHANGES IN THE REAL ESTATE TAX RATES IN BUSINESS ACTIVITIES OF ENTERPRISES IN THE PERIOD 2010-2015

Krzysztof Drabek*

Abstract

One of the basic conditions of autonomy and financial self-sufficiency of the municipalities is conducting a conscious tax policy. The paper discusses the problem of municipal strategies in relation to determining real estate tax rates. The aim of the paper is to present the real estate tax rates for enterprises in the urban municipalities of the Małopolska Region over the last five years. The paper ends with conclusions and direction for further research.

Keywords: *real estate tax, local taxes.*

1. Introduction

One of the basic conditions of autonomy and financial self-sufficiency of the municipalities is conducting a conscious tax policy. Local governments take responsibility for the economic development, improvement of quality of life, infrastructure condition and the size of the investment. The knowledge, skills and entrepreneurship of local authorities play a key role here. The Polish real estate tax system consists of real estate tax, agricultural tax and forest tax. For the vast majority of municipalities and especially the urban ones, real estate tax is the most important, most efficient and profitable local tax (Plonka, Wojewodzic, 2009). Introduction by the municipalities of tax rates at the highest level specified by the legislator, may in the short term result in an increase in budgetary revenues. However, the consequences of dissatisfaction of entrepreneurs with such a policy of the municipality should be taken into account, too. This, in turn, can result in e.g. a transfer of the business activity of some of the entrepreneurs to the areas of other municipalities or lack of influx of new investors. On the other hand, the introduction of low tax rates may result in a temporary decline in budgetary revenues of the municipality

* M.A., Ph.D. Student, Department of Economics for Real Estate and Investment Process, Cracow University of Economics, ul. Rakowicka 27, 31-510 Cracow, e-mail: krzysztofdrabek@o2.pl.

and may inhibit planned activities or enable the municipality to fulfill the liabilities imposed on it. The article addresses the issue of municipal policy for determining the real estate tax rates.

The main aim of the article is to identify the strategies of the urban municipalities of the Małopolska Region in making changes to real estate tax rates in the business activity of enterprises. The author sought to determine whether the examined municipalities make changes in real estate tax rates related to conducting economic activity according to clear and visible strategies. The first part of the author's thesis contains a review of subject literature and the legal basis of the examined tax. The following sections comprise methodological issues and analysis results. The article ends with conclusions and direction for further research.

2. The characteristics of the real estate tax

Both the State and local governments have to fulfill the tasks entrusted upon them by law, for the implementation of which they receive specific grants. The municipality, as the basic unit of local government, has legal personality, thus it is an economic entity which performs public functions (Wojewodziec & Plonka, 2008). An important feature of municipalities as units of local government is their financial independence understood as the right to have sufficient financial resources to perform the tasks (Głuszak & Marona, 2015). Financial resources of municipalities being collected, aim at meeting the needs of the population in terms of public goods (Sadowska, 2013). It should be emphasized that the costs of the implementation of their own tasks are usually covered by the municipalities by means of their own revenues and general subsidy, and the tasks assigned are financed by designated subsidies provided by the government administration (Głuszak & Marona, 2015).

Adjusting the rates of council tax plays a significant role in shaping the local development and entrepreneurship. The municipality performs public tasks which are local in nature and are not restricted by laws to the benefit of other entities. Such tasks are fulfilled by the municipality on its own behalf and at its own risk. Their own tasks are specified by the act on local self-government (Małkowska, 2003). Tax revenues and local fees cover budgets of municipalities entirely and account for a part of their own revenues.. Relevant provisions give tax control to municipality authorities. Such control involves the possibility of shaping some of the structural elements of selected local taxes, setting the final rate of taxes paid by taxpayers or establishing additional (except statutory) exemptions from „direct” local taxes, including the real estate tax. Such tax exemptions may, however, be of only objective nature (Kotlińska, 2011) . The real estate tax is the most important and most efficient

source of municipalities' own revenues, it has a great fiscal importance for budgets of many municipalities, especially urban and industrial ones (Czempas, 2009). The functioning of the real estate tax is regulated by the Act of 12 January 1991 on Local Taxes and Charges (Poland's 1991 Act).

The subject of the real estate tax is possession of or autonomous ownership or perpetual usufruct of real estate, including (Czempas, 2009):

- buildings or their parts,
- the land not subject to agricultural and forest tax or subject to, but linked to running a business activity other than farming or forestry activity,
- the land linked to performing business activity other than forming or forestry activity,
- the land under lakes, the land covered by water reservoirs and hydroelectric power plants.

There is a wide range of subjective real estate tax because the taxpayers are individuals and legal persons and organizational units, including companies having no legal personality, if they are (Czerski & Hanusz, 2008, pp. 25-26):

- owner-like possessors of real property or civil structures, with the provision that if the object of taxation is held under independent possession, the real property tax obligation is imposed on the owner-like possessor),
- owner-like possessors of real property or civil structures,
- perpetual usufructuaries of land,
- holders of real property or its part, or civil structures or their parts, owned by the State Treasury or local government units, if the possession:
 - a) results from an agreement concluded with an owner, the Agricultural Real estate Agency of the State Treasury or from some other legal title,
 - b) is performed without a legal title.

The real estate taxable base is (Głuszak & Marona, 2015):

- for land – its area,
- for buildings or their parts – floor space, subject to Article 3 para 3 of the Act,
- for buildings or their parts linked to running a business activity – the value referred to in income tax regulations, established on 1 January of the tax year, which is the basis for calculating depreciation in that year, not reduced by depreciation allowances; and in the case of fully amortized structures – their value as of 1 January of the year in which the last depreciation allowance was recognized.

Real estate tax rates which apply to a particular municipality are determined by municipal council resolution, maintaining the upper statutory limit, that is increased annually by the regulation of the Minister of Finance.

In 2015, maximum real estate tax rates are as follows: (Notice of Ministry of Finance, 2014):

- 1) on lands:
 - a) linked to running business activity, regardless of the classification in the Land and Real estate Register – 0,90 PLN per 1 m² of the area,
 - b) under lakes, destined for water reservoirs and hydroelectric power plants – 4,58 PLN per 1 ha of the area,
 - c) other, including land used for payable statutory public benefit activity performed by public benefit organizations – 0,47 PLN per 1 m² of the area;.
- 2) on buildings or their parts:
 - a) residential buildings – 0,75 PLN per 1 m² of usable building area,
 - b) linked to running business activity and on residential buildings or parts thereof used for business purposes – 23,13 PLN per 1 m² of usable building area,
 - c) occupied for the purpose of running business activity related to qualified seed trade – 10,80 PLN per 1 m² of usable area,
 - d) related to the provision of health services within the meaning of the regulations on medical activity, occupied by the providers of such services – 4,70 PLN per 1 m² of usable area,
 - e) other properties, including those occupied for the purpose of running payable statutory public benefit activity performed by public benefit organizations – 7,77 PLN per 1 m² of usable area.
- 3) structures or their parts – 2 % on their value.

Tax liability arises on the first day of the month following the month in which circumstances justifying the formation of this liability occurred. The real estate tax is paid (Act of 1991):

- by individuals obliged to pay real property tax, the tax is payable in installments proportionate to the duration of the tax obligation: by 15 March, 15 May, 15 September and 15 November of the tax year,
- by legal persons and organizational units not being Legal entities – for individual months the tax is paid by the 15th day of each month,

In the case of the real estate tax, a number of tax reliefs and exemptions is implemented, which result directly from the Act of 12 January 1991, on Local Taxes and Charges, or from other acts. Real estate tax exemptions are of extraordinary nature, that applies in the area of a particular municipality, are introduced by the municipal council by virtue of a relevant resolution (Czempas, 2009).

The real estate tax plays a very important role as a source of revenue for municipalities. According to the analysis of Swianiewicz et al. (2013) the real estate tax remains the most efficient source of own revenue for municipal

governments. In 2010, it brought in revenue of 15.1 billion PLN, and if we added to this amount the effect of rates reductions, reliefs, exemptions, depreciations and deferrals granted by the municipality, the total amount would reach 18.2 billion PLN. This amount represented 12% of total revenue of municipal governments, and if municipalities were to apply only the maximum rates (in terms of all taxes and local charges), this share would rise to 14% of all revenues“. Reducing real estate tax rates can be a way to attract new investors and entrepreneurs, but in practice such proceedings often take place without prior assessment of the likely effectiveness of such measures (Korolewska, 2014). Undoubtedly, the tax policy of municipalities, including the issues related to the real estate tax, should also be guided by non-tax objectives such as supporting the development of entrepreneurship and improving relations with investors. In this case, however, the immediate effect may be a decrease in budgetary revenues because of exemptions used, tax reliefs or depreciations or deferrals of tax liability (Korolewska, 2014). Attention should also be paid to the fact that municipalities can be satisfied with the budgetary revenues from real estate taxes. In such a situation, the municipality and its residents can gain more by effectively investing revenues from real estate taxes than from a possible withdrawal of real estate tax payers.

3. Examination of real estate tax rate changes

Municipalities using a conscious tax policy should apply legible strategies in establishing real estate tax rates, in particular those related to business activities of enterprises. In order to identify these strategies, the resolutions of the Małopolska region municipalities were analyzed.

The analysis which was carried out sought to examine how the tax rates for properties related to running a business activity were being shaped in 14 municipalities of the Małopolska region, which hold the status of township. The main aim of the analysis is to answer the question of whether municipalities of the Malopolska province make changes in tax rates for properties linked to running a business activity according to legible and visible strategies. The study was carried out in the period of 2010-2014. The real estate tax rates are established by virtue of resolutions adopted by the Municipal Council, and therefore it was necessary to analyze the relevant resolutions, which in terms of the research were in nature similar to the one of external normative documents (Stachak, 1997, p. 154).

The content of the resolutions was obtained by the author mainly from the online publication of the Public Information Bulletin, which is the official publication and the obligation of keeping and updating its records arises from the regulations of the Act (Act, 2001, Ordinance, 2007). In cases where the

content of the resolutions was not available in the online Public Information Bulletin, documentation posted on the official websites of individual municipalities was used. In the case of one of the municipalities, in order to obtain the contents of the relevant resolutions, direct contact with the request for access to those documents was necessary.

In the case of the municipalities that differentiated real estate taxes in more detail, accepted the highest rate in a particular category was applied. Some basic elements of statistics were implemented for the analysis of the phenomenon. In addition, in order to illustrate its dynamics, the indicator of the “average change in tax rate” was used.

The rates of the following taxes were analyzed:

- on lands linked running a business activity, regardless of the classification in the Land and Real estate Register – *hitherto called “1A’ tax rates,*
- on buildings or their parts related to running a business and on residential buildings or their parts used for business purposes – *hitherto called “2B” tax rates.*

It is worth noting that each time when municipal councils of the examined municipalities by virtue of a new resolution introduced increases in real estate tax rates, they did it almost always for both examined categories of such tax. As a result, there is a greater transparency in the comparison and analysis.

In the analyzed period in any of the municipalities there was no reduction in real estate tax rates. There was also no municipality in which not once during the entire period the real estate tax rates had not been changed. Most municipalities changed the tax rate 2 times, however, the Municipality of Nowy Sącz and Nowy Targ changed tax rates once; Kraków, Gorlice and Grybów 3 times; Tarnów and Jordanów 4 times, whereas the Bukowno Municipality changed tax rates each year.

Over the whole study period, there were 2 cases where the change in rate of one tax (1A) was accompanied by another tax (2B) remaining intact. These cases were observed in the municipalities of Nowy Sącz and Nowy Targ in 2013. Yet there is a tendency where in case in a given year a change in real estate tax rates is enacted, both 1A and 2B taxes are subject to a change (Table 1).

Most of the municipalities raised tax rates in 2012 and 2013. Since then the trend to make changes in tax rates has been declining and in 2015 only two municipalities changed their tax rates. It may be noticed that the majority of municipalities apply a changes in tax rates policy once in approximately 2 years. To fully illustrate the policy of setting real estate tax rates, the percentage of change (increase) in tax rates should also be shown. Some municipalities differentiate the frequency and level of rates in a specific manner (Table

1). The Bukowno Municipality was the only municipality that changed tax rates each year over the whole study period. The total growth in a rate in that municipality since 2010 has increased in terms of 1A tax by 0.11 PLN, and in terms of 2B tax 2B – 1,75 PLN. The Jordanów Municipality has amended tax rates 4 times and the tax 2B increase throughout the whole period of study was 3.2 PLN. On the other hand, the Municipality of Kraków has changed tax rates 3 times and in this case, the increase accounted for 0,22 PLN in terms of 1A tax and 4,38 PLN in terms of 2B tax. At the same time these are the largest increases in both categories. As shown in Table 1, more important than the frequency of changes in the real estate tax are the amounts of change in these rates. However, there emerges no tendency with regard to the policy of carrying out changes in rates of the examined taxed in municipalities. It might seem that changes in real estate tax rates are dictated by current needs and financial situation of municipalities.

Table 1. Changes in rates of examined real estate taxes in the period 2010-2015

Name of municipality	1A		2B	
	increase in rate from 2010 to 2015 (in PLN)	number of changes in rates	increase in rate from 2010 to 2015 (in PLN)	number of changes in rates
Kraków	0,22	3	4,38	3
Nowy Sącz	0,09	2	0,78	1
Tarnów	0,15	4	2,00	4
Bochnia	0,04	2	1,21	2
Gorlice	0,08	3	1,97	3
Limanowa	0,06	2	1,48	2
Mszana Dolna	0,07	2	1,70	2
Grybów	0,19	3	0,97	3
Nowy Targ	0,08	2	1,33	1
Bukowno	0,11	5	1,75	5
Oświęcim	0,06	2	0,80	2
Jordanów	0,15	4	3,20	4
Sucha Beskidzka	0,06	2	1,85	2
Zakopane	0,11	2	1,08	2

Source: Own research based on the resolutions of municipal councils.

Among the surveyed municipalities, in the Krakow municipality 1A tax rates were the highest for 2 years, and 2B tax rates were the highest for 4 years. The municipality with the lowest tax rates is the Municipality of Bochnia,

which during the whole period of study had the lowest rate of 1A tax and over almost the whole period, with the exception of 2013, had the lowest 2B tax rate.

In the analyzed period, the maximum increase in 1A tax rate was 27.1% and was applied in the municipality of Grybów in 2012. The maximum increase in the rate of 2B tax accounted for 10.6% and was adapted in the municipality of Krakow in 2011. The average rate of change in 1A tax rates is 3.1% and in terms of 2B tax it accounts for 1.9% (Table 2). This means that in the urban municipalities of the Małopolska region in 2010-2015 tax rates of 1A tax were increasing every year by an average of 3.1% and 2B tax rates were increasing by an average of 1.9%. In the case of 1A tax, this increase is similar to the average rate of change in the maximum real estate tax values published annually by the Ministry of Finance, which amounts to 3.2%. In terms of 2B tax, the average rate of increase in the maximum rates accounts for 2.4%. The difference is only about half a percentage point, so it can be concluded that also in this case one can observe a high concordance between the average rate of increase in average tax rates in the surveyed municipalities and an average rate of increase in the maximum allowable rates.

Table 2. Average rates of examined tax in 2010-2015

Type of indicator / Year	1A tax						2B tax					
	2010	2011	2012	2013	2014	2015	2010	2011	2012	2013	2014	2015
a)	0,64	0,65	0,70	0,73	0,74	0,75	18,03	18,24	19,05	19,52	19,77	19,78
b)	3,1%						1,9%					

Legend:

- a) Average tax rates from 14 urban municipalities of the Małopolska region (in PLN)
- b) Average rate of changes in rates

Taking into account the whole study period, urban municipalities were establishing their rates in relation to the maximum rates ranging from 64.4% to 100% in terms of 1A tax and from 76.1% to 100% in the case of 2B tax. One may try to detect certain tendencies to determine the amount of real estate tax rates in relation to the maximum possible values. As far as 1A tax is concerned, over the whole study period one can distinguish the municipalities that were establishing their real estate tax rates below 70% of the maximum possible values, which cannot be seen in the case of 2B tax. In both studied taxes, a vast majority of municipalities set their rates in the range of 80-90% as compared to the maximum possible rates.

4. Conclusion

The real estate tax is for many municipalities, especially the urban ones, the most important local tax. Particular attention should be given to tax rates linked to running a business activity, because they can cause inflow of entrepreneurs or, on the contrary, discourage them from starting and running their own business in a particular municipality. A conscious tax policy, as well as legible and visible strategy of establishing tax rates helps to avoid uncertainty among entrepreneurs. No uniform, long-term strategies of establishing examined real estate taxes were noticed during the study. It may seem that decisions regarding changes in tax rates and the amount thereof are being made at the time the municipalities plan a budget for the following year. A proper manipulation of rates gives municipalities the opportunity to fill any budget shortfalls by increasing real estate tax rates. Two of the surveyed municipalities stand out slightly compared to others. The Bukowno municipality uses the tactics of increasing the real estate tax each year by small values. This strategy is very clear and enables the entrepreneurs to estimate with great accuracy the future costs of real estate tax in subsequent years. Another municipality that stands out from the rest is the Municipality of Bochnia that during the entire study period had the lowest tax rates of all examined municipalities. The strategy of low rates may attract entrepreneurs, who value the costs related to such tax. The study has revealed that most of the urban municipalities in the Małopolska region do not have clear, long-term strategies in establishing real estate tax rates. The problem of lack of clear strategies is therefore another issue worth consideration. The analysis of the subject of municipal councils meetings could also shed more light on the motives of decisions made in terms of establishing real estate tax rates. An interesting phenomenon that is worth examining appears to be the strategies of the urban municipalities of Bukowno and Bochnia, as well as the impact of these strategies on the budgetary revenues, and the influx of new entrepreneurs and investments.

References

- Czempas, J. (2009). Podatek od nieruchomości – ważne źródło dochodów gmin. *Świat Nieruchomości*, 77.
- Czerski, P., Hanusz, A., Niezgoda, A. (2009). *Dochody budżetu jednostek samorządu terytorialnego*. Warszawa: Wolters Kluwer Polska.
- Głuszak, M., Marona, B. (2015). *Podatek katastralny – ekonomiczne uwarunkowania reformy opodatkowania nieruchomości*. Warszawa: Poltext.
- Korolewska, M. (2014) *Polityka podatkowa gmin i miast na prawach powiatu w zakresie podatku od nieruchomości a wspieranie przedsiębiorczości*

- przez samorząd terytorialny. *Studia Biura Analiz Sejmowych Kancelarii Sejmu – Rozwój przedsiębiorczości oraz sektora małych i średnich przedsiębiorstw*, 1(37), 85-108.
- Kotlińska, K. (2011). Władztwo podatkowe organów stanowiących gmin na przykładzie podatku od nieruchomości w wybranych dużych miastach. *Świat Nieruchomości*, 77.
- Małkowska, A. (2003). Rola podatku od nieruchomości w kształtowaniu się dochodów gmin na przykładzie miasta Krakowa. *Zeszyty Naukowe Akademii Ekonomicznej w Krakowie*, 636, 109-126.
- Płonka, A., Wojewodziec, T. (2009). Wpływ zmian stawek podatku od nieruchomości na dochody i wydatki gmin województwa małopolskiego. *Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu*, 2(11), 194-199.
- Sadowska, B. (2011). Struktura dochodów gmin i możliwości jej kształtowania. In: Stefański, M., Stępień, H. (eds). *Gospodarka i finanse gmin w Polsce* (pp. 77-90). Włocławek: Wyższa Szkoła Humanistyczno-Ekonomiczna we Włocławku.
- Stachak, S. (1997). Wstęp do metodologii nauk ekonomicznych. *Książka i Wiedza*.
- Wojewodziec, T., Płonka, A. (2008). Polityka gmin województwa małopolskiego w zakresie podatku od nieruchomości. *Zeszyty Naukowe SGGW. Ekonomika i Organizacja Gospodarki Żywnościowej*, 65.

Legal acts

- Ustawa z dnia 12 stycznia 1991 r. o podatkach i opłatach lokalnych (Dz.U. 1991 nr 9 poz. 31).
- Ustawa z dnia 6 września 2001 r. o dostępie do informacji publicznej (Dz.U. 2001 nr 112 poz. 1198).
- Rozporządzenie Ministra Spraw Wewnętrznych i Administracji z dnia 18 stycznia 2007 r. w sprawie Biuletynu Informacji Publicznej (Dz.U. 2007 nr 10 poz. 68).
- Obwieszczenie Ministra Finansów z dnia 7 sierpnia 2014 r. w sprawie górnych granic stawek kwotowych podatków i opłat lokalnych w 2015 r. (M.P. z 2014 r. poz.718).

THE IMPACT OF OPERATIONAL PROGRAMME INNOVATIVE ECONOMY ON THE GROWTH OF INNOVATIVENESS OF INDUSTRIAL COMPANIES¹

Agnieszka Mazurek-Czarnecka*

Abstract

The following paper is concerned with the use of subsidies coming from Operational Programme Innovative Economy for the purposes of Polish companies. Data analyzed in this paper prove that UE subsidies do not have positive impact on the growth of innovativeness of companies. On the contrary: this impact appears to be negative.

Keywords: *innovations, processes, product, subsidy.*

1. Introduction

In modern economy, innovative character of companies can be regarded as a synonym for their competitiveness. Businesses that launch new products or modern manufacturing, marketing and organizational methods more often succeed in meeting clients' expectations. As a result, they find it much easier to stay on the market and to increase their shares. Development, making and launching new goods, products and services is closely connected with the necessity to improve the quality and innovativeness in every branch of the company. However, it is a very costly process to introduce all those changes, therefore only big firms can afford to finance them from their own resources. Micro-, small and medium-sized undertakings that do not have such funds are forced to look for some alternative solutions.

At the time of programming, i.e. 2007-2013, enterprises which wished to improve the quality and innovativeness of their goods, products and services, could have used public funds, among those coming from Operational Programme Innovative Economy (OP IE). The aim of this article is to try to assess the impact of OP IE subsidies on the growth of innovativeness of companies that used them in 2007-2013. The thesis statement proposed is that public funds gained from OP IE have resulted in the improvement of quality and innovativeness of companies.

¹ This article has been financed from MNiSW funds granted to Cracow University of Economics, Faculty of Finance for the research of young scholars and doctoral students.

* M.A., Ph.D. Student, Department of Economics for Real Estate and Investment Process, Cracow University of Economics, ul. Rakowicka 27, 31-510 Cracow, e-mail: agnieszkamazurekczarnecka@gmail.com.

In the first paragraph preliminary remarks have been included which concern the innovative activity of undertakings. The second paragraph introduces, respectively, the definition, kinds and classification of innovation. The following attempts at assessing activities of Polish innovative companies in comparison with those of some chosen European countries. Paragraph four presents the impact of subsidizing from public funds on innovative nature of companies. The final paragraph contains conclusions and summary. Desk research method has been used in this work. It consists in collecting and analyzing data found in academic literature on the subject, press releases, analytical reports and comparisons of statistics.

2. Innovative activity of enterprises

The notion *innovation* comes from a Latin word *innovatio* and means renewal. Innovations are also associated with another Latin word *novus*, meaning novelty (Borowski, 2011, pp. 8-13). Nevertheless, the first of the Latin terms mentioned above is much more widely used in the literature concerning the topic of innovations.

In literature on this subject one can find a great range of definitions for innovation. J. A. Schumpeter presents this notion in a wide perspective, mainly, he defines innovation as activity connected with preparation, launching, manufacturing new as well as improved goods, materials, services, devices, methods and processes, which are meant to be introduced on the market or used in practice (Schumpeter, 1960).

P. F. Drucker argues that innovations transcend every branch of a company's activity. Changes can occur in the product itself as well as in organization, methods of management and marketing. Drucker assumes that those changes must be regarded in a systemic way. The changes must be subject to active identification. One must also regularly analyze prospective opportunities to use them to create new innovations. Unexpected factors are the most vital ones among those that make it necessary to introduce innovations. They can be divided into: the need of process, change in perception, change in industry structure or in market structure and, last but not least, new knowledge (Drucker, 2004).

According to Schumpeter and Drucker, innovations can be understood as activities bound with all the processes, no matter how minor they are, that occur in an enterprise.

In Oslo Manual textbook the notion of innovation has been presented in a wide perspective and has been described as launching a completely new or greatly improved product, process, marketing method, organizational method

in economy practices, reorganization of a working place, as well as changes in relationships with the environment.

The division of innovation to *defensive* and *offensive*, as it has been suggested by Ortt and van der Duin (2008), is also worth mentioning. *Defensive* innovations are based on all kinds of information about competitive position and market needs. On the other hand, *offensive* ones are based on information about academic and technological inventions and their purpose is to take a much higher competitive position on a given market (Ortt & van der Duin, 2008).

Alińska et al. (2008, p. 27) draws attention to the fact that innovations can be regarded as processes directly aimed at achieving competitive position. These days it is vital to ensure that our goods and services are innovative from the very moment of setting up a new establishment. It is not enough that an enterprise walks the beaten track. Gaining the competitive advantage is possible only when the subject makes sure it is a step ahead from its rivals. What can be done to beat one's competitors? It is always advisable to regard launching newer and newer solutions in all processes, goods and services, because it is launching *novum* that enables us to achieve the so desired competitive advantage.

Nowadays it is futile to count on random solutions. It is a must to create best conditions possible for innovations, and to constantly search for new ones. A systematic innovation is one that is based on a well-organized and purposeful search for changes and a systematic analysis of all possible chances to create and implement innovations (Brzozowski, 2001, p.180).

Numerous criteria and ways of classifying innovation can be found in the academic literature. The most popular classification, formed on the basis of kinds of innovation is:

- product innovations – consist in introducing a new key product or service on the market, as well as great enhancement of a product or service;
- process (technological) innovations – consist in implementation of new or improved methods of production, use of new or improved technological processes, devices, machines, tools, software, ways of production and providing services;
- organizational innovations – rest on the use of a new method of organizing the company's activities, new organization of working places or new organization of external relations;
- marketing innovations – are based on implementation of a new marketing method that stems from launching a new marketing strategy that differs from the previous one. Changes in that matter are mostly about changing the appearance of the product, its promotion, packaging, pricing policy and distribution (Afuach, 2009).

In this paper there is a number of definitions for innovation that depict how broad this topic is. They also underline the connections between innovations and achieving competitive advantage by enterprises. Putting together all the definitions above, two conclusions can be made. First, it has to be assumed that introducing any change, no matter how minor it seems to be, is a sign of innovation-provided that it is a purposeful and deliberate activity. What is more, these days every enterprise that cares about the competitiveness of its goods and services implements innovations. Activities of innovative character that are introduced by companies which do not use any public funds do not always come to light and are not calculated into external statistics.

3. Innovative activity in Poland contrasted with that in other European countries of choice

Unfortunately, conclusions from research conducted by PARP concerning the innovativeness of enterprises from 28 EU countries and a few other chosen ones are not too optimistic. In the majority of countries analyzed, a lower percentage of innovative companies can be observed, both those on the top, as well as those at the end of stake. Undertakings create their own strategies and set precise goals for themselves, however, there exists a large number of obstacles that hinder them from achieving previously set goals. Some Eurostat data has been included in this article, in order to present the innovative character of Polish enterprises against the background of the innovativeness of other European countries' companies.

Table 1. Percentage of companies performing current and abandoned innovative activity in 2008-2012

Countries	2008 (%)	2010 (%)	2012 (%)	Difference 2011–2010 (pp.)	Difference 2012–2008 (pp.)
EU (28)	no data	no data	48,9	4,0	2,7
Germany	79,9	79,3	66,9	-12,4	-13,0
Italy	53,2	56,3	56,1	-0,2	2,9
France	50,2	53,5	53,4	-0,1	3,2
Great Britain	45,6	44,2	50,3	6,1	4,7
Estonia	56,4	56,8	47,6	-9,2	-8,8
Croatia	44,2	42,4	37,9	-4,5	-6,3
Spain	43,5	41,4	33,6	-7,8	-9,9
Bulgaria	30,8	27,1	27,4	0,3	-3,4
Poland	27,9	28,1	23,0	-5,1	-4,9

Source: Own research and studies based on Eurostat Statistics Database (inn_cis6_type), (inn_cis7_type), (inn_cis8_type).

In an attempt to assess levels of innovativeness of enterprises, a general approach has been used. It depicts the percentage of companies performing current, as well as abandoned innovative activity when it comes to products, processes and organizational and marketing methods. Table 1 presents the percentage of enterprises that can be characterized by innovative activity in 2008-2012.

Among the countries presented in Table 1 there can be distinguished four groups of actively innovative enterprises and countries assigned to them:

- leaders <55,6; 66,9> (Germany, Italy),
- catching up countries <43,8; 55,35> (France, UK, Estonia),
- average innovators <32,25; 43,8> (Croatia, Spain),
- weak innovators <20,7; 32,25> (Poland, Bulgaria).

Leader in innovation, i.e. Germany, has fallen prey to the most negative changes. The drop in enterprise innovativeness has reached in this case over 12%. Significantly lower indicators of innovation have been observed in Estonia, Croatia, Spain and Poland. In Poland, the innovative character of undertakings grouped according to their size appears to be much better. Data depicted in Table 2 prove that big enterprises which possess much greater economic potential are characterized by activity in their innovative work.

Table 2 depicts the percentage of enterprises that perform current innovative activity and abandoned activity and they are ordered according to their size.

Table 2. Percentage of enterprises performing current innovative activity and abandoned activity according to number of employees (%)

Countries	Total	10–49 workers	50–249 workers	>249 workers
EU (28)	48,9	45,02	60,5	76,4
Germany	66,9	63,6	74,3	92,2
Italy	56,1	53,4	71,4	84,4
France	53,4	49,1	66,2	81,0
UK	50,3	48,7	56,7	56,2
Estonia	47,6	42,6	64,3	78,3
Croatia	37,9	33,1	51,5	77,2
Spain	33,6	29,0	55,7	78,2
Bulgaria	27,4	22,7	40,4	59,0
Poland	23,0	17,4	35,8	63,9

Source: Own studies and analyses based on Eurostat Statistics Database (inn_cis6_type), (inn_cis7_type), (inn_cis8_type).

According to data from Table 2, Germany remains the leader in the group of big enterprises, too. Among those countries that have been subject to research, in Germany there are 92,2% undertakings that deserve to be called innovative. In Poland, respectively, this number reaches up to only 63,9%. Bulgaria places itself a little below Poland with 59%, and UK with total of 56,2%. When it comes to the share of innovative undertakings of average size, it amounts to almost 35,8% in Poland. The percentage of innovative small businesses in Poland is only 17,4% and such a result puts our country on the last position in the ranking.

When making an attempt to assess the innovativeness of Polish companies, it is necessary to underline that 77% enterprises which have been subject to research do not perform any innovative activities. In contrast, in Germany, our closest neighbour, the amount of non-innovative enterprises is only 33%.

4. How subsidies are used by enterprises on innovation

Between 2007-2013, thanks to Operational Programme Innovative Economy (OP IE) entrepreneurs, academic and research bodies, business-related institutions, and public administration institutions received funds of over 10,18 billion euros for the improvement of innovation of Polish businesses. Funds from The European Regional Development Fund (ERDF) for this purpose amounted up to 8,65 billion euros, and the remaining 1,92 billion euros came from national budget.

By October 30, 2015 there have been 17851 agreements signed under OP IE for the total amount of PLN 44,22 billion, which is 104,01% of allocation for the programme. All of the funds designed for OP IE have been allocated between 2007-2013 and because of that one can try to assess the impact of such support on the innovativeness of companies.

In Table 3, the share of financial support for individual priorities has been presented. The table shows that the biggest number of OP IE funds has been devoted to priority 4- investments in innovative enterprises. The amount of subsidy in this case has been over PLN 15 billion.

A question should be raised here if it is true that funds from OP IE have contributed to the growth of innovativeness of Polish businesses? Unfortunately, when comparing the amount of funds with data from Table 1 (paragraph 3), one can notice that public support has in fact not lead to any growth desired.

Table 3. Division of OP IE funds into priorities

Priority	Allocation for the priority in million PLN	Number of arrangements signed	The amount of subsidy under agreements (in millions PLN)
Priority 1 Research and development of modern technologies	6 343,34	1491	7 003,72
Priority 2 Infrastructure of R&D zone	6 006,11	166	6 736,20
Priority 3 Capital for innovation	1 315,15	310	1 366,84
Priority 4 Investments in innovative enterprises	15 469,32	2088	15 488,77
Priority 5 Diffusion of innovation	1 856,14	611	1 985,26
Priority 6 Polish economy on international market	1 718,58	5 108	1 794,92
Priority 7 Information society: establishment of electronic administration	3 933,92	40	3 800,69
Priority 8 Information society: boosting the economy's innovativeness	5 001,81	7801	5 248,24
Priority 9 Technical support	868,30	236	792,72

Source: Retrieved from www.poig.gov.pl.

Data presented in annual Central Statistical Office (GUS) reports confirm that the percentage of enterprises which implement product or process innovations is lower and lower each year. Graph 1 indicates how many innovative enterprises use public support, e.g. support from EU funds. A quite significant drop in innovative activity occurred in 2008. In the following years the share of innovative industrial undertakings grew, but was still minor and came to as little as 25%. Data contained in this chart indicates that 75% of industrial establishments do not use any national support.

The following conclusion can be made: vast majority of enterprises do not use any mechanisms supporting innovations offered by the state and co-financed from EU funds. Why is it then that enterprises do not make use of those huge funds designed for backing up innovations? Apparently, companies are not able to correctly fill in applications or they do not comply with the criteria that are artificially created and imposed by office workers. The report prepared by J. Hausner proves that EU funds devoted to supporting enterprises

do not have any positive impact on their innovativeness. On the contrary, they spoil the market and competition (Hausner, 2012).

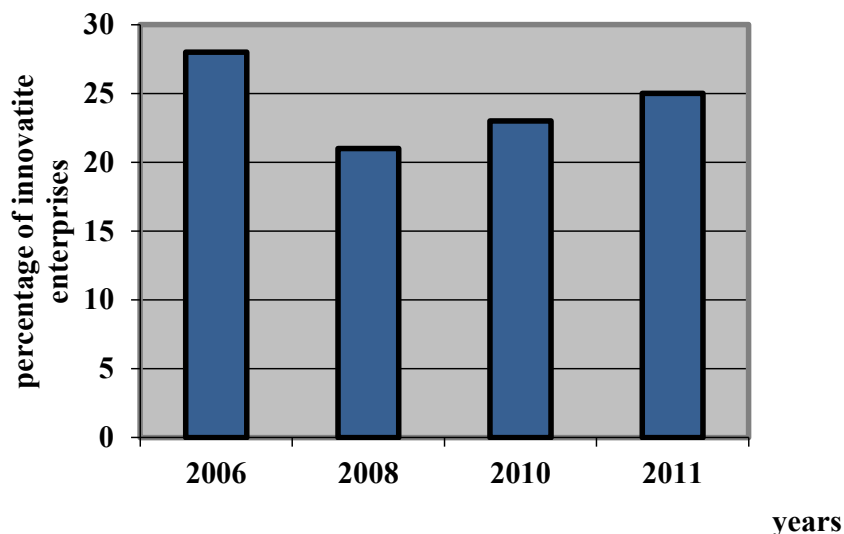


Figure 1. Percentage of innovative enterprises using public support (including EU funds)

Source: Retrieved from www.poig.gov.pl.

5. Obstacles in innovative activity of enterprises

The notion of enterprises' innovativeness is strictly connected with all kinds of obstacles in its launching and development. Those obstacles result in hindering innovations from being launched as well as abandoning the already existing innovative processes. For micro- and small enterprises it may be very costly to abandon the already undertaken innovative steps as they do not possess any big amounts of capital. This, in turn, limits their innovative activity to a great extent (Juchniewicz & Grzybowska, 2010, p. 43).

Financial factors belong to one of the most vital and, at the same time, most hindering ones when it comes to innovative activity. Lack of own funds, restrictions in access to external sources of financing and high costs of innovative activity, as well as unstable demand for goods, remain the most important financial barriers (Dzikowski, 2013, p. 46). Studies conducted by Central Statistical Office (GUS) confirm that financial restrictions consist a basic barrier for innovative activity of Polish enterprises (Świadek, 2007, s. 100).

Matusiak and Guliński (2010) have divided obstacles in implementing and taking up innovative activities into four groups:

- systemic barriers – connected with excessive bureaucracy and stimulators of innovative activity,
- structural barriers – connected with the lack of correct policy and actions in terms of R&D zone and the enterprise itself,
- competence barriers – connected with the lack of ability to use potential opportunities that occur in academic and economic vicinity,
- awareness and cultural barriers – connected with the lack of trust for institutional mechanisms functioning in the social system.

The previously referred to Oslo Manual textbook mentions 4 basic factors that have a negative impact on the quality of innovations implemented in an enterprise. These are: cost, market, institutional and knowledge factors.

E. Okoń-Horodyńska enumerates barriers in enterprises' innovativeness, such as (Okoń-Horodyńska, 2004):

- low expenditures on R&D and education,
- lack of political will, as well as lack of long-term strategy for economic development,
- lack of activity of R&D units in commercialization of academic studies' conclusions,
- weak demand for technological innovations,
- immaturity of financial institutions and lack of venture capital,
- deficiencies in enterprises' education about innovation.

In Polish enterprises one can observe a tendency not to perform any activity when it comes to increasing capital expenditures for innovation. Companies are reluctant to devote any extra money that could contribute to cover all kinds of costs of innovative projects. Previous experience in using external financing proves that funds coming from Regional Operational Programmes play a big role in innovative development of enterprises. Financial support gained from EU triggers the development of cooperation between scientific units and enterprises themselves (Szymański & Tomaszewski, 2013, s. 246).

Enterprises would use the EU funds to increase innovativeness of their goods, services or processes if it were not for the demands imposed on them by various institutions that effectively obstruct and prevent them from doing so. It is because only chosen companies that meet all the criteria set by the project can receive the funding. Those which do so are, in turn, not necessarily interested in preparing and submitting complicated and time-consuming applications. Thus, it is really difficult to claim that OP IE funds play a vital role in the development of enterprises' innovativeness.

All of the authors of articles cited in this paragraph agree that financial barriers remain among those most important to hamper innovative activities. Therefore, increasing the level of innovativeness in Polish enterprises depends on the increase in investments in all kinds of innovative activities. In accordance with their assumptions, Operational Programmes that financially

support projects of innovative character should, to some extent, enable the decrease in financial problems of enterprises wishing to implement innovative activities. However, as it turns out, funds devoted on increasing innovativeness of enterprises are available for a big number of undertakings. The most significant barriers in their use, in turn, lie in the implementation system and inconvenient criteria which block their access.

6. Conclusion

This article presents an overview of definitions of innovation and depicts its kinds and classification. Special attention has been paid to the influence of innovativeness on enterprises' competitiveness. The analysis of innovative activities undertaken by Polish enterprises does not appear very optimistic as the analyzed data in this paper show that innovativeness of Polish undertakings decreases year by year.

In the last year analyzed in paragraph 3, over 77% of enterprises do not undertake any innovative activities. Big enterprises have a much higher level of innovative activities, and over 60% analyzed subjects implement activities of that kind. Nevertheless, activities of the remaining groups of enterprises are not optimistic and contribute to the fact that our country is among the weakest innovators.

Among barriers preventing innovative activities from being implemented the most crucial ones are financial barriers which are for SME sector the most relevant in hampering initiatives like that. It is worth noticing that systemic barriers, which effectively discourage entrepreneurs from applying for EU funds or even prevent them from doing so, are also vital barriers to the development of innovativeness.

It is sad to say that this thesis claim that public funds donated by OP IE have contributed to improvement of quality and enterprises' innovativeness is simply not true.

The new Operational Programme Inteligentny Rozwój (Intelligent Development), implemented in 2014-2020, without any doubt provides enterprises with new possibilities of financing innovative activities. However, if the criteria to their access are not changed, they will still have a negative influence on the innovativeness of Polish enterprises.

Still, is it possible to talk about truly pure competitiveness of enterprises which use external, and often non-reimbursable forms of financing innovative activities? Do EU funds not interrupt the proper functioning of market mechanisms? It is worth to conduct some further research to find answers to these questions.

References

- Afuah, A. (2009). *Strategic Innovation: New Game Strategies for Competitive Advantage*. Taylor&Francis Inc.
- Alińska, A., Grzywacz, J., Latoszek, E., Proczek, M., Zawisłańska, I. (2008). *Finansowanie MŚP w Polsce ze środków UE jako czynnik wpływający na konkurencyjność przedsiębiorstw*. Warszawa: Oficyna Wydawnicza SGH.
- Borowski, P.F. (2011). Przedsiębiorstwa XXI wieku. *Europejski Doradca Samorządowy*, 2(17).
- Drucker, P.F. (2004). *Innowacja i przedsiębiorczość*. Warszawa: Wydawnictwo Studio EMKA.
- Dzikowski, P. (2013). *Bariery działalności innowacyjnej przedsiębiorstw przemysłowych funkcjonujących w Wielkopolsce w latach 2011–2012*. In: *Innowacje przyszłości rozwoju regionu*. Szczecin: Wydawnictwo Naukowe IVG.
- Juchniewicz, M., Grzybowska, B. (2010). *Innowacyjność mikroprzedsiębiorstw w Polsce*. Warszawa: PARP.
- Hausner, J. (2012). *Kurs na innowacje. Jak wyprowadzić Polskę z rozwojowego dryfu*. Kraków: Raport Fundacji Gospodarki i Administracji Publicznej.
- Matusiak, K., Guliński, J. (2010). *Rekomendacje zmian w polskim systemie transferu technologii i komercjalizacji wiedzy*. Warszawa: PARP.
- Okoń-Horodyńska, E. (1998). *Narodowy system innowacji w Polsce*. Katowice: Wyd. Akademii Ekonomicznej im. Karola Adamickiego.
- Ortt, J.R., van der Duin, P.A. (2008). The evolution of innovation management towards contextual innovation. *European Journal of Innovation Management*, 4(11).
- Podręcznik Oslo. (2005). *Zasady gromadzenia i interpretacji danych dotyczących innowacji*. Paryż: Joint publication of OECD and Eurostat. Third edition.
- Raport. (2014). *Ocena wpływu Programu Operacyjnego Innowacyjna Gospodarka na zwiększenie innowacyjności przedsiębiorstw*. Ministerstwo Infrastruktury i Rozwoju (Ministry of Infrastructure and Development).
- Schumpeter, J.A. (1960). *Teorie rozwoju gospodarczego*. Warszawa.
- Szymański, R., Tomaszewski, M. (2013). Wielkość przedsiębiorstwa a sieci współpracy innowacyjnej w Polsce Zachodniej. *Zeszyty Naukowe Uniwersytetu Szczecińskiego*, 753, *Ekonomiczne Problemy Usług*, 103.
- Świadek, A. (2007). *Regionalne uwarunkowania kształtowania innowacyjności w przemyśle polskim*. Research study. Szczecin: Wydawnictwo Naukowe Uniwersytetu Szczecińskiego.

