ORGANIZATION AND MANAGEMENT

ORGANIZACJA I KIEROWANIE

NO. 1B (160) YEAR 2014

Indeks 367850 ISSN 0137-5466

THE COMMITTEE ON ORGANIZATIONAL AND MANAGEMENT SCIENCES

PAN

WARSAW SCHOOL OF ECONOMICS
COLLEGIUM OF MANAGEMENT AND FINANCE

SZKOŁA GŁÓWNA HANDLOWA W WARSZAWIE

ORGANIZATION AND MANAGEMENT

ORGANIZACJA I KIEROWANIE

ORGANIZATION AND MANAGEMENT

ORGANIZACJA I KIEROWANIE

N0. 1B (160) YEAR 2014

Index 367850 ISSN 0137-5466

THE COMMITTEE ON ORGANIZATIONAL
AND MANAGEMENT SCIENCES

WARSAW SCHOOL OF ECONOMICS
COLLEGIUM OF MANAGEMENT AND FINANCE

Publisher:

THE COMMITTEE ON ORGANIZATIONAL AND MANAGEMENT SCIENCES & WARSAW SCHOOL OF ECONOMICS

This publication is subsidized by Ministry of Science and Higher Education

Reception: Anna Domalewska, tel. +48 22 564 95 34, e-mail: anna.domalewska@sgh.waw.pl
Distribution and Promotion: Anna Czułek, tel. +48 22 564 98 37, e-mail: anna.czulek@sgh.waw.pl
Section chief editor: Anna Matysiak-Kolasa, e-mail: anna.matysiak@sgh.waw.pl
Production editor: Ewa Łukasiewicz, e-mail: ewa.lukasiewicz@sgh.waw.pl

All articles published in the quarterly are subject to reviews.

Statistical review: Małgorzata Rószkiewicz (Warsaw School of Economics)

Peer review: Jarosław Karpacz, Wioletta Mierzejewska, Anna Wójcik-Karpacz.

Adress:
Warsaw School of Economics
Collegium of Management and Finance
al. Niepodległości 162, 02–554 Warszawa
e-mail: oik@sgh.waw.pl, www.sgh.waw.pl/oik/

Cover design: Małgorzata Przestrzelska
DTP Operator: GEMMA
Printing and Binding: QUICK-DRUK

Edition: 150 copies

Order 180/XII/14

Contents

SZYMON CYFERT*

THE INTRODUCTION

The assumption that the instability of the business environment forces organizations to continuously improve efficiency means that the omission of improvement-related activities may, in the long run, lead to the deterioration of the competitive position of an organization, and consequently, to its downfall. The implementation of the measures aimed at improvement requires the use of a systemic approach by organizations, involving a deliberate and systematic implementation of changes. The use of a different approach may, in the short run, benefit an organization, but in the long run it will have synergy-destroying effects. Such a systemic approach involves the use of management methods and techniques. When implementing management methods and techniques, one should keep in mind that there is no "one best" management method or technique, on the contrary – both in theory and in practice there are many. Some of them compete with each other, some are mutually complementary, and sometimes the actual differences between the methods and techniques are insignificant, which results from the desire to find the ideal solution by the authors of particular concepts. When taking actions aimed at the implementation of management methods and techniques, one should take into consideration the interactions between particular concepts, strengthening or weakening the effects of mentioned implementation.

The literature emphasizes that the proper implementation of management methods and techniques can generate added value for an organization. However, just as often, due to errors in the implementation process, the implementation of management methods and techniques reduces the efficiency of an organization and consequently, destroys values. Therefore, every process of management method or technique implementation should be considered and analyzed in terms of implementation-related benefits and risks for a specific company.

Joining in the discussion on organizational renewal, Ryszard Borowiecki outlines the background, causes and effects of the changes in the behavior of modern

* Chair of Organization and Management Theory – **Szymon Cyfert**, **Ph.D., Professor**, Poznań University of Economics.

enterprises, which enables him to draw conclusions pointing to the desirability of incorporation of the mechanism of constant restructuring into the management systems of organizations.

Łukasz Sułkowski attempts to analyze the functionalist approach to organizational culture, which in the Author's opinion, is the historically oldest approach to the cultural processes of management. In conclusion, the Author points to the limitations of the functionalist paradigm in the study of organizational culture.

Pointing to the increased interest in the concept of corporate responsibility, Charles Wankel and Agata Stachowicz-Stanusch formulate the observation about the improper preparation of the management for dealing with the challenges of integrity in the global environment in an effective way, which allows them to lay down the Principles for Responsible Management Education.

Justifying the use of the principles of the chaos theory and the complexity theory in management sciences, Piotr Płoszajski discusses the importance of mentioned theories for understanding the logic behind the development of non-linear and dynamic systems functioning under changing environmental conditions.

Signe Vesso and Ruth Alas attempt to identify the main coaching areas for Estonian organizational change management leaders. The studies conducted by the Authors allow them to draw the conclusion that the awareness of the impact of trust and leaders' behavior on the team is the most important area for the development of the Estonian leaders.

Pointing to the importance of the systemic approach, Katarzyna Hys and Liliana Hawrysz present the evolution of the concept of the system, discuss the ways to define it and describe the areas of application of the systemic approach. In conclusions, the Authors emphasize that the systemic approach, by forcing a holistic perception of phenomena, has a positive impact on the development of the interdisciplinarity of science.

At the core of Katarzyna Bartnicka's article lies the assumption that creativity has an impact on the success of enterprises. Based on a review of the literature, the Author characterizes the dimensions of organizational creativity associated with creative innovativeness and creative usability, and attempts to model organizational creativity in terms of the hierarchical latent variable.

Enjoy the reading!
Szymon Cyfert

RYSZARD BOROWIECKI*

ENTERPRISE RESTRUCTURING IN THE CONDITIONS OF THE CRISIS AND THE GLOBALIZATION CHALLENGES. BASED ON THE EXPERIENCES OF THE POLISH ECONOMY

Introduction

One of the most distinctive features of our times is the progressing globalization of almost all areas of life – economy, law, education, science, politics, culture, tourism and consumption patterns. It makes national economies more codependent than ever before, which leads to qualitatively new economic links between individual continents, countries and their regional groupings, as well as markets and enterprises. The links result from the rising freedom and the speed of concluding and realizing international transactions, performing the flows of goods and services (especially financial ones), new technologies, resources and production factors, as well as information (including knowledge) in the supranational scale.

Therefore, at present, it becomes more and more important to discuss the process of governance not only through the prism of regional borders determined by the scope, size and intensity of various kinds of capital connections, and the areas of the functioning of corporations and economic entities, as well as the direct and indirect connections (relations) between various enterprises. As the basic element of the subjective triad of each economy, these are enterprises which influence the labour market, the development of innovation and entrepreneurship, the economic

* **Ryszard Borowiecki, Ph.D., Professor** – Department of Economics and Organization of Enterprises, Cracow University of Economics.

growth and many other aspects of the economic life. It was even proven by the transformation of the Polish economic system after 1990. It imposed a necessity to create a new economic order, build a new economic system according to the rules of the multi-sector market economy since the effects of the economic, social, and psychological mechanisms resulting from the central, prescriptive and distributive system of planning of the economy did not foster economic efficiency, a rational use of resources as well as of the financial and intellectual potential of Poland. Economic processes were characterized by high costs, low labour efficiency, decapitalization of wealth and the decrease in modernity, the obsolete system of information flow and processing.

Owing to the implemented system reconstruction in the macro- and micro--organizational scale, at the beginning of the 21st century Poland became one of the first Central and Eastern European countries affiliated with the European Union. It was a particularly significant challenge for the Polish economy, and especially for its enterprises, the basic business entities in the system reconstruction process. On the accession, Poland had to cope with the pressure of competition, market forces and other elements characteristic of the EU markets. That experience is very important today, in the face of new economic challenges which appeared in the conditions of the crisis. Thus, the system reconstruction of the Polish economy has forced enterprises to search for and create solutions adapted to the conditions of the market economy, with the use of the existing and available capital (material, financial and human) components, organizational structures and the capabilities of restructuring the object, the character and the scope of their economic activity. Therefore, in the face of the current crisis situations and the contemporary globalization challenges, a special place in the process of managing enterprises (of various sectors with different sizes and various legal and organizational forms) should be taken by the comprehensive use of experiences and practical observations made during the preparation and the implementation of restructuring ventures in the economic transformation process in Poland.

This paper was created as a result of literature studies and empirical research conducted for a few years by the Author and the employees of the Department he manages, namely the Department of Economics and Organization of Enterprises at the Cracow University of Economics. It is also a result of previous, partial publications and it is their continuation along with considerations of a theoretical and methodological, as well as analytical and cognitive character, which may be used in the current and future strategy of transformations and development of contemporary enterprises.

1. Globalization and the New Economy – a Dynamic Change in the Conditions of Governance and Behaviours of Contemporary Enterprises

Globalization is one of the most characteristic processes of our times, creating new opportunities but also new threats since it concerns development, integration, abolition of all barriers, an increase in codependence between various countries, the expansion of the free market economy and democracy[1]. We can distinguish a few areas of globalization (Grupa Lisbońska, 1996):

- globalization is a multi-dimensional process, namely it takes place in many spheres of life simultaneously, and is stimulated by separate but intermingling various types of actions performed at the same time in various spheres of human activity (social, economic or political); also for this reason grasping all aspects of globalization creates many difficulties of a methodological character;
- globalization causes international integration of operation of entities (economies, sectors, markets and companies) at various levels;
- globalization is essentially related to international co-dependence of entities;
- globalization shows a strong connection with the scientific-technological progress (technological achievements are beneficial for the development of transport, communication, manufacturing of modern products, creation of new services etc.);
- globalization is a process of a gradual shrinkage of time and space in which we move and act, resulting in subjective and objective phenomena such as "shrinkage of the world", participation in events on all continents, a high mobility of people, offer of global products and services etc.;
- dialectic character of globalization means that the development of this process is conditioned and linked to various sub-processes and phenomena, frequently of an opposing character;
- the multi-level character of globalization is connected with the fact that the world economy constitutes the highest level on which various tendencies forming the discussed process are aggregated and transformed.

Globalization is a complicated process which influences not only the behaviours of large transnational corporations but also significantly influences the functioning and development of the small and medium-sized enterprise sector, and the

[1] The notion of "globalization" has not been explicitly interpreted to date. It probably results from its very broad subjective scope and multi-threadedness, multi-sidedness and complexity of economic, social and political phenomena included in the notion. Thus, depending on who formulates the definition of the phenomenon, the emphasis is put on different elements. See more on this: Bauman, 2000; Flejterski, Wahl, 2003; Kotyński, 2005; Misiak, 2007; Stiglitz, 2007 and Malinowska, Kucharska, 2006.

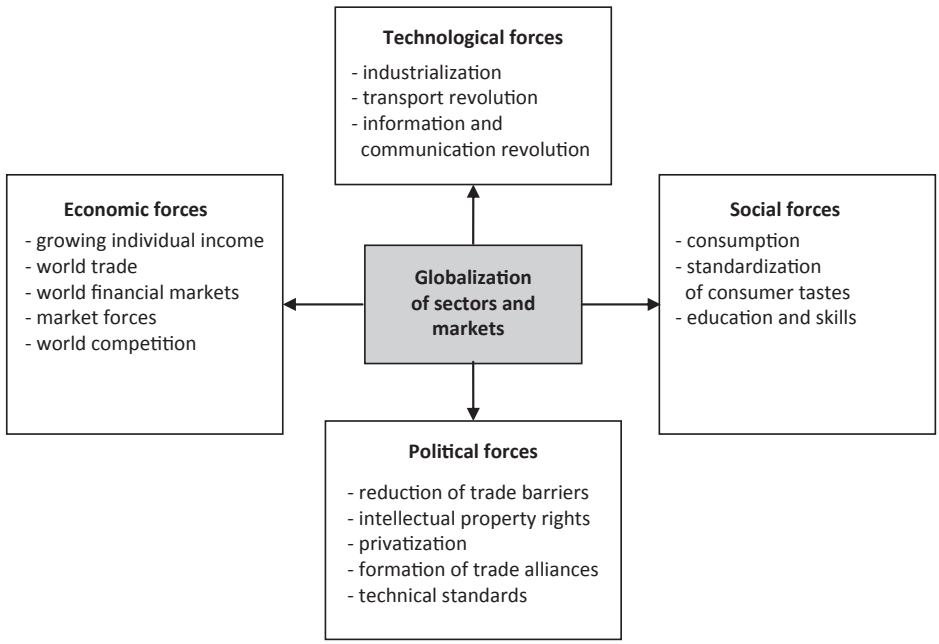
behaviours of customers in global markets. Although the globalization process has a complex, multi-dimensional and multi-level character, it is possible to indicate some of its characteristics by means of the following statements (Malinowska, Kucharska, 2006):

- globalization is a multi-dimensional process, thus, it runs simultaneously in numerous areas of life and is stimulated by separate, but overlapping activities of different kinds, conducted at the same time in various spheres of human activity (social, economic or political one); for this reason, grasping all aspects of globalization creates numerous problems of a methodological nature;
- globalization brings about integrating activity of entities on various levels (of economies, sectors, markets and enterprises) of the international scale;
- globalization is basically related to the international codependence of entities;
- globalization shows a strong relationship with the scientific and technical progress (technical achievements serve the development of transport, communication, manufacturing state-of-the-art products, creating new services etc.);
- globalization is a process of gradual shrinkage of space-time in which we move and act, which evokes subjective and objective phenomena, such as"shrinkage of the world", participation in events on all continents, a high mobility of people, the offer of global products and services etc.;
- a dialectical character of globalization means that the development of this process is conditioned by and linked to various sub-processes and phenomena, often of an antagonistic character;
- the multi-level character of globalization is related to the fact that the global economy constitutes the highest level on which different tendencies creating the discussed process are aggregated and transformed.

The deepening process of the internationalization of the world economy and its advancement to a higher level, namely globalization, is fostered by numerous factors of a various origin, character, power and the scope of influence, and a different degree of mutual codependence. The specification and their graphic interpretation are presented in Figure 1.

Apart from the quoted diversified sources, premises, manifestations and conditionings of globalization, which result to a great extent from the universal social, political and economic processes within individual countries or regions, we can indicate special cultural, psychological and political conditionings characteristic of them. It may be exemplified by the so-called post-socialist countries (including Poland), where any activities in the process of the system reconstruction after 1990 like freeing the market mechanism and creating conditions for the development of entrepreneurship in the national and international dimension found favourable conditions and, as a result, numerous followers.

Figure 1. Forces leading to globalization

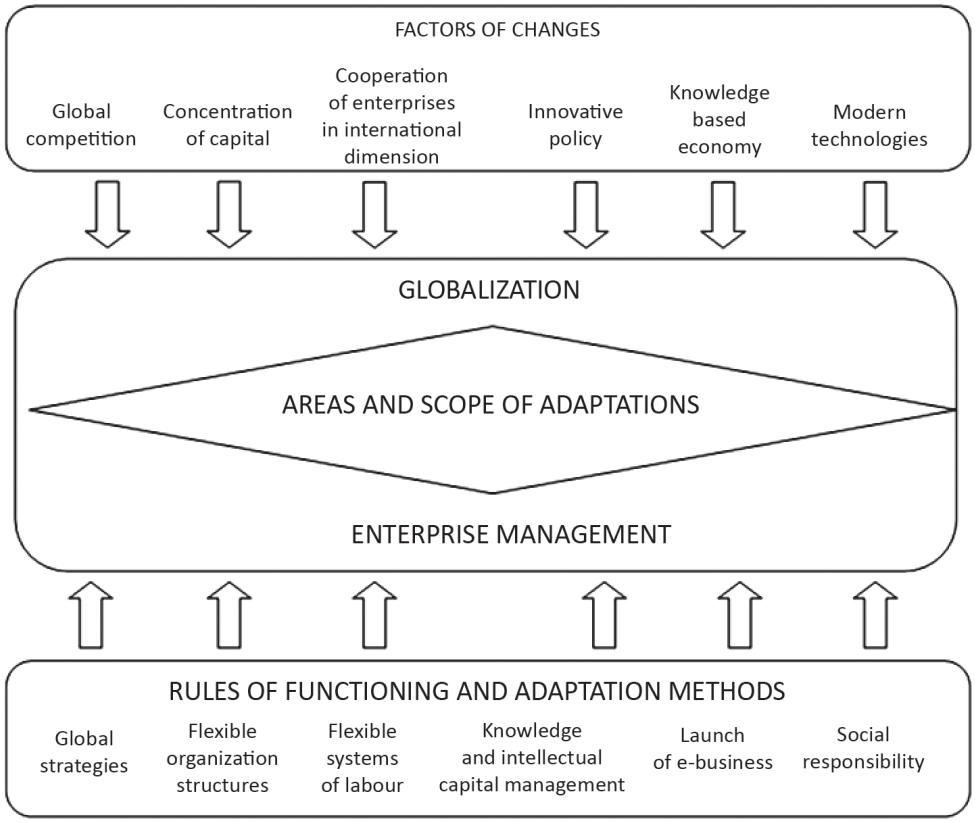


Source: Stonehouse, Hamill, Camphell & Purdie, 2001.

Globalization forces contemporary enterprises, organizations and institutions to search for new tools to build strategies adapted to the requirements of the global market, create flexible organizational structures and systems of work, as well as implement the rules of corporate social responsibility. The dimension of globalization, as well as the scope and the directions of enterprises' adaptation to the requirements of the global market are presented in Figure 2.

Global thinking and acting would not be possible without radical changes in the sphere of communication and information flow, including the development of information technologies and the advent of the Internet. Thus, in the literature on the subject special attention is paid to the development of information and communication infrastructure as the globalization factor. The development of computer and information techniques and technologies enabled not only the acceleration of product and capital flow but also an increase in the quantity and quality of information, as well as faster and broader access to it. At the same time, it created new opportunities for building competitive advantage based on knowledge management systems and using the achievements of contemporary information technology.

Figure 2. Globalization versus enterprise



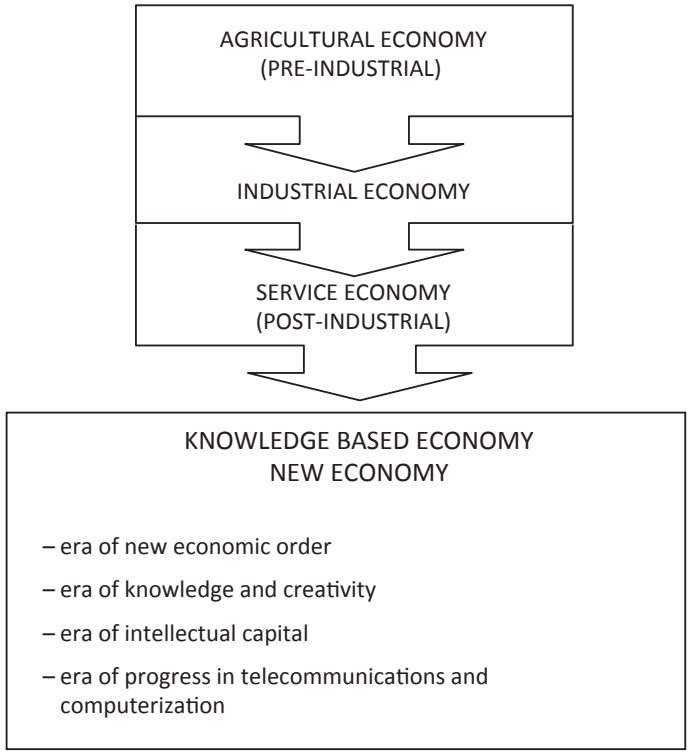
Source: Malara, 2006.

The basic source of gaining competitive advantage in the 21st century economy is knowledge treated as a separate resource of an organization. The skills achieved by employees not only in the process of direct education but also in the progress of experience acquired at work may be often treated as a unique production factor (Dobija, 2003). By managing knowledge, not only do enterprises build their competitiveness but they also create conditions for transforming knowledge into a component of their market value. Hence, on the one hand, we deal with radical changes in the role of individual asset components in building competitiveness of the enterprise and creating its value, and on the other hand, we deal with changes in the role and ability to use human resources in the enterprise and the evolution of human resources management related to it towards human capital management.

The growing significance of intangible assets, such as knowledge and intellectual property, provided a foundation of the occurrence of the term of New Economy, closely connected with the development of new telecommunications and the Internet, and the progressing globalization processes. Therefore, the New Economy and the information revolution related to it may be regarded as another stage of the historical economic development, following the industrial revolution and the scientific and technical revolution. The New Economy of the turn of the 20th and 21st centuries is a consequence of the changes caused by the adaptation of innovative technologies and business practices, as well as the growing global competition, leading to a significant and permanent increase in effectiveness (Krawiec, 2009). Unprecedented dynamics of the economic development observed nowadays in numerous countries is, in the first place, the effect of learning and using human innovations, making a lot of physical resources obsolete to a greater and greater extent (Krawiec, 2005).

The entering onto a new stage of development by contemporary economies is called the New Economy era (see: Figure 3). Focusing mainly on services and broader investment in intangible factors (patents, licences, trademarks etc.), as well as on the development of the fields of knowledge based economy leads to a significant reorientation of the system of organizations' management, including the ways of formulating their visions, missions, objectives, and strategies. The rising activity of the owners of global organizations has brought about an increase in the pressure on their effectiveness and economic rationality discussed from the point of view of the realization of financial benefits for the owners, which, in the existing external and internal conditions, requires the use of adequate tools and instruments of professional management. At the same time, the development and the popularization of New Economy achievements have created broader opportunities to use the achievements of the scientific and technical progress, and raise the effectiveness of enterprises, as well as implement organizational activities resulting from different ways of perceiving economic processes than before.

Figure 3. The stages of historical development of the New Economy era



Source: Author's own study.

2. The Orientation of Enterprises on the Situations and Changes Undergoing in their Environment in the Conditions of the Crisis

Economic crises have been known for a long time since they have occurred in all historical periods and all types of economies. The present crisis, going back to 2007, started from the financial crisis and manifested itself in the collapse of the whole financial system (monetary system, debenture market, the stock exchange, insurance and real estate market) due to the internationalization of activity and links of a global character among financial institutions. The consequences of the events in the *stricte* financial sphere were reflected in the sphere of real economy in the form of: a decrease in general consumption, a drop of the export of goods and services, bankruptcy of numerous production and service entities, an increase in public debt in many countries etc.

Table 1 presents the most frequently indicated causes of the contemporary global economic crisis.

Table 1. Causes of the 2007 economic crisis by the selected sources and authors

No.	Author/ Source	Causes
1.	The National Bank of Poland	1. Macroeconomic Increasing global imbalances, long-term real interest rates, isolation of asset price from the foundations, 2. Microeconomic (the functioning of financial system) Faulty structure of (individual and institutional) stimuli, weaknesses of measurement, valuation and risk management methods, "defective" corporate governance, gaps in the regulatory system (micro- and macro-prudential regulations),
2.	W.M. Orłowski	1. Rapid changes in the distribution of economic powers in the world and imbalance accompanying it, 2. Rapid development of financial markets (in 1980, basic financial assets constituted about 12% of the global GDP, and in 2007, 1300% of the world GDP), 3. Inability of correct valuation of risk related to financial assets, 4. Man-made errors (a wave of irrational optimism), 5. Others: errors in economic policy, mainly of the US, ineffective regulatory role of the US government, particularly with reference to investment banking and the market of derivative instruments, inefficient monetary policy, an example of which was reducing interest rates by Fed in the period of "maturing" of a speculation bubble in the real estate market, ineffective fiscal policy of US (in the years 2002 – 2007 the "explosion" of the budget deficit was allowed, which was partly caused by an irresponsible decision to reduce taxes).
3.	P. Wiśniewski, The Chancellery of the Sejm of the Republic of Poland	1. Sharp slump in the American real estate market (whose impact is huge, due to a large scale of the used mortgage credits in the US and complicated financial instruments based on mortgage), 2. Low capital adequacy (understood as a level of minimum capitals of financial institutions in comparison with their assets) of numerous American financial institutions. Capital weakness of many American financial conglomerates became particularly dangerous in juxtaposition with the first type of the phenomena.
4.	J.B. Taylor	Classic explanation of financial crises going back to hundred years ago is that they are brought about by surpluses, often monetary surpluses, which led to economic recovery and unavoidable failures (bankruptcies). During the current crisis, we had a recovery in the housing sector (real estate market), which, in turn, led to the disorganization of finance in the US and other countries. Monetary surpluses were the main cause of recovery in economy and the resulting bankruptcies and financial defeats.

5.	D. Daianu, L. Lungu	1. structural factors, including: – huge and uncontrolled increase in the role of capital markets (non-banking financial institutions) in the process of financial intermediation, – the growth in the number of the applied new financial instruments (the exchange of a loan to negotiable security) which spread the risk outside the borders of the country and made markets less transparent (limited clarity), – increasing lack of financial market transparency which enhanced system risks, – the pressure of globalization and an increase in trans-border operations, – inadequate quantitative methods (models of risk and econometric models) with reference to the degree to which they were to imitate the functioning of real markets and taking decisions. Too much trust in their application and their reliability, – an increase in savings in countries with such a tradition and culture (especially in China) and the global redistribution of goods and income towards the countries exporting goods, – inadequate and obsolete world regulatory structures, – too much trust in self-regulation of markets. 2. cyclic factors, including: – too low interest rates, but not entirely free from risk in the major world economies (especially in US), – unreasonably low credit risk spread with reference to numerous financial instruments.

Source: Borowiecki, Siuta-Tokarska, 2012.

The changes that have taken place on the global market, and have been directly and indirectly related to the world crisis, stamped their influence on almost all fields of economy, and on the behaviours of contemporary enterprises. The survival and their development require not only the understanding of the global business and economic challenges resulting from the crisis, but first of all possessing the skill of fast adaptation to the changing economic reality.

It means that in the global economy and in the conditions of the crisis, enterprises have been forced not only to constant search and creation of adaptation or anticipation ventures to more and more turbulent environment, but also to such system reconstruction which will let them acquire new qualities, procedures and actions needed for transformations and expansiveness. The changes, often of a radical character, which are referred to as "restructuring", are a tool of transforming and creating enterprises development and their response to the challenges resulting from the global reality surrounding them. It is proven by the experience of numerous countries, including, among others, the experience derived from the system reconstruction and the structural and ownership transformations of the Polish economic entities, which have been lasting for over 20 years now.

What results from research and economic practice is that restructuring, identified with a need to make changes, constitutes an unquestionable imperative of the

contemporary global market economy and it seems that it has inscribed itself into the functioning and development of today's modern enterprises for good. There is always an alternative for developmental activities and possibilities, the position (even a satisfactory one) in the market and the organizational state and economic situation of the enterprise. Thus, the need for the introduction of changes leading to the growth in effectiveness of governance concerns all enterprises: small, medium-sized and large ones, the ones with poor economic and financial results, and searching for a reason for existence, and economically healthy enterprises facing the necessity of competitive struggle in the conditions of the crisis.

Experience, especially in the area of anti-crisis management proves that competition among enterprises is getting stronger and stronger and results in the dynamics of changes which was hard to imagine until recently. The turbulent and fast changing environment is today a natural environment in which practically all economic entities have to conduct their activity. Its consequence may be a statement that contemporary enterprises have to perform constant verification of their basic strategic assumptions and search for efficient instruments assuring the improvement of their effectiveness and an ability to react quickly to the undergoing changes during the crisis which result not only in negative consequences but also constructive elements.

Enterprises always function in a certain (specific) external environment, namely in a connection with other enterprises, in a particular region, and finally in conjunction with the state. The environment influences enterprises, it creates certain chances and opportunities, requirements and limitations for them, but also the enterprises themselves have an impact on this external "environment", link it to them and, to a lesser or greater extent, define its character.

The environment in which contemporary enterprises are functioning is becoming more and more complex and changeable, and it imposes an absolute necessity to adapt to it on all enterprises. On the one hand, the number of economic entities and institutions which influence the functioning of individual enterprises is going up. On the other hand, a constant extension of the scope of the links between enterprises and the environment is observed. Today, the scope of the links between enterprises and the environment is not limited to the technical and economic sphere. It extends to the sphere of social, political and culture-related problems. The multiplicity and complexity of mutual links between enterprises and the environment is illustrated by Table 2.

Table 2. Fields of environment and main factors influencing the enterprise

POLITICAL	ECONOMIC CONDITIONS	RAW MATERIALS AND ENERGY
– legal regulations – government's actions – state budget – tax system – judicial decisions – commercial treaties – membership in international organizations	– economic regulations – economic situation – social policy – economic phenomena, such as: inflation, rate of economic growth, investment rate and structure, foreign trade	– availability of raw materials – outlays for the search for new sources – substitution – level of prices – costs of acquisition
MARKET	**ENTERPRISE**	**SOCIAL ASSETS**
– intensity of competition – recipients of products – users of products and services – sale – position on the market – prices, tendencies		– level of education – work ethics – attitudes – professional qualifications – skills – labour supply
TECHNOLOGY	**CAPITAL**	**CULTURE**
– discoveries and inventions – innovations, knowledge – new technologies – outlays for science and technology	– sources of accumulation – capital market – bank capital – own and central investments – securities	– system of values – level of education – behavioural patterns – professional ethics – organizational culture

Source: Dorozik, 2006.

Alongside the increase in the complexity and changeability of the environment, the possibilities of influencing it by enterprises become significantly limited, but their codependence on the environment is rising. Changes taking place in the environment throw enterprises off the state of internal and external balance. In order to exist, achieve and maintain competitive advantage, every enterprise has to be in the state of balance via adequate adaptation and anticipation processes directed inside and outside. Therefore, managers permanently face a necessity to take current and perspective economic decisions changing the scope, the methods and the logics of enterprise functioning in order to ensure and restore the internal and external balance to enterprises. The orientation of enterprises towards situations and changes undergoing in their macro- and micro-environment, submitting to its present and future needs is, in the conditions of the crisis and the globalization challenges, a requirement of the enterprise existence and development. Only thanks to such ventures, a long-term multiplication of enterprise capital value will be possible, and at the same time it will allow for the realization of the basic goal of its owners, namely the maximization of the enterprise market value. The fulfillment of this kind of expectations is strictly conditioned on the realization of constant, fundamental changes of a restructuring character in the enterprise restructuring. The changes enable the performance of

significant transformations in the sphere of organizational, technical, production and economic systems, determining a possibility for enterprises to survive and develop. Thus, they constitute a driving force of an increase in the enterprise effectiveness, directly determining the speed of creating their value.

Therefore, in order to survive and maintain their position on the market in the new global economic reality, enterprises have to be able to foresee and accurately assess their situation, that is to be able to act effectively, to develop in the constantly changing environment, and to take decisions which determine the way, the form, the speed of realization, the scope, depth and comprehensiveness of structural changes. These are current determinants not only of the survival of the enterprise and the restoration of the balance with the evolving environment, but also the formulation of expansive (dynamic) plans by it, ensuring effective functioning, achieving competitive advantage and further development.

Hitherto prevailing experiences and practice prove that the market is a verifier of economic activity, imposing a proper reaction on the enterprise, and at the same time it sets the price and the sense of the implementing the programmes of changes. Thus, market economy requires flexibility of activity from the enterprise, and the skill to adapt not only to changes already existing in the market, but also to changes foreseen or expected.

What results from it is that the activity of enterprises in the era of market globalization and in the conditions of crisis challenges is to an equal, or perhaps to a greater extent, determined by what is going on in its evolving environment than by what is going on in it itself. An enterprise which does not want to, is not able to or for some reason cannot adapt to the market and the new economic challenges, with time loses the ability to satisfy the needs of the environment and thus is doomed to fail.

Conclusions

In the conditions of the current crisis and its negative consequences for national economies, as well as for the world economy, enterprises, as the basic units acting within the economic system, enter a completely new stage of their activity – the stage of permanent restructuring since it is an effective and creative instrument of thorough, fundamental changes in crisis situations creating conditions which enable an enterprise to succeed, that is to rationalize the use of the possessed capital, to create new resources of production potential accompanied by the introduction of innovations, to modernize the management, to increase the market value of the enterprise, to increase its attractiveness in the market and to achieve competitive advantage.

Introducing frequent and sometimes radical changes in enterprises is caused by risk, uncertainty, instability and the turbulence of the competitive environment,

the scientific and technical progress, the development of Internet technologies and an increase in the role of information. The changes manifest themselves in the need for the constant analysis of contemporary enterprises' activity towards taking advantage of the chances occurring in the environment, and at the same time the avoidance of threats generated by this environment. It means that in the era of globalization and in the conditions of the threat of a crisis, enterprises have been forced not only to constant search and the creation of adaptation ventures to the more and more turbulent environment, but also to such a system reconstruction and the modernization of their structure which will enable them to acquire new features, procedures and activities which are necessary to survive, transform and expand. In the contemporary economic reality, changes of a restructuring character are a tool of transformations and creating enterprise development, and their response to the dynamic changes taking place in the global reality surrounding them.

References

[1] Bauman Z., 2000, *Globalizacja*, PIW, Warszawa.

[2] Borowiecki R., Dziura M., 2010, *Innovation Policies in the Financial Crisis*, "Organization and Management", No. 1 (139).

[3] Borowiecki R., Rojek T. (eds.), 2011, *Developmental Challenges of Contemporary Economies. Management – Finance – Restructuring*, Cracow University of Economics, Cracow.

[4] Borowiecki R., Siuta-Tokarska B., 2012, *Wyzwania i dylematy społeczno-gospodarcze Polski w procesie transformacji*, Dom Organizatora TNOiK, Toruń.

[5] Borowiecki R. (ed.), 2010, *Enterprise in the Face of Challenges of the 21st Century Economy*, Scientific Society for Organization and Management „Dom Organizatora", Toruń.

[6] Dobija D., 2003, *Pomiar i sprawozdawczość kapitału intelektualnego przedsiębiorstwa*, Wyd. Wyższej Szkoły Przedsiębiorczości i Zarządzania im. L. Koźmińskiego, Warszawa.

[7] Dorozik L., 2006, *Restrukturyzacja ekonomiczna przedsiębiorstw*, PWE, Warszawa.

[8] Flejterski S., Wahl P.T., 2003, *Ekonomia globalna. Synteza*, Difin, Warszawa.

[9] Grupa Lizbońska, 1996, *Granice konkurencji*, Poltext, Warszawa.

[10] Kotyński J. (ed.), 2005, *Globalizacja i integracja europejska – Szanse i zagrożenia dla polskiej gospodarki*, PWE, Warszawa.

[11] Krawiec F., 2005, *Transformacja firmy w nowej gospodarce. Koncepcje, strategie, struktury i technologie w zarządzaniu*, Difin, Warszawa.

[12] Krawiec F., 2009, *Nowa gospodarka i wizja lidera firmy XXI wieku*, Difin, Warszawa.

[13] Malara Z., 2006, *Przedsiębiorstwo w globalnej gospodarce. Wyzwania współczesności*, Wyd. Naukowe PWN, Warszawa.

[14] Malinowska M., Kucharska B. (eds.), 2006, *Zachowania podmiotów rynkowych w warunkach globalizacji*, PWE, Warszawa.

[15] Misiak W., 2007, *Globalizacja więcej niż podręcznik. Społeczeństwo – kultura – polityka*, Difin, Warszawa.

[16] Stiglitz J.E., 2007, *Globalizacja*, Wyd. Naukowe PWN, Warszawa.

ENTERPRISE RESTRUCTURING IN THE CONDITIONS OF THE CRISIS AND THE GLOBALIZATION CHALLENGES. BASED ON THE EXPERIENCES OF THE POLISH ECONOMY

Abstract

The 21st century is the arena of extremely dynamic and turbulent changes we have become not only witnesses but also participants of. They keep bringing newer and newer challenges for the functioning of the economies of individual countries and their regions, and the behaviours of enterprises – the basic elements of the subjective triad of each economy. Thus, the paper attempts to outline the background, causes and consequences of the changes in the bahaviour of contemporary enterprises, and justifies the necessity of the system reconstruction and the modernization of the structures of the enterprises in the face of crisis situations, the globalization challenges and the requirements of the New Economy.

Key words: globalization, the New Economy, economic crisis, restructuring

RESTRUKTURYZACJA PRZEDSIĘBIORSTW W WARUNKACH KRYZYSU I WYZWAŃ GLOBALIZACJI (NA PODSTAWIE DOŚWIADCZEŃ Z POLSKIEJ GOSPODARKI)

Streszczenie

XXI wiek jest areną niezwykle dynamicznych i burzliwych zmian. Staliśmy się nie tylko ich świadkami, lecz także ich uczestnikami. Przynoszą one stale coraz to nowsze wyzwania dla funkcjonowania gospodarek poszczególnych krajów i ich regionów oraz dla działania przedsiębiorstw – podstawowych składników subiektywnej triady każdej gospodarki. Dlatego niniejsza praca próbuje nakreślić tło, przyczyny i skutki zmian w działaniach współczesnych przedsiębiorstw i uzasadnia konieczność przebudowy systemu i modernizacji struktur przedsiębiorstw w obliczu sytuacji kryzysowych, wyzwań globalizacji oraz wymogów Nowej Ekonomii.

Słowa kluczowe: globalizacja, Nowa Ekonomia, kryzys gospodarczy, restrukturyzacja

ŁUKASZ SUŁKOWSKI*

THE FUNCTIONALIST UNDERSTANDING OF CULTURE IN MANAGEMENT

Introduction

The functionalist approach to culture is a dominant paradigm in understanding of organizational culture. However usually it stays understated and not explicitly defined in research of culture in management. The goal of this paper is to analyze the functionalist approach to organizational culture, which is historically the oldest approach to cultural processes of management.

1. Approach of functionalism in social sciences

Functionalism supports the vision of organisational culture as a real entity, which is an internally coherent element of the organisational system. This is the opposite of the concept of culture seen as a network of meanings and complex interests, reflected in the multiplicity of subcultures, counter-cultures and organisational actors. The neopositivist-functionalist-systemic paradigm integrates the basic assumptions drawn from three scientific schools within a coherent concept of practicing the social sciences [19]. Functionalism, being one of the characteristics of this dominant paradigm, is the oldest, most classical orientation within the social sciences which defined culture in a relatively coherent way and developed ways of studying it. Functionalism, also called functional structuralism, was created on the basis of sociology and cultural anthropology at the beginning of the 20th century, and referred to H. Spencer's concepts of social evolution, which are currently disavowed.

* **Łukasz Sułkowski, Dh.P., Professor** – Jagiellonian University in Krakow, University of Social Sciences in Lodz.

Functionalism was born out of the spirit of sociology, anthropology and management science, which were building their identities at the beginning of the 20th century. Spencer used the analogy between society and organism, emphasising the harmoniousness of cooperation and the role of social order. E. Durkheim, considered to be the 'father' of modern sociology, proposed the differentiation between mechanistic and organic types of social solidarity. The former were supposed to be characteristic of primitive communities, while the latter are characteristic of modern industrial societies. The functionalist notion of culture was first used at the end of the 19th century and spread thanks to the research of the most famous functionalists, including B. Malinowski and A.R. Radcliffe-Brown. It then reached the height of its popularity in the 1960s thanks to T. Parsons. Functionalism made use of several common, basic assumptions:

- Society is a system which should be understood and studied as a whole.
- Social reality is a hierarchic, ordered system of relationships between social groups.
- All institutions and social roles have specific functions, the aim of which is to maintain the existence of community and order.
- All social groups include mutually dependant elements, which form a greater whole, which exceeds the sum of its constituents.
- A social system should be balanced. Thus, the natural state is homeostasis, status quo, manifested in the lack of conflicts and internal tensions. A lack of balance is a symptom of pathology, anomy and dysfunction, which can lead to the disintegration of the community.
- The existence of a community is related to maintaining its cohesion (integration) in the context of adaptation to the environment, which allows it to achieve the aims of the community's existence [15; 16].

Functionalism is still the dominant orientation in the social sciences, although since the 1960s it has been criticised in sociology by representatives of conflict theory, and more generally within the symbolic interactionism paradigm of the social sciences. Defending functionalism, R. Merton proposed modifying some of its assumptions, but kept to the postulates of homeostasis, social hierarchy and functional dependency [14]. Today, functionalism is no longer the dominant paradigm in many social sciences, although it still has prominent representatives, including N. Luhmann and A. Giddens [9; 20].

Many critics of functionalism believe that it is closely related to neopositivism and that the convergence in time related to the creation of both these currents was not a coincidence. Z. Bauman thinks that an obvious result of the implementation of the Enlightenment's ideals in the cultural discourse was Social Darwinism and its 'mission' to civilise savages [1]. A functionalist view of culture is based on assumptions stemming from the neopositivist Vienna Circle. This means cognitive and political

optimism, and a belief in the project of objectivist science, which leads to human progress. The neopositivist concept of the cultural discourse within the functionalist current was related to striving for the studies of culture based on models drawn from the natural sciences. Thus, they attempted to build a project of the social sciences which, apart from objectivism and axiological neutrality, would offer a determinist model of cultural processes. This utopia has its sources in the mechanistic physics of the Newtonian paradigm, together with its characteristic elements, such as universalism of time and space, determinism and a mathematicised description of reality. They were also striving for cleansing scientific research on 'metaphysical' elements, which by definition, the cultural discourse was full of. System and structure became popular notions describing culture, and they were viewed from the perspective of the social functions they served. In the functionalist, and then structuralist understanding, culture was a system and a structure, through which the coherence of societies and other human communities was created and maintained. Thus, the integrational role of culture was key, as it connected, provided identity, and in consequence, shaped the scientific progress and development of humankind. Logical empirism, including its verificationism and scientism, provided an epistemological and methodological basis for the development of functionalism in the social sciences. The theories developed were supposed to be subject to empirical verification as a result of the development of a reliable scientific method, which would be in accordance with the cognitive ideals of natural science. The postulated empirical research method was supposed to allow for mathematical formalisation and quantification of the results of scientific inquiries. Analysis of a social group was supposed to find the causative relationships between functions, i.e. variables, in the described model. Thus, it would be possible to generalise, which means a creation of a more general, repeatable pattern, allowing description of all social processes in a standard way.

Management science crystallised at the same time as neopositivism and functionalism, at the beginning of the 20th century. Thus, it is not surprising that the creators of management science, such as F.W. Talor and H. Fayol, assumed neopositivism as the default, obvious way of practising it. Functionalism also dominates in the social sciences as the fundamental approach to cultural processes. After the Second World War, the systemic approach linked up with functionalism and neopositivism, which resulted in a consolidation of the dominant paradigm in the social sciences.

A system is a whole, consisting of functionally connected sub-systems. The general systems theory was created by L. Bertalanffy, integrating the previous concepts. Similarly to functional structuralism, the basic assumptions include the integration of the whole system, striving for homeostasis and balance, and functional correlations between its elements and a hierarchical system structure. The systems theory proposes a significant differentiation between closed and open systems, which bears a similarity to the Durkheimian analogy between the mechanistic and the organic.

Another important issue is the assumption of emergence, which means the appearance of specific features of a system at subsequent levels of complexity. The general systems theory was one of the attempts at creating the most general theories integrating science. This generality is a value, but also a limitation of this concept. Far-reaching generalisations would allow integration of science, eliminating the dichotomy between the natural and social sciences, but on the other hand, generality results in a lack of possibility to falsify concepts. This locates the general systems theory on the level of science philosophy, and not empirical science.

Looking for the most important indicators of the neopositivist-functionalist--systemic way of understanding culture, one could point to several basic assumptions:

1. Cognitive and political optimism, reflected in the belief in the progress of science's development, resulting in positive social changes.
2. Universalism, related to the generality of the created results, which do not have to be relativised depending on culture or situation.
3. Neopositivism in the epistemological sphere, together with its ideals of the natural sciences, such as objectivism, verificationism, the reliability of the scientific method, quantifiability of research results and the mathematical formalisation of models.
4. Organicism arising from the holistic view of culture as an interdependent whole.
5. Hierarchisation – a multi-level construction of the social world, including the networks of ascribed roles and relationships.
6. Status quo, meaning that the natural state is the existing order, maintained by the system.
7. Balance, which is the tendency to reduce conflicts and tensions within a culture.
8. Integration, manifested in the tendency to strengthen the bonds between people and other groups forming a given culture.
9. Adaptation related to the necessity to adjust culture and its values, norms and patterns, to the ecological niche it is located in.
10. Eurocentrism, meaning a type of ethnocentrism which explicitly or implicitly assumes the superiority of cultural values created within European culture [2, p. 23; 1, p. 73].

2. Dominant paradigm of organizational culture

The cognition of organisational culture in the neopositivist-functionalist-systemic current refers to the assumptions of nomothetic science, which strives for the generalisation of credible research results. Organisational culture is described as an objectively

existing entity of a systemic and holistic character. It consists of specific elements (subsystems) which function within cause and effect correlations. The elements of organisational culture which are most often mentioned include values, norms, basic assumptions, cultural patterns, heroes, stereotypes, myths, stories, rituals and taboos. In this sense, organisational culture is, apart from strategy and organisational structure, one of the subsystems of organisation understood as a whole. Such system models, including organisational culture among other system elements, were proposed by a number of authors, though many system concepts did not take culture into consideration [12, p. 34; 13, p. 160]. It is understood as an internal variable which can be theoretically, methodologically and pragmatically analysed in organisations. Thanks to that, it is possible to find models showing the relationships between culture and other variables, such as leadership, strategy and organisational structure. This kind of research has been conducted by, for example, T.E. Deal and A.A. Kennedy, C. Handy and many others [7; 11]. Culture is treated pragmatically, or even instrumentally, so researchers believe it is possible to control it, which gives meaning to organisational culture management. Culture researchers should try to remain detached from organisations, which means striving for objectivity and avoiding valuation (axiological neutrality). It is also undesirable to interfere with the social reality studied, which could distort the objectivity of the research process. Organisational culture is one of the many cultural circles that are hierarchically ordered. It is possible for values, norms and cultural patterns to diffuse from the level of the social culture to the organisational culture. The functionalistic approach means also a dominant vision of unification of organizational cultures [17].

The key subject of discussion is the effectiveness of cultural management, which leads to the diversification of culture typologies, of which the most important one is the distinction between strong and weak, positive and negative cultures. The most significant current of functionalist research includes comparative cultural research, the effectiveness of organisational culture management and cultural integration. The preferred methodology includes qualitative, quantifiable, standardised and structured research, such as the survey method. The most important researchers of culture in management assuming the functionalist cognitive perspective include G. Hofstede, F. Tromperaars, C. Hampden-Turner, E. Schein, R. House, T. Deal, A. Kennedy, T. Peters, Waterman and C. Handy.

The functionalist view of culture emphasises balance, harmony and order, which are related to research into the problem of internal integration. Thus, the subjects of interest are not subcultures or counter-cultures which, by definition, limit the internal integration of culture. According to E. Schein, organisational culture develops within two key orientations. The first is the need for internal integration, which is manifested in the strength or homogeneity of culture, and the other is the striving for the external adaptation, which is reflected in competitiveness. A balance between

these two dimensions results in development of an effective, positive organisational culture. Internal integration can be understood as coherence and the strength of internal relationships, determining the way organisation functions as a whole. The levels of internal integration of functioning organizations may differ. One can create a continuum from full integration to complete disintegration, using the criticism of functionalism made by the representatives of the conflict theory, such as R. Dahrendorf and L. Coser [4; 5] (Table 1). A fully integrated organisation is a hypothetical entity, which never occurs in practice. It is theoretically possible only in the context of a total institution, which is an extreme, special case of organisation [10, p. 150]. Full disintegration means the breaking of the organisational whole into smaller entities, as a result of decentralist tendencies. A fully disintegrated organisation is of a transitory and temporary character, as after reaching the critical point of system disintegration, which cannot be precisely determined, it can no longer be perceived as a whole.

Table 1. Integrational and coercive concepts of an organisational system

Integrational concept	Coercive concept
Organisation is permanent and stable	Organisation undergoes permanent changes
Organisation is a system of functionally integrated elements	Organisation is a system of random, temporary relationships between its elements
Organisation functions in the context of social order	Organisation functions in the context of a social conflict
Organisation elements contribute to maintaining the system as a whole	Organisation elements contribute to the disintegration and the change of the whole system
All existing organisations are based on sharing its common values by its members	All organisations are based on coercion used by some organisation members towards others
Organisation is a whole	Organisation may be perceived as a whole

Source: Own work based on: [5].

An organisation can be maintained as a whole (integrated) by external or internal factors. In order to maintain an organisation as a whole, external, institutional and legal integration is necessary. Organisational coherence can also be examined from the system and internal perspectives. This allows us to look for the sources and mechanisms of integration on all levels and in all sub-systems. Strategy can be

an important factor uniting an organisation; if both individual members and social groups (colleagues, employees, groups of interest) identify themselves with the aims of the organisation, then this supports integration of the whole system. A factor that further strengthens this integration in the area of strategy is support for the organisation's aims from broader social groups, and not only the organisation's own members. This happens when the organisation's mission fulfils the conditions of social responsibility. An organisation is more integrated structurally when individuals accept and understand their place within the organisational structure and the power relationships accompanying it, and when the structure is a reflection of the internal social diversification of the organisation and the external social structure.

An organisation is also integrated by cultural factors. On the level of individuals, the community of values and the identification of employees with their organisation enhance its coherence. The identification of whole social groups in the organisation with the same system of values, norms and cultural patterns also has an integrating role. Finally, the concordance of the organisation's cultural values with the dominant social system of values contributes to the organisation's coherence.

Of course, just as one can treat the areas of strategy, structure and culture as elements creating integration in situations when the aims, power structure or the system of values on the level of individuals, social groups and organisations within a society are coherent, one can also see a contrary tendency (Table 2). Organisation disintegration arises from the lack of strategic, structural or cultural coherence. However, it has to be assumed that both integrational and disintegrational forces can contribute to an organisation's development.

Table 2. Levels and areas of the internal integration of an organisation

	Strategy	Structure	Culture
Individuals	Convergence of individual aims with the aims of an organisation	Acceptance of one's own place within the structure	Identification of individuals and similar values within the organisation
Social groups	Convergence of group aims and interests with the aims of an organisation	Internal coherence of the formal structure (e.g. the division into groups in an organisation)	Identification of groups with an organisation; groups' acceptance of the organisational values
Whole organisation	Convergence of the organisation's aims with the aims of society	Coherence of the organisation's internal structure and the social structure of the environment	Social values consolidate the organisation's coherence

Source: Own work.

The extent of the organisation's integration can change considerably with time. Internal reasons for these changes are usually difficult to foresee and are of a revolutionary character. They include, among others, the processes of takeovers and mergers of entities, which take place in a number of globalised economic sectors. Internal factors behind changes in an organisation's integration level are usually easier to diagnose[1].

To sum up, the functionalist view of organisational culture, being the oldest, classical and most popular cognitive perspective in the social sciences, has several characteristic features:

1. It treats research into organisational culture from the neopositivist perspective as an objectivist project, modelling the cause and effect relationships between culture and other variables (nomothetic science).
2. Organisational culture is treated as a sub-system of the organisational system, which is an internal variable.
3. The aim of research is the creation of a theory, mathematical modelling and quantification, which should allow for a predict and pro-effective shaping of organisational culture. Individual case studies are not accepted, as they do not make it possible to generalise.
4. The pragmatic aim of culture research is culture management. The functionalist approach is optimistic in relation to the possibility of shaping the pro-effectiveness of cultural changes by managers. In this case, pragmatism is accompanied by instrumentalism, it focused on the development of methods and techniques of implementing cultural changes.
5. It prefers the standardised qualitative, structured, representative methods, mostly the survey methods.
6. The key problems of functionalist research are related to organisation integration, culture management, strong vs. weak organisational culture, the effectiveness of culture, looking for positive cultures, typologies and models of culture, as well as cultural dysfunctions and pathologies.
7. The essence of organisation is its integration, which in the case of functionalism is identified with the extent of internal coherence of the area of values, norms and cultural models (homogeneity). Subcultures, counter-cultures, conflicts and internal tensions are treated as organisational problems, rather than a source of creative solutions.
8. Researchers assume a perspective of external observers, who are distanced from the research subject, and are axiologically neutral and uninvolved (outsiders). The perspective of a participant (insider) and valuation are undesirable in the description of reality.

[1] More about this in: [18, chapter 1].

3. Criticism of functionalism in management

Criticism of functionalism and neopositivism includes a great number of works in the social sciences, as alternative paradigms were based on the negation of the dominant paradigm [6]. From the point of view of the cognitive and pragmatic usefulness of the theory of culture in management, it is worth considering several points of the criticism, mostly including the issues of integration, stability, homogeneity, reification and irrelevance of the methodology.

A characteristic feature of functionalism is the tendency to describe a stable state and balance, which makes it difficult to conduct research into as dynamic processes as organisational culture. Because of the integration perspective, culture is perceived as a relatively cohesive and homogenous system of values, which is contrary to the image of organisation and culture, which often include conflicting and mutually exclusive subcultures and counter-cultures. The assumption that a functioning organisation has to be integrated – at least to a minimal extent – should not be identified with the assumption that all elements of an organisation contribute to its cohesion, while the basis for its activities is harmony and unity. In the context of rapid changes in the environment, radical integration and functionalist perspective cannot be defended. Conflicts, incoherence and contradictions can dynamise an organisation's changes and development, opening new perspectives and allowing a choice of creative solutions [5]. Nevertheless, this does not change the fact that there still remains a minimal degree of cohesion in the organisation, thanks to which it is still a whole, despite the regularly escalating internal conflicts. Two issues related to an organisation's integration have to be noted. First of all, the management of an organisation should not strive only to enhance its cohesion, as a perfectly cohesive organisation is hermetic and poorly adapted to changes, both internal and external ones. Secondly, the sources of integration are complex, which means that a constant increase or decrease in the degree of the organisation's cohesion and requires taking into consideration strategic, structural and cultural factors on the level of individuals, social groups and the organisation in the environment. Historically, as criticism of the integration approach intensified, the functionalists developed a concept defending the integration approach, based on balance. T. Parsons proposed a concept of punctuated equilibrium, which assumes the possibility of changes and, at the same time, the system's tendency to regain balance in a process of transformation [16, p. 68].

Representatives of the critical current (CMS) accuse functionalism of creating a fake conciliation, a cooperative vision of organisational culture, while it is ideological and conceals the interests and power of dominant groups. Thus, functionalism preserves the unjust status quo with the use of indoctrinating and manipulative organisational culture [8].

The systemic approach entails the presentation of culture in the form of mutually related elements, which can be described with the use of variables, indicating that they are plausible objects that can be subject to research. Because of the reification of culture, functionalism has more problems with grasping the procedural essence of culture, which is transformation and flow rather than an object that can be studied.

According to the representatives of alternative paradigms, the assumption of the neopositivist cause-and-effect pattern in order to explain culture is problematic. They believe that the cultural discourse deals with meanings within a complex network of relationships and they call for the interpretation of correlations, and not the causative analysis of variables, drawn from the scientific method of the natural sciences. Interpretivists have methodological objections to functionalism, related to the lack of understanding and individual approach. According to the representatives of interpretative-symbolic current, the application of objectivist and statistical methods, used mainly for the purpose of research into mass phenomena, does not allow one to understand the essence and sense of organisation, which can be found in deeply internalised meanings.

Another criticised assumption of functionalism is related to the use of functions, which means its usefulness to explain the existence of certain phenomena in culture. It seems that many cultural phenomena are non-functional, or even anti-functional. It is difficult to find the benefits of the creation of, for example, some destructive counter-cultures in organisations [3, p. 140]. According to the critics, the vision of culture in functionalism is over-rationalised, and sits closer to the idea of *homo oeconomicus*, and is in consequence deceptive. Moreover, interpretivists believe that functionalist explanations create an excessively determinist vision of man and culture, which assumes that human behaviour follows a pattern. There is not much space for free will, while interpretivists think that people are not cultural puppets. An overly optimistic approach is related both to the cognition and the improvement of culture. As research experiences show, many of the methods of getting to know and improving organisational culture are very unreliable.

References

[1] Bauman Z., *Legislators and interpreters – On Modernity, Post-Modernity, Intellectuals*, Cornell University Press, Ithaca, New York 1987.

[2] Bénéton P., *Histoire de mots culture et civilisation*, Paris 1975, za: Bauman Z., *Kultura w płynnej nowoczesności*, Narodowy Instytut Audiowizualny, Warszawa 2011.

[3] Coser L., *Masters of Sociological Thought: Ideas in Historical and Social Context*, Harcourt Brace Jovanovich, Inc., Fort Worth 1977.

[4] Coser L., *The functions of Social Conflict*, Macmillan, New York 1956.

[5] Dahrendorf R., *Class and Class Conflict in Industrial Society*, London 1969.

[6] Davis K., *The Myth of Functional Analysis as a Special Method in Sociology and Anthropology*, "American Sociological Review" 1959, 24 (6).

[7] Deal T.E., Kennedy A.A., *Corporate cultures: the rites and rituals of corporate life*, Penguin, Harmondsworth 1982.

[8] Fournier V., Grey C., *At the Critical Moment: Conditions and Prospects for Critical Management Studies*, "Human Relations" 2000, Vol. 53 (1).

[9] Giddens A., *Central problems in Social Theory: Action, Structure and Contradiction in Social Analysis*, Macmillan, London 1979.

[10] Goffman E., *Charakterystyka instytucji totalnych*, [in:] *Elementy Teorii Socjologicznych*, PWN, Warszawa 1975.

[11] Handy C.B., *Understanding organizations*, Penguin, London 1999.

[12] Krzyżanowski L.J., *O podstawach kierowania organizacjami inaczej*, PWN, Warszawa 1999.

[13] Leavitt H.J., *Applied organizational change in industry: Structural, technological, and humanistic approaches*, [in:] March J.G. (ed.), *Handbook of organizations*, Rand McNally, Chicago 1965.

[14] Merton R.K., *Social Theory and Social Structure (1968 enlarged ed.)*, Free Press, New York 1968.

[15] Parsons T., *The Social System*, Routledge, London 1951.

[16] Parsons T., *Theories of Society: foundations of modern sociological theory*, Free Press, New York 1961.

[17] Sułkowski Ł., *Czy kultury organizacyjne zmierzają do unifikacji?*, [w:] *Zarządzanie Zasobami Ludzkimi*, Instytut Pracy i Spraw Socjalnych 2002, nr 3–4.

[18] Sułkowski Ł., *Kulturowe procesy zarządzania*, Difin, Warszawa 2012.

[19] Sułkowski Ł., *Neopozytywistyczna mitologia w nauce o zarządzaniu*, „Organizacja i Kierowanie" 2004, nr 1.

[20] Viskovatoff's A., *Foundations of Niklas Luhmann's Theory of Social Systems*, "Philosophy of the Social Sciences" 1999, 29, p. 4.

THE FUNCTIONALIST UNDERSTANDING OF CULTURE IN MANAGEMENT

Abstract

The objective of the paper is to present the functionalist approach to organizational culture, which is historically the oldest approach to cultural processes of management. First the main characteristic of functionalism was made and then its application to organizational culture was analyzed. The article is ended with a critical analysis of the functionalist paradigm in the study of culture and the postulates of epistemological and methodological pluralism.

Key words: functionalism in management, functionalist understanding of culture, culture in management

KULTURA W ZARZĄDZANIU Z PERSPEKTYWY FUNKCJONALISTYCZNEJ

Streszczenie

Celem artykułu jest analiza funkcjonalistycznego ujęcia kultury organizacyjnej, które jest historycznie najstarszym ujęciem procesów kulturowych zarządzania. Na początku scharakteryzowano funkcjonalizm, a następnie przeprowadzono analizę jego zastosowania w odniesieniu do badań kultury organizacyjnej. Artykuł zamykają: krytyczna analiza paradygmatu funkcjonalistycznego w badaniach kultury oraz postulaty pluralizmu epistemologicznego i metodologicznego.

Słowa kluczowe: funkcjonalizm w zarządzaniu, funkcjonalistycznej rozumienie kultury, kultura w zarządzaniu

CHARLES WANKEL*, AGATA STACHOWICZ-STANUSCH**

PRINCIPLES FOR RESPONSIBLE MANAGEMENT EDUCATION: A PATHWAY TO MANAGEMENT EDUCATION FOR INTEGRITY

"Most people say that it is the intellect which makes a great scientist.
They are wrong: it is character".
Albert Einstein

Introduction

Why should we discuss bolstering integrity through management education? Recently we have witnessed a surge of interest and intensive debate on responsible business among scientists, politicians, and educators, as well as the general public (for example, Hunt et al., 1990; Singhapakdi et al., 1996, 2001; Etheredge, 1999; Schwepker, Hartline, 2005; Soule, 2005; Graafland, Kaptein, Mazereeuw, 2007; Fransen, Kolk, 2007; Elms, Brammer, Harris, Phillips, 2010; Heath, Moriarty, Norman, 2010).

This business ethics debate has resulted in a lively discussion about responsible management education and has been the subject of much scholarly attention in recent years (Moon, Shen, 2010; Lane, Bogue, 2010; Miller, 2009; Christensen et al. 2007; Crane, Matten 2004; Matten, Moon 2004; Nicholson, DeMoss 2009; Swanson, Fisher 2008) as a *sine qua non* for responsibility in the world of business.

* **Charles Wankel, Ph.D., Associate Professor of Management** – St. John's University, New York, USA.
** **Agata Stachowicz-Stanusch, Ph.D., Associate Professor of Management** – Faculty of Organization and Management, The Silesian University of Technology.

This movement in management education is partly in reaction to highly publicized corporate scandals and instances of management misconduct that have eroded public faith (such as Enron, WorldCom, Tyco, Adelphia, and Arthur Andersen), and fuelled legislative reactions such as the Sarbanes-Oxley act in the United States (see: Brown, Treviño, 2006; Puffer, McCarthy, 2008; Waldman, Galvin, 2008). Concomitantly, management scholars and educators (see: Mintzberg, 2004; Pfeffer, 2005; Wankel, DeFillippi, 2002; Wankel, DeFillippi 2006; Giacalone, Thompson, 2006; Ghoshal, 2005) have begun to question the assumptions underlying traditional management education, which in their view not only contributed to a moral vacuum and a dysfunctional image of the "ruthlessly hard-driving, strictly top-down, command-and-control focused, shareholder-value-obsessed, win-at-any-cost business leader" (Ghoshal, 2005, p. 85), but has also failed to prepare students and executives for coping with the responsible leadership challenges and ethical dilemmas that face managers in contemporary corporations.

The quest for integrity in business and education is not only a reaction against malfeasance in business and associated calls for reform, but also a result of changes and new demands in the global business environment (Wankel, Malleck, 2011) as well as the latest economic crisis (e.g. Berger et al., 2007; Maak, Pless, 2006; Rodriguez et al., 2006). Among the sources of these new demands are the expectations of stakeholders that corporations and their leaders will take more active roles as citizens within society and in the fight against some of the most pressing problems in the world, such as poverty, environmental degradation, defending human rights, corruption, and pandemic diseases (Pless, Maak, Stahl, 2010).

The economic crisis that erupted in mid-2008 has made it evident how many corporations and their managers have paid scant attention to their stakeholders, including employees, customers, suppliers, local communities, the environment, and also their shareholders. A stark lesson from this crisis is that the underlying assumptions of business leaders about the social purpose of business must be reframed. Essentially, they must "dare to care".

According to Anne Tsui, the Program Chair of the Academy of Management's 2010 annual meeting in Montreal, the conference's theme "Dare to Care" involves remembering that the role of management is one of integration in all senses of the word. Integrating the interests of all parties and integrating a passion for one's work with compassion for his or her followers. Similarly, managers should dare to have compassion for their customers and employees dare to have compassion for the communities that support them (Vidaver-Cohen, Reed, Colwell, 2010).

Contemporary cultural and technological trends question the philosophical assumptions about human beings, upon which modern economics is premised (Gregg, Stoner, 2008). This has become a dynamic for the development of a new human-oriented perspective on business management and business education in

the twenty-first century. This new perspective (paradigm) is based on the following assumptions:

1. Positive psychology, which focuses not only on improvements from "negative" states (such as illness or corrosive relationships) to normal states (such as mental health and helpful relationships), but also a shift in the explanatory focus from negative→normal towards normal→positive (Dutton, Glynn, 2008; Amabile et al., 2005; Rhee, 2006; Carnevale, Isen, 1986; Walsh, Weber, Margolis, 2003; Stachowicz-Stanusch, 2010). In our current business epoch, the profit motive is an essential and indispensable driver of success in business, and it needs to be grounded in a broader understanding of business prosperity at the level of individuals.
2. Focus on the spiritual aspects of people and their meaning for the management of contemporary organizations. Some scholars have argued that spirituality serves as a pervasive and significant organizing framework in the workplace (for example, Chakraborty, Chakraborty, 2008; Harter, Buzzanell, 2007; Rodriguez, 2001; Williams, 2003, McGuire, 2010), one which plays a significant role in the conduct of business activities (Mitroff, Denton, 1999; Barbee, 2005; Lecker, 2010; Sharma, 2010; Wigglesworth, 2006). Developing a virtuous character is necessary to protect and promote human fulfilment rather than simply making business life more predictable (Gregg, Stoner, 2008).
3. A fascination of psychology and management scholarship with the human brain and intelligence, with a special focus on social intelligence (see: Keating, 1978; Riggio, Messamer, Throckmorton, 1991; Silvera, Martinussen, Dahl, 2001; Cronin, Davenport, 1993), emotional intelligence (Goleman, 1995; Barling, Slater, Kelloway, 2000; Cherniss, Adler, 2000), and moral intelligence (Lennick, Kiel, 2005; Gardner, 1999; Wigglesworth, 2006).

In response to this new human-oriented perspective on business and education, more and more business leaders are accepting their co-responsibility as global citizens for finding solutions to these problems, as shown by the growing number of public/private partnerships, social innovations, and leadership initiatives (such as the Tomorrow's Leaders Group of the World Business Council for Sustainable Development; the Global Business Coalition in HIV/AIDS; the Business Leaders Initiative on Human Rights). Nevertheless, a large-scale survey of more than 4,000 executives conducted by the McKinsey strategy consultancy reveals a "knowing/doing" gap with respect to leadership integrity; while executives recognize the public role and broader responsibilities of business within society, they struggle to cope effectively with wider social and political issues (Pless, Maak, Stahl, 2010).

Thus, although it is generally acknowledged that integrity "is at the heart of what effective business and education is all about", executives seem ill-prepared to cope effectively with the challenges of leading with integrity in a global stakeholder

environment. Furthermore, relatively little is known about how management education can prepare managers and professionals for those challenges. The authors of this paper put forth the global initiative entitled Principles for Responsible Management Education (PRME) as the most compelling initial step to management education for integrity.

1. Ensuring Integrity by Principles for Responsible Management Education (PRME)

1.1. Education and integrity – definitions

Education (from the Latin *educatio*; from *educare* – feed, breed, care; also from *educere*, raise; and from *edocere*, teach thoroughly) means to move somebody from a worse to a better or higher state, to raise, to increase (in German: *erziehen*; in French: *élever*); a set of actions focused on shaping a human being, moving one from a state of nature to a state of civilization; help for a developing person in order to actualize his or her life capacities (physical, intellectual, aesthetic, moral, and religious/spiritual) towards complete maturity, shown as an educative ideal (Kunowski, 1981).

The genesis of the notion "education" is rooted in the Greek (especially Athenian) ancient culture and is linked to the term *pedagogía*, which means all the actions connected with the physical, mental, and moral shaping of a child. At that early time, the works of Homer served as a national educator for the Greeks and for the whole Mediterranean culture. This period also saw the development of the notion of *arête*, a virtue which, combined with wisdom and physical beauty, comprised the ideal of a mature human (Hummel, 1996).

Searching for ways to effectively make this ideal a reality resulted in the formulation of the first education theory in the fifth century BC. It developed in the background of a debate over the value and purpose of education. Then a new dimension of the theory was created by Protagoras and Gorgias (Sophists). Their theory may be summed up in the well-known sentence: "Man is the measure of all things," which means that the relative value of all the commonly accepted views gives a man the right to criticize and amend them. However, this creative role requires thorough preparation and high qualifications: as a man needs to be a perfect individual, with clear thoughts and a persistent will, so only people with a strong character will ensure the harmonious development of the individuals and communities (Hummel, 1996). Socrates questioned such relativism, arguing that it is not man that is the measure of all things but rather that there are moral inclinations embedded deep within human awareness (today called conscience) that are eternal and unchangeable senses of what

is good and what is bad. These senses are the perfect measure of all moral views, and they make human thoughts and actions stable (Hummel, 1996). Later, Plato assumed that a human being is born with a fully-shaped character and tendencies. However, he also claimed that a person's innate capacities are not enough; hence, the great importance of education. Appropriate education and persistent searching for the truth can help cultivate a human being and free one from the bondage of the senses – passion and desire – and direct that person towards real knowledge and good (Plato, 1997). Aristotle in his philosophical reflections also raised a problem. He departed from Plato's idea of education for the needs of the State. Though he does not deny that education is a national issue, he still recognizes that the family has the right to raise its children. He reverted to the humane and personal dimension of education, as his fundamental assumption was that the purpose of education is the same as that of human life: to strive toward an ideal humanity. This means that a man without education cannot realize himself fully. Thus, if happiness is the overriding human objective, and the way to achieve it is doing good with integrity, one may be happy only through education, as Aristotle said, no virtue is innate, as the creation and development of intellectual (dianoethical) advantages is usually the result of learning, and the ethical ones are acquired through practice, and "Citizens become good and virtuous thanks to three factors: nature, habit and mind" (Aristotle, 2001; Hummel, 2000).

A recent international report by the International Commission on Education for the Twenty-First Century, claimed that "To fulfil its mission, education should be organized around four aspects that will be the pillars of an individual's knowledge: learn to **know** in order to acquire the tools for the reasoning; learn to **act** in order to be able to impact the environment; learn to **co-exist** in order to participate in and co-operate in all areas of human activity; learn to **be**, the aspiration that is linked to all the three mentioned" (Delors, 1998, p. 85). The last may be explained as education fostering the full development of each individual, including mind and body: intelligence, sensitivity, aesthetic sensibility, personal responsibility, and spirituality. Each educated human being should be able to shape independent and critical reasoning and to elaborate an independent view to be able to personally decide the soundness of actions taken in varying life circumstances (Delors, 1998, p. 95).

As mentioned above, one of the paths leading to happiness is one's integrity, bolstered by education. But what does the notion of "integrity" mean here? And, how may it be understood in this context? Cox, La Caze and Levine (2003, p. 1) observe there is scant agreement on a precise definition of integrity, though "there are clusters of shared intuitions". The idea of integrity resists easy definition, since "the pursuit of integrity is simply the problem of living" (Cox et al., 2003, p. XIV).

The *Oxford English Dictionary* presents two categories of definitions for integrity: the physical and the moral. Integrity applies to the physical state of undivided

wholeness, whether of a united land or unbroken body. Alternatively, integrity connotes an unimpaired moral state, characterized by innocence, sinlessness, uprightness, honesty, sincerity (Oxford English Dictionary, 1989).

Baltimore (1999, p. 260), for example, defines integrity as "the state or quality of being complete, undivided, [and] unbroken". According to Sawyer, Johnson and Holub (2009), integrity refers to a consistency of decision making with a prescribed set of values; consistency across time, consistency across individuals and consistency across decisions. Integrity is one of those unobservable characteristics which cannot be written into codes of ethics or into statutes. Rather it is determined by the thousands of decisions that an individual makes in his or her lifetime. On the other hand, Ayn Rand (1964) and Leonard Peikoff (1991) defined integrity as loyalty, in action, to a morally justifiable code of principles and values that promotes long-term survival and the well-being of individuals as rational beings. Carson (1995) argued that having an unwavering commitment to act for the benefit of others, stand up for those who are besieged, be loyal to those to whom we have committed ourselves, acting with honor, and so on, would merit the designation of integrity. In Solomon's view (1992), integrity incorporates a balance between institutional loyalty and moral autonomy and is associated with moral humility. Although principles and policies are important, integrity "also involves a pervasive sense of social context and a sense of moral courage that means standing up for others as well as oneself" (Solomon, 1992, p. 174). Integrity is not reduced here to a single dimension according to whether it is rational self-interest or self-sacrifice. It is classified instead as a "super-virtue" or an amalgamation of virtues, demonstrated in thought and deed (Solomon, 1992, pp. 168, 174).

In line with this reasoning, integrity is developed through social interaction. Integrity may refer to a state or quality of life characterized by habitually acting with good reason, which results in the harmony of the soul (eudemonia). A person of integrity is one who is disposed to act on good reason. Through the practice of acting reasonably, a person of integrity has a serene mind that enables him or her to discern what is right or wrong. A person of integrity takes the pursuit of knowledge and understanding seriously. Such a personality, however, is not divorced from natural human limitations. Of most importance in this definition, following Aristotelian reasoning, is its emphasis on a right frame of mind that guarantees the right action. The virtue of integrity becomes the basic guide to decision making. This is a quality of a moral actor regarding character, motivations, and intentions (Chapfika, 2008).

Although integrity most pointedly connotes a human characteristic, it is also a feature of business processes and systems. For instance, LeClair, Ferrell and Fraedrich (1998) defined the notion of integrity management as "the uncompromising implementation of legal and ethical principles" that are themselves embodied in the strategic planning process of the firm. Integrity also appears to be relevant in

the context of business ethics (cf. Jacobs, 2004). But how does it function in the educational process? In the literature, we can find terms like "academic integrity" or "educational integrity", but "the term (...) is, like the Hydra of Greek mythology, a many-headed beast" (Steer, Gentle, 2007) as it has a variety of meanings (with such abstract ideas as "policy" and "right"). It mostly has to do with dishonest practice in educational settings. The concept of academic dishonesty includes behaviors such as cheating on examinations, plagiarism, or lackadaisical effort (Niels, 1996).

The generally accepted definition of academic integrity is "honesty in all matters relating to endeavours of the academic environment" (Turner, Beemsterboer, 2003, p. 1122), but this term may be also defined through particular behaviours. In 1999, the more than 320 academic institutions worldwide that constitute the Centre for Academic Integrity indicated five behaviours revealing academic integrity: honesty, trust, fairness, respect and responsibility (Centre for Academic Integrity, 1999, cf. Randall, Bender, Montgomery, 2007). However, Hall and Kuh (1998, p. 3) suggested that one can better understand academic integrity and related behaviours by viewing them through a "cultural lens", which adjusts to particular foci.

So, integrity characterizes both the individual and the institutions where he or she works. For individuals, it is an aspect of moral character and experience. For institutions, it is a matter of creating an environment that promotes responsible conduct by embracing standards of excellence, trustworthiness, and lawfulness that inform institutional practices.

Management education for integrity requires coordinated action in four areas:

- the integrity of the scholar as an individual;
- the integrity of the scholar as a teacher;
- the integrity of the university as an institution;
- the integrity of the university's environment.

1.2. PRME as a first step towards management education for integrity

PRME – its purpose and content

The PRME initiative is a timely global call for business schools and universities worldwide to gradually adapt their curricula, research, teaching methodologies and institutional strategies to emerging business challenges and opportunities. PRME stands for the **Principles for Responsible Management Education**. Most notably, the PRME initiative is about promoting responsibility in business education.

The main goal of this initiative is to foster corporate responsibility and sustainability in business education. Institutions such as business schools and other academic

institutions which participate in this initiative have made a commitment to align their mission, strategy and core competencies (education, research and thought leadership) with UN values, as embodied in the so-called Six Principles. The PRME's mission is to inspire and champion responsible management education, research and thought leadership globally. The initiative provides a framework for academic institutions to advance the broader cause of corporate social responsibility and incorporate universal values into curricula and research. The PRME encourages actions such as curriculum development around an agenda of corporate responsibility, and research in support of sustainable management systems, as well as public advocacy and opinion leadership to advance responsible business practices.

More and more business leaders who have committed themselves to the ten principles of the Global Compact have also addressed questions to educational institutions about their support for future business leaders in understanding the challenges of responsible management. Educational institutions must be included as key players when considering the needs of responsible management. All these institutions provide practical knowhow of responsible business practice. Additionally, they are able to encourage students to think about their values, which might be crucial.

The PRME initiative has been inspired by internationally accepted values such as the principles of the United Nations Global Compact, as already mentioned. It seeks to establish a process of continuous improvement among the institutions of management education, in order to develop a new generation of business leaders who will be capable of managing the complex challenges faced by business and society in the twenty-first century.

The PRME initiative is fundamentally a "multi-stakeholder" endeavor, which recognizes the legitimacy of the development process. Therefore, representatives from the United Nations Global Compact (UNGC), the Association to Advance Collegiate Schools of Business (AACSB), the Aspen Institute's Business and Society Program, Net Impact, the European Academy of Business in Society (EABIS), the Graduate Management Admission Council (GMAC), the European Foundation for Management Development (EFMD), the Globally Responsible Leadership Initiative (GRLI) and a student organization with more than 13,000 members, fully endorse the draft of the PRME's Principles. All of the above-mentioned organizations continue to partner in this initiative, and are members of its steering committee, which sets guidelines for the PRME.

The PRME were developed between October 2006 and July 2007 by an international task force of sixty deans, university presidents and official representatives of leading business schools and academic institutions, as well as scholars, who have committed themselves to the idea of responsible management education. The idea was officially introduced by the Global Compact Office at the Business as an Agent of World Benefit global forum at the Case Western Reserve University in October 2006. The PRME

was launched under the patronage of UN Secretary-General Ban Ki-moon in July 2007 (Wood, 2008). At the 2007 Global Compact Leaders Summit on 6 July 2007, UN-Secretary General Ban Ki-moon said in his closing remarks that "the Principles for Responsible Management Education have the capacity to take the case for universal values and business into classrooms on every continent" (brittany-business-school.com).

In the first year of the PRME's operation, there were around 40 participating institutions. This number has risen to 326 organization (brittany-business-school.com) that have signed up to the PRME initiative, including academic institutions like universities and business schools from all over the world. It shows an amazing growth of interest in the PRME among these organizations. The same goes for interest in the central tenets of the PRME, which is immensely popular as shown by the large number participating in the first Global Forum for Responsible Management Education (December 2008) (Rasche, 2010).

The PRME framework can guide a school's efforts to improve its curricula and research regarding issues of corporate citizenship and sustainability in an on-going way. However, it is not a substitute for existing accreditation and quality assurance apparatuses. Like the Global Compact, the PRME initiative provides a forum for institutions to exchange ideas and best practices.

Using the Six Principles as a guiding framework, any institution willing to integrate corporate responsibility and sustainability systemically is welcome to join the fray. The Six Principles of the PRME act are at the heart of this endeavor, but are put forth as helpful tools rather than a lockstep requirement. They are an impetus to promote responsible management education, and should be introduced by participating institutions as the spark of a continuous improvement process. Participating institutions are expected to prepare annual reports on the progress they have achieved. These reports enable information exchange and learning.

The PRME initiative does not provide for verification of a business school's commitment to responsible management education, though organizations such as AACSB and EFMD recognize it "as a continuous improvement framework for management education" (Rasche, 2010, p. 6). In general, principle-based initiatives like the PRME and the Global Compact provide scads of space for experimentation and innovation. But, of course, innovation cannot be held to clockwork predictability. Rather, the PRME should be seen as a launching site for novel ideas and solutions involving responsible management education. This is a salient point of this initiative. Unfortunately, there is also a weak point associated with the low entry barriers, which could lead to an unfortunate self-selection. That is a participant might not institute any changes in their approach and performance. Also, some participants who work diligently might not garner significant results from their work. The situation is that some organizations are mainly interested in being listed as participants rather than working or caring about the initiative (Rasche, 2010).

The Key Principles

The Six Principles of the PRME are the core of a global platform for responsible management education, and were developed by the PRME task force. These are (Rasche, 2010, p. 25):

- **Purpose:** We will develop the capabilities of students to be future generators of sustainable value for business and society at large, and to work for an inclusive and sustainable global economy.
- **Values:** We will incorporate into our academic activities and curricula the values of global social responsibility as portrayed in international initiatives such as the United Nations Global Compact.
- **Method:** We will create educational frameworks, materials, processes and environments that enable effective learning experiences for responsible leadership.
- **Research:** We will engage in conceptual and empirical research that advances our understanding about the role, dynamics, and impact of corporations in the creation of sustainable social, environmental and economic value.
- **Partnership:** We will interact with managers of business corporations to extend our knowledge of their challenges in meeting social and environmental responsibilities and to explore jointly effective approaches to meeting these challenges.
- **Dialogue:** We will facilitate and support dialogue and debate among educators, business, government, consumers, media, civil society organizations and other interested groups and stakeholders on critical issues related to global social responsibility and sustainability.

The first two principles of the PRME concern specific goals of management education (Institute for Corporate Responsibility):

- to teach students to work for a more inclusive and sustainable global economy;
- to incorporate values of global social responsibility into academic activities and curricula, and to create a culture of integrity within the university as a basis for responsible teaching.

Incorporating principles and values into academic activities and curricula raises the question: Which are the values that we wish to impart to students?

The second PRME principle explicitly recognizes the Global Compact as a possible, though by no means exclusive, reference point. As explained by Kell (2005), the Global Compact acts as a "moral compass" for institutions seeking guidance mulling over the values they should promote. The Global Compact promotes four main categories of values: human rights, labour issues, environmental issues, and anti-corruption. Though, other important values exist directly or indirectly related to these four categories.

After parsing the values promoted by the Global Compact, another question comes to mind: What are the core values of contemporary universities, especially in the context of different national cultures? Table 1 presents the values which universities

list most frequently as an element of their ideologies (mission, vision) as found on their websites. The research sample was 200 universities from 32 countries, selected according to the dominance of particular cultural dimensions by Hofstede (geert--hofstede.com).

On the basis of this research, it is possible to conclude that the most popular core values as declared in the mission statements of the universities in various national cultures are innovation (76 indications), freedom (54 indications), excellence (54 indications), quality (47 indications), tolerance (43 indications) and responsibility (34 indications).

The third PRME principle concerns teaching responsible leadership. The question arises whether or not ethical problems should be taught in stand-alone courses, or systematically integrated across the curriculum. The PRME can help (a) to initiate a faculty-wide discourse about how to better integrate responsible management education into the curriculum, and (b) to convince others that integration is necessary and worthwhile, as responsibility is something that cannot be taught exclusively through one stand-alone course. In addition, corporate responsibility issues need to be integrated into other courses (such as marketing and finance) to foster their threading across the wider curriculum (Rasche, 2010).

Implementing the PRME may also lead to the development of innovative teaching methods. Applying new teaching techniques can help educators reap the full benefits of a business ethics course and make it an experience of great import for students. One technique used to foster ethical value is the creation of a Socratic dialogue within a supportive learning environment (Wankel, 2010a). Such a dialogue can foster the identification and testing of the assumptions and beliefs of learners, and also illustrate the inadequacies of superficial thinking about ethical problems (Wankel, 2010a).

Our current students are digital natives, born into a world of pervasive online sharing. Aligning the technologies we use in our courses with their skills and approaches to collaborative learning is an opportunity we should capitalize upon (Wankel, 2010b; Wankel, DeFilippi, 2003). New social media including Skype, YouTube, Flickr, LinkedIn, Facebook, Twitter, Google Apps, wikis and blogging can help bring students from the developing and developed worlds together to discuss governance problems of organizations where they are.

On September 15, 2009, the University of Texas announced that it was creating an archipelago of 44 islands in the Second Life virtual world to provide cost-effective, ecologically sustainable, collaborative, and exciting learning platforms for use by its 15 campuses. Second Life was seen as a way to help students and faculty to cost--effectively collaborate with their peers in far-flung places (Wankel, 2009).What is important is that the Second Life interface is an engaging one for current students, who are ready to employ open-source platforms and new media that are collaborative, at times unpredictable, inherently international, and interactive in stimulating ways.

Table 1. Core values occurring most frequently on websites of the universities

without dominance		
No.	VALUE	No. of Indications
1	– innovation – creativity – creation – initiative – novelty	23
2	– quality (education, research) – high level	18
3	– freedom – freedom of cognition, freedom of thinking – freedom of scientific research – autonomy – independence	17
4	– equality – tolerance – rejection of discrimination – respect	13
5	– responsibility	12
6	– tradition – cultural heritage – achievements of generations	10
6	– co-operation – collegiality	10
8	– excellence – academic excellence – excellent education	9
9	– truth	6
10	– critisism – critical thinking	5
10	– human rights – humanity – dignity	5
10	– openness	5
13	– social service – social responsibility	4
13	– natural environment – sustainable development	4
13	– leadership	4
13	– trust	4

PDI		
No.	VALUE	No. of Indications
1	– innovation – creativity – pioneering spirit	18
1	– excellence – academic excellence	18
3	– truth	10
4	– service (for society, needies)	9
5	– quality	8
5	– honesty – integrity – sincerity	8
5	– freedom – independence – academic freedom – freedom of thoughts, research and speech	8
8	– engagement – proactivity	7
9	– welfare (of people, of society)	6
9	– co-operation – collegiality – team work	6
9	– faith – Christian ideals – service to Church	6
12	– equality – tolerance – lack of discrimination	5
12	– accuracy – precision – thoroughness	5
12	– entrepreneurship – resourcefulness	5
12	– responsibility	5

Source: Author's own study.

analysed, according to the dominance of cultural dimension after G. Hofstede

IDV		
No.	VALUE	No. of Indications
1	– innovation – creativity – experimentation – initiative – ability to change – constructiveness	27
2	– freedom (of expressing thoughts and speech; from discrimination) – independence	22
3	– excellence	16
4	– co-operation – collegiality – community – knowledge exchange	14
4	– equality – tolerance – respect	14
6	– responsibility	12
7	– interdisciplinarity – diversity (of personnel, students, education paths)	11
7	– honesty	11
9	– critical thinking – criticism	9
10	– quality – the highest level (of education, of work)	8
11	– openness	7
11	– service (to society, to people)	7
13	– ethics – high ethical standards	6
14	– integration	4
14	– internationalism	4
14	– environment (care for environment)	4
14	– engagement	4

UAI		
No.	VALUE	No. of Indications
1	– social service – social engagement	18
2	– (social, human) development – progress	14
3	– quality (of education, of research, of knowledge)	13
4	– excellence – constant improvement – scientific excellence – academic excellence – perfectionism	11
4	– equality – tolerance – respect – respect for other people – respect for human rights	11
5	– co-operation – international co-operation – spirit or co-operation – partnership	9
6	– innovation – inspiration	8
7	– freedom – freedom of thinking – independence	7
8	– solidarity – common responsibility	6
9	– sensitivity to environmental – sustainable development	5
9	– responsibility	5
11	– tradition	4
12	– pluralism	3
12	– engagement – participation	3
12	– critical thinking	3
12	– democracy	3
12	– openness	3

It has been reported that the students using Second Life are more expansive in their creative thinking and practice, and open to experimentation in their education (Frauenheim, 2006; Wankel, 2009). However, when using these technologies in our educational process we should remain aware of their underbellies of sometimes off-putting ethical issues (Wankel, Malleck, 2010).

The fourth principle of the PRME is connected with conducting research that has sustainable social, environmental, and economic value. Research and teaching go hand in hand when it comes to responsible management education. Christensen et al. (2007, p. 352) have concluded that around 65% of the top-ranked MBA schools have centres or institutes which specifically address ethical issues. Of course, not every school can afford to set up such centres. However, institutional support can also mean that a school rewards excellence in research into ethics-related topics, and also (and maybe most importantly) creates and sustains academic positions which send a signal to early-career scholars that pursuing a PhD in the field of corporate responsibility is both worthwhile and desirable (Rasche, 2010).

The last two principles of the PRME concern collaborative work with business executives and facilitation of dialogue and debate among business schools and business stakeholders. Such partnerships can help to improve the relevance of both teaching and research. Starting with teaching, inviting practitioners to speak in the classroom is a common technique for making course content more interesting (Matten, Moon 2004,p. 330) report that 32% of the schools they surveyed use business speakers within ethics-related classes. PRME adopters can facilitate dialogue with a wider set of stakeholders in a variety of ways, for instance by co-organising conferences which unite different stakeholder groups, as well as by hosting events like multi-stakeholder panel discussions and/or lecture series. Recruiting world-class speakers is easy using LinkedIn. For example, one of the authors of this article recruited a GE Capital Real Estate executive, who was charged with bringing half of the firm's 80 billion dollars of commercial real estate into sustainability and create a windfall for the company doing so, to speak to a class of twenty students at his university through LinkedIn. The search was straightforward, putting "sustainability" into the current position field of LinkedIn and limiting the search to people within 75 miles of the campus. Using analogous methods, speakers were recruited from far-flung places to be Skype or Second Life visitors to class sessions.

Conclusion

Listening to customers' voices has always been a fundamental strategy in management; it grants a competitive advantage to organizations that do so, and the educational sector should not be an exception. At the outset of the twenty-first century it is no

longer valid to conceive of a school that lacks a robust system that incorporates students' voices, because it is unintelligent to ignore customers' voices. Donald P. Jacobs, Dean Emeritus at the Kellogg School of Management, said in reference to student voices "(...) they want a great educational experience, and they have some very good ideas for how the school can provide that" (kellogg.northwestern.edu).

The Baldrige Criteria for performance excellence, which can be used to analyse student, stakeholder and market interests, refers to "the voice of the customer," and remarks that the focus of an administration should be on features that affect students' and stakeholders' preferences, such as curricular focus (baldrige.nist.gov).

In 1999, the Aspen Institute performed a longitudinal survey of MBA students' attitudes about business and society, entitled "Where Will They Lead?". The results showed that MBA programs do, in fact, affect students' attitudes about the role and responsibilities of business: students identified maximizing shareholder value as the primary responsibility of a company (aspencbe.org). Immediately afterwards, several members of the faculty expressed that the results were unsurprising, considering the theories of business contained in the curriculum. Interestingly enough, the same survey was administered three years later to MBA students and revealed that the events of the past two years, such as terrorist attacks, a sharp economic downturn, and continuing revelations about corporate misconduct had a significant impact on the MBA students' thoughts on business, their careers, and the content and structure of MBA programs. Maximizing shareholders' value was no longer the first concern, as it fell behind "satisfying customer needs", which rose to first position. The students were rethinking their responsibilities as future business leaders and placing greater emphasis on personal values (aspencbe.org).

These results, which should be valued by business schools' top officers, showed that MBA students are thinking more broadly about the relationship between business and society, and want more content and discussion of business ethics and corporate responsibility in core courses. MBA students are concerned about how well their business schools are preparing them to manage value conflicts, as evidenced by the fact that one out of five respondents felt that they were not being prepared at all (aspencbe.org). John Russell mentioned that "students at top schools can still complete their degree without ever contemplating the notion of corporate social responsibility" (ethicalcorp.com; Ethical Corporation, 2006). In 2006 and 2007, Net Impact applied surveys to undergraduate and MBA students in order to analyse their perspectives on the relationship between business and social environmental concerns. The results revealed that 73% of undergraduates, compared with 78% of MBA students, agree that the subject of CSR should be integrated into required classes in college business/ management programs; 74% of undergraduates, compared with 70% of MBA students, believe that universities should place more emphasis on training socially and environmentally responsible individuals than they currently do;

49% of undergraduates, compared with 60% of MBA students, agree that CSR makes good business sense because it leads to financial profits; and 78% of undergraduates, compared with 82% of MBA students, believe that CSR is the right thing for companies to do (netimpact.org).

Liz Maw, the Executive Director of Net Impact, claims that "The level of student demand and agreement on the PRME is high. Across all demographics, the majority of students tell us that corporate social responsibility is a topic that should be integrated into core curriculum classes at MBA programs, and that business schools should place more emphasis on training socially and environmentally responsible individuals than they currently do" (Martell, 2008).

Most students are willing to accept corporate responsibility as an embedded part of their education. The PRME can help to meet this student demand by (a) fostering a reflection on how to better integrate social and environmental issues into the curriculum, and (b) providing a platform for the exchange of best practices and positive as well as negative experiences (Rasche, 2010). The PRME encourages the development of holistic perspectives on management education for integrity both by individuals, and institutions.

References

[1] Amabile T.M., Barsade S.G., Mueller J.S., Staw B.M., 2005, *Affect and creativity at work*, "Administrative Science Quarterly", 50, pp. 367–403.

[2] Aristotle (Arystoteles), 2001, *Dzieła wszystkie*, Warszawa.

[3] Baltimore J.P.D., 1999, *Public integrity*, John Hopkins University Press, London.

[4] Barbee B., 2005, *Ethics of entrepreneurship*, "Baylor Business Review", 22, p. 42–44.

[5] Barling J., Slater F., Kelloway E.K., 2000, *Transformational leadership and emotional intelligence: An exploratory study*, "Leadership & Organization Development Journal", 21 (3), pp. 157–161.

[6] Berger I.E., Cunningham P.H., Drumwright M.E., 2007, *Mainstreaming corporate social responsibility*, "California Management Review", 49, pp. 132–157.

[7] Brown M.E., Treviño L.K., 2006, *Ethical leadership: A review and future directions*, "The Leadership Quarterly", 17, pp. 595–616.

[8] Carnevale P., Isen A., 1986, *The influence of positive affect and visual access on the discovery of integrative solutions in bilateral negotiations*, "Organizational Behavior and Human Decision Processes", 37, pp. 1–13.

[9] Carson A.S., 1995, *The nature of a moral business person*, "Review of Business", 17 (2), pp. 16–22.

[10] Centre for Academic Integrity, 1999, *The fundamental values of academic integrity: Honesty, trust, respect, fairness, responsibility*, Duke University, Durham, NC.

[11] Chakraborty S.K., Chakraborty D., 2008, *Spirituality in management: Means or end?*, Oxford University Press, New Delhi, India.

[12] Chapfika B., 2008, *The role of integrity in higher education*, "International Journal for Educational Integrity", 2 (2), pp. 43–49.

[13] Cherniss C., Adler M., 2000, *Promoting emotional intelligence in organizations*, ASTD, Alexandria, VA.

[14] Christensen L.J. et al., 2007, *Ethics, CSR, and Sustainability in the Financial Times Top 50 Global Business Schools*, "Journal of Business Ethics", 73, pp. 347–368.

[15] Cox D., La Caze M., Levine M.P., 2003, *Integrity and the fragile self*, Ashgate, Aldershot.

[16] Crane A., Matten D., 2004, *Questioning the Domain of Business Ethics Education*, "Journal of Business Ethics", 54, pp. 357–369.

[17] Cronin B., Davenport E., 1993, *Social intelligence*, "Annual Review of Information Science and Technology", 28, pp. 3–44.

[18] Delors J. (ed.), 1998, *Edukacja – jest w niej ukryty skarb*, UNESCO, Warszawa.

[19] Dutton J.E., Glynn M.A., 2008, *Positive Organizational Scholarship*, [in:] Barling J., Cooper C.L. (eds.), *Handbook of Organizational Behavior*, 1, pp. 693–712.

[20] Elms H., Brammer S., Harris J.D., Phillips R.A., 2010, *New Directions in Strategic Management and Business Ethics*, "Business Ethics Quarterly", 20 (3), pp. 401–425.

[21] Etheredge J.M., 1999, *The perceived role of ethics and social responsibility: An alternative scale structure*, "Journal of Business Ethics", 18, pp. 51–61.

[22] Evans F.J., Weiss E.J., 2008, *Views on the Importance of Ethics in Business Education*, [in:] Swanson D.L., Fisher D.G. (eds.), *Advancing Business Ethics Education*, Charlotte, NC, pp. 43–66.

[23] Fransen L.W., Kolk A., 2007, *Global Rule-Setting for Business: A Critical Analysis of Multi-Stakeholder Standards*, "Organization", 14 (5), pp. 667–684.

[24] Frauenheim E., 2006, *IBM Learning Programs Get A "Second Life"*, "Workforce Management", 85 (23).

[25] Gardner H., 1999, *Who Owns Intelligence?*, www.kurzweilai.net.

[26] Ghoshal S., 2005, *Bad management theories are destroying good management practices*, "Academy of Management Learning & Education", 4 (1), pp. 75–91.

[27] Giacalone R.A., Thompson K.R., 2006, *Business ethics and social responsibility education*, "Academy of Management Learning & Education", 5, pp. 266–277.

[28] Goleman D., 1995, *Emotional Intelligence*, Bantam Books, New York.

[29] Graafland J., Kaptein M., Mazereeuw C., 2007, *Conceptions of God, Normative Convictions, and Socially Responsible Business Conduct: An Explorative Study Among Executives*, "Business & Society", 46 (3), p. 331–368.

[30] Gregg S., Stoner J.R. Jr. (eds.), 2008, *Rethinking Business Management: Examining the Foundations of Business Education*, Witherspoon Institute, Princeton, NY.

[31] Hall T.L., Kuh G.D., 1998, *Honor among students: Academic integrity and honor codes at state-assisted universities*, "National Association of Student Personnel Administrators Journal", 36 (1), pp. 2–18.

[32] Harter L., Buzzanell P., 2007, (*Re)storying organizational communication theory and practice: Continuing the conversation about spirituality and work*, "Communication Studies", 58, pp. 223–226.

[33] Heath J., Moriarty J., Norman W., 2010, *Business Ethics as Political Philosophy*, "Business Ethics Quarterly", 20 (3), pp. 427–452.

[34] Hummel C., 1996, *Myśliciele o wychowaniu*, Polska Oficyna Wydawnicza, Warszawa.

[35] Hunt S.D., Kieker P.L., Chonko L.B., 1990, *Social responsibility and personal success: A research note*, "Journal of the Academy of Marketing Science", 18, pp. 239–244.

[36] Institute for Corporate Responsibility, 2010, *The Certificate in Responsible Management*, George Washington University, School of Business, Washington, DC.

[37] Jacobs D.C., 2004, *A Pragmatist Approach to Integrity in Business Ethics*, "Journal of Management Inquiry", 13 (3), pp. 215–223.

[38] Keating D.P., 1978, *A Search for Social Intelligence*, "Journal of Educational Psychology" 70, pp. 218–223.

[39] Kell G., 2005, *The Global Compact: Selected Experiences and Reflections*, "Journal of Business Ethics", 59, pp. 69–79.

[40] Kunowski S., 1981, *Podstawy współczesnej pedagogiki*, Łódź.

[41] Lane I.F., Bogue E.G., 2010, *Faculty Perspectives Regarding the Importance and Place of Nontechnical Competencies in Veterinary Medical Education at Five North American Colleges of Veterinary Medicine*, "JAVMA – Journal of the American Veterinary Medical Association", 237 (1), pp. 53–64.

[42] Lecker M., 2010, *Karma Capitalism: A Normative Standard for Entrepreneurial Leadership*, [in:] Stachowicz-Stanusch A. (ed.), *Organizational Immunity to Corruption: Building Theoretical and Research Foundations*, International Age Publishing, pp. 201–214.

[43] LeClair D.C., Ferrell O.C., Fraedrich J.P., 1998, *Integrity management: A guide to managing legal and ethical issues in the workplace*, University of Tampa Press, Tampa, Florida.

[44] Lennick D., Kiel F., 2005, *Moral Intelligence: Enhancing Business Performance and Leadership Success*, Wharton School Publishing.

[45] Maak T., Pless N.M., 2006, *Responsible leadership in a stakeholder society. A relational perspective*, "Journal of Business Ethics", 66, pp. 99–115.

[46] Martell J., 2008, *Socially Responsible Business Schools: Collective Stakeholder Voices Demand Urgent Actions*, "Journal of the World Universities Forum", 1 (6).

[47] Matten D., Moon J., 2004, *Corporate Social Responsibility Education in Europe*, "Journal of Business Ethics", 54, pp. 323–337.

[48] McGuire T., 2010, *From Emotions to Spirituality: "Spiritual Labor" as the Commodification, Codification, and Regulation of Organizational Members' Spirituality*, "Management Communication Quarterly", 24 (1), pp. 74–103.

[49] Miller R.A., 2009, *The Ethics Narrative and the Role of the Business School in Moral Development*, "Journal of Business Ethics", 90, pp. 287–293.

[50] Mintzberg H., 2004, *Managers not MBAs: A hard look AT the soft practice of management and management development*, Beret-Koehler Publishers, San Francisco, CA.

[51] Mitroff I.I., Denton E.A., 1999, *A study of spirituality in the workplace*, "MIT Sloan Management Review", 40, pp. 83–92.

[52] Moon J., Shen X., 2010, *CSR in China Research: Salience, Focus and Nature*, "Journal of Business Ethics", 94 (4), pp. 613–629.

[53] Net Impact, 2007, *New Leaders, New Perspectives: A Survey of MBA Student Opinions on the Relationship between Business and Social/Environmental Issues*, San Francisco.

[54] Nicholson C.Y., DeMoss M., 2009, *Teaching Ethics and Social Responsibility: An Evaluation of Undergraduate Business Education at the Discipline Level*, "Journal of Education for Business", 84 (4), pp. 213–218.

[55] Niels G.J., 1996, *Is the honor code a solution to the cheating epidemic?*, The Klingenstein Center, Teachers College, Columbia University, New York.

[56] *Oxford English Dictionary*, 1989,

[57] Peikoff L., 1991, *Objectivism: The philosophy of Ayn Rand*, Meridian, New York.

[58] Pfeffer J., 2005, *Why do bad management theories persist?*, "Academy of Management Learning & Education", 4, pp. 96–100.

[59] Plato (Platon), 1991, *Państwo*, I–II, Wydawnictwo AKME, Warszawa.

[60] Pless N., Maak T., Stahl G., 2010, *Developing Responsible Global Leader Through Integrated Service Learnng – Program Ulysses at PWC*, paper presented on Academy of Management, Montreal 2010.

[61] Puffer S.M., McCarthy D.J., 2008, *Ethical Turnarounds and Transformational Leadership: A Global Imperative for CSR*, "Thunderbird International Business Review", 50, pp. 303–314.

[62] Rand A., 1964, *The virtue of selfishness: A new concept of egoism*, Signet, New York.

[63] Randall K., Bender D.G., Montgomery D.M., 2007, *Determining the opinions of health sciences students and faculty regarding academic integrity*, "International Journal for Educational Integrity", 3 (2), pp. 27–40.

[64] Rasche A., 2010, The *Principles for Responsible Management PRME – History, Purpose and Implementation*, paper submitted to the Academy of Management Annual Meeting, Montreal 2010.

[65] Rhee S.Y., 2006, *Shared emotions and group effectiveness: The role of broadening-and-building interactions*, [in:] Weaver K.M. (ed.), *Proceedings of the Sixty-fifth Annual Meeting of the Academy of Management* (CD), ISSN 1543-8643.

[66] Riggio R.E., Messamer J., Throckmorton B., 1991, *Social and Academic Intelligence: Conceptually Distinct but Overlapping Constructs*, "Personality and Individual Differences", 12, pp. 695–702.

[67] Rodriguez A. (ed.), 2001, *Essays on communication & spirituality: Contributions to a new discourse on communication*, University Press of America, Lanham, MD.

[68] Rodriguez P., Siegel D.S., Hillman A., Eden L., 2006, *Three Lenses on the Multinational Enterprise: Politics, Corruption, and Corporate Social Responsibility*, "Journal of International Business Studies", 37, pp. 733–746.

[69] Sawyer K.R., Johnson J., Holub M., 2009, *Decline in academe*, "International Journal for Educational Integrity", 5 (2), p. 10–28.

[70] Schwepker C., Hartline M., 2005, *Managing the Ethical Climate of Customer-Contact Service Employees*, "Journal of Service Research" 7 (4), pp. 377–397.

[71] Sharma R.R., 2010, *Preventing Corruption through Spiritual Leadership in Organisations*, [in:] Stachowicz-Stanusch A. (ed.) *Organizational Immunity to Corruption: Building Theoretical and Research Foundations*, International Age Publishing, Charlotte, NC, pp. 247–260.

[72] Silvera D.H., Martinussen M., Dahl T.I., 2001, *The Tromso Social Intelligence Scale, a Self-Report Measure of Social Intelligence*, "Scandinavian Journal of Psychology" 42, pp. 313–319.

[73] Singhapakdi A., Vitell S.J., Rallapalli K.C., Kraft K.L., 1996, *The perceived role of ethics and social responsibility: A scale development*, "Journal of Business Ethics", 15 (11), pp. 1131–1140.

[74] Singhapakdi A., Karande K., Rao C.P., Vitell S.J., 2001, *How important are ethics and social responsibility? A multinational study of marketing professionals*, "European Journal of Marketing", 35 (1/2), pp. 133–152.

[75] Soule E., 2005, *Embedding Ethics in Business and Higher Education: From Leadership to Management Imperative*, The Business-Higher Education Forum, Washington, DC.

[76] Stachowicz-Stanusch A., 2010, *Corruption immunity based on Positive Organizational Scholarship, Towards theoretical framework*, [in:] Stachowicz-Stanusch A. (ed.), *Organizational Immunity to Corruption: Building Theoretical and Research Foundations*, International Age Publishing, Charlotte, NC, pp. 37–62.

[77] Steer M., Gentle F., 2007, *Ensuring integrity in educational assessment*, "International Journal for Educational Integrity", 3 (1), pp. 26–34.

[78] Swanson D.L., Fisher D.G. (eds.), 2008, *Advancing Business Ethics Education*, Information Age Publishing, Charlotte, NC.

[79] Turner S.P., Beemsterboer P.L., 2003, *Enhancing academic integrity: Formulating effective honor codes*, "Journal of Dental Education", 67 (10), pp. 1122–1129.

[80] Waldman D.A., Galein B.M., 2008, *Alternative Perspectives of Responsible Leadership*, "Organizational Dynamics", 37, pp. 327–341.

[81] Walsh J.P., Weber K., Margolis J.D., 2003, *Social Issues in Management: Our Lost Cause Found*, "Journal of Management", 29 (6), pp. 859–881.

[82] Wankel C., 2009, *Using a Virtual World Interface in Business Education*, "Organizacja i Zarządzanie", 3 (7), pp. 139–151.

[83] Wankel, C., 2010a, *Orienting Business Students to Navigate the Shoals of Corruption in Practice*, [in:] Stachowicz-Stanusch A. (ed.), *Organizational Immunity to Corruption: Building Theoretical and Research Foundations*, Information Age Publishing, pp. 63–68.

[84] Wankel C. (ed.), 2010b, *Cutting-edge Social Media Approaches to Business Education. Teaching with LinkedIn, Facebook, Twitter, Second Life, and Blogs*, Information Age Publishing, Charlotte, NC.

[85] Wankel C., Defilippi R., 2002, *Rethinking Management Education for the 21st Century*, Information Age Publishing, Greenwich, CT.

[86] Wankel C., Defilippi R., 2003, *Educating managers with tomorrow's technologies*, Information Age Publishing, Greenwich, CT.

[87] Wankel C., DeFillippi R., 2006, New Visions of Graduate Management Education. Information Age Publishing, Greenwich, CT.

[88] Wankel, C., Malleck, S. (eds.), 2010, *Emerging Ethical Issues of Life in Virtual Worlds*, International Age Publishing, Charlotte, NC.

[89] Wankel C., Malleck S. (eds.), 2011, *Globalization: Ethical Models and Applications*, IGI-Global, Hershey, PA.

[90] Wigglesworth C., 2006, *Why spiritual intelligence is essential to mature leadership*, "Integral Leadership Review", 6 (3).

[91] Williams O. (ed.), 2003, *Business, religion, & spirituality: A new synthesis*, University of Notre Dame, Notre Dame, IN.

[92] Wood. M., 2008, *European Foundation for Management Development*, www.efmd.org.

[93] Vidaver-Cohen D., Reed L., Colwell S., 2010, *Executive Servant Leadership: A new Scale to Test if Leaders Dare to Care*, paper presented on Academy of Management, Montreal 2010.

Websites

[1] www.aspencbe.org

[2] www.baldrige.nist.gov

[3] www.brittany-business-school.com

[4] www.ethicalcorp.com

[5] www.geert-hofstede.com

[6] www.kellogg.northwestern.edu

[7] www.netimpact.org

[8] www.qualitydigest.com

[9] www.unprme.org

PRINCIPLES FOR RESPONSIBLE MANAGEMENT EDUCATION: A PATHWAY TO MANAGEMENT EDUCATION FOR INTEGRITY

Abstract

The paper presents Principles for Responsible Management Education (PRME) initiative as a global standard for business schools' curricula enhancement. Authors discuss contemporary ethical challenges for higher education, consider the relationship between education and integrity, explain the assumptions and key principles of the PRME concept, and propose some practical solutions for better implementation of this tool. The discussion is completed with research results that indicates core values published most frequently by universities from regions of different cultures.

Key words: PRME, higher education, integrity, management, business schools

ZASADY SPOŁECZNIE ODPOWIEDZIALNEGO NAUCZANIA (*PRINCIPLES FOR RESPONSIBLE MANAGEMENT EDUCATION* – PRME) DROGĄ KU PRAWOŚCI W SZKOLNICTWIE WYŻSZYM

Streszczenie

Artykuł prezentuje inicjatywę *Principles for Responsible Management Education* (PRME) jako globalny standard doskonalenia programów nauczania w szkołach biznesu. Autorzy podejmują dyskusję na temat współczesnych etycznych wyzwań szkolnictwa wyższego, rozważają związek między procesem edukacyjnym a prawością, wyjaśniają założenia i podstawowe zasady koncepcji PRME, a także proponują kilka praktycznych rozwiązań dla lepszego wdrażania tego narzędzia. Dyskusję uzupełniono o wyniki badań diagnozujących główne wartości szkół wyższych z różnych kręgów kulturowych.

Słowa kluczowe: PRME, szkolnictwo wyższe, prawość, zarządzanie, szkoły biznesu

PIOTR PŁOSZAJSKI*

EXPANDING THE TOOLBOX OF ORGANIZATIONAL AND MANAGEMENT THEORY: COMPLEXITY, MORPHOGENESIS, CATASTROPHE AND CHAOS

1. The non-linearity phenomenon and business

Discontinuity and non-linearity is the way of life. Yet, we stubbornly either neglect it or helplessly avoid the subject. Most strategic models, even those truly long-term ones, in fact assume linearity of the processes in question. The famous macroeconomic models, developed for several countries including the U.S., by Millennium Institute – the impressive interplay of 3,500 variables in 12 strategic areas – were all based on the underlying assumption of linearity of its major trends [see: 9]. At these rare moments that we do talk about non-linearity we, usually, only state our limitations. Despite this plentiful research on economy and organizations we still cannot fully control them and we probably never will. In many instances all we can do is scientifically justify our powerlessness.

Would this be why more and more of the best companies in the world get into troubles? An S&P's 500 company is replaced on that index once every 2 weeks. In 1958, corporations stood on S&P's 500 for 61 years, on average. By 1980, that had dropped to 25 years. It's about 18 today. In the UK, of the original 100 companies in the FTSE 100 index established in 1984 only 24 remain today. On average, FTSE exchanges 14 percent of its companies every year. That is 100 percent every 7 years [see: 5].

There are three probable causes: overlooking the environmental changes, petrifaction of obsolete organizational structures, and most of all the inability to understand

* **Piotr Płoszajski, Ph.D., Associate Professor** – Warsaw School of Economics.

the consequences of the complex nature of today's economic and organizational systems. Their managers usually have an extensive knowledge about markets and a lot of high-paid experts at hand. They all know that the environment changes constantly, requires continuing observation, and is highly complex. In spite of that, or maybe because of that, they occasionally fail quite badly.

In 1998, Shona Brown and Kathleen Eisenhardt published one of the first books dealing with the chaos phenomenon as related to business strategies. Their conclusion was that to compete on the edge is to relentlessly reinvent, and it is the only way to navigate the treacherous waters of tumultuous markets. Competing on the edge, they said, is an unpredictable, sometimes even inefficient strategy, yet a singularly effective one in an era driven by change. It requires finding a course along the edge of chaos, requiring a subtle compromise between anarchy and order where current business is the primary focus, but actions are determined by past legacies and future opportunities [3].

2. Complexity

It is not only the business people who are puzzled by the complexity phenomena. The subject is still so new and so wide-ranging that there are still controversies on how to define it. It is because complexity research is trying to wrestle with problems that defy all the conventional categories. Just think of all these similar questions raised by academics in all fields of science:

- Why did the Soviet Union collapse in 1991 after over 70 years of stability, and the whole communist system fell apart so quickly and completely?
- Why did the stock market crash in 1929, in 1987, in 1998 and then in 2008?
- Why was the European foreign exchange market so close to bankruptcy in the summer of 1992?
- Why the ancient species and ecosystems often remain stable for millions of years and then either die out or transform themselves into something entirely new in a geological instant?
- How did the primordial soup of amino acids and other simple molecules manage to turn itself into the first living cell? There was no way the molecules could have just connected into cells at random. The odds against that happening are ludicrously low. So, was a creation of life a miracle or something else? Is the incredibly precise organization that we find in living creatures really just a result of random evolutionary accidents?
- And perhaps most fundamentally: why is there something rather than nothing? After all, the Universe has been governed by the strong tendency toward disorder, dissolution and dystrophy. Yet it has managed to bring forth the structure on

every scale: galaxies, bacteria, plants, animals, brains, economies and societies. Is the law of disorder matched by an equally powerful law of order, structure, and organization? [based on: 15].

Complex systems are becoming the topics of the new science and the beginning of a new research area. The notion of complexity of a system relates to the number of its elements and the relations between them. When the number of elements is high – in the eyes of the observer – then we talk about a large system. A complex system, in turn, is characterized by diversity of elements and/or their relations. Complex systems such as atoms, societies, economies, markets, ecosystems etc. unconsciously organize themselves by groups of agents seeking mutual accommodation and self--consistency. They don not just passively respond to events; they actually try to turn whatever happens to their advantage. As Mitchell Waldrop put it in his ground--breaking book *Complexity: The Emerging Science at the Edge of Order and Chaos* (1993): *The edge of chaos is where life has enough stability to sustain itself and enough creativity to deserve the name of life. The edge of chaos is where new ideas and innovative genotypes are forever nibbling away at the edges of the status quo, and where even the most entrenched old guard will eventually be overthrown* [15].

The complex systems are nonlinear by nature. Non-linearity results in one type of feedback dominating for some time and then shifting the domination to another part of the system, seemingly not related. Economy, society, stock exchanges, large management systems are not linear. Millions of individual decisions to buy or not to buy, do or not to do, stop/initiate actions or not, reinforce each other, create a boom or a recession, a crisis or a prosperity, a turmoil of stability. And the economic consequences resulting from this interplay can then feed back to affect the very decisions that produced them.

Indeed, almost everything except for the very simple physical systems is caught up in a multiple, nonlinear plot of incentives, connections and dependences. Coming to understand the nonlinear nature of complex systems, such as e.g. economy or a large organization in its environment, we need to quit the predominantly fruitless interests in measuring their parameters. Instead, we should put our efforts into getting to know the structure of these systems. I will return to this point later.

3. The complex socio-economic systems and their behavior

The behavior of complex systems is, then, entirely different from that of simple ones. When it comes to economy, management and social systems it translates into qualitatively different analytic instruments as well as the strategies that should be employed in order to study and control their behaviors.

Firstly, social systems are inherently insensitive to most strategy changes that we select in an effort to alter their behavior. In fact, a social system tends to draw our attention to the very points at which an attempt to intervene will fail. Jay Forrester calls a complex social system *deceitful*[1]. It is so, because human intuitive abilities have been developed based on learning from simple systems. As a result, our „simple intuition" makes us expect the causes of the events under observation to be close both in time and space to their outcomes. In simple systems it serves us well: a high heat usually means a fire (or a heater) nearby. For a complex system, when we are searching for the causes of a given phenomena, the system „provides us" with some „apparent" ones that look „obvious" according to the rules of simple systems, meaning they are close to the symptoms in time and space.

But those „apparent" ones are usually coincidental occurrences that, like the trouble symptom itself, are being produced by the feedback-loop dynamics of a larger system. Forrester calls it *a counterintuitive behavior of complex social systems.* The famous striking correlation between the number of spinsters and the grass crops in Northern England described by J. March and H. Simon is an illustrative example of how the counter-intuitiveness works [see: 10]. This correlation is an effect of a very long, both in time and space, causal chain but when looked upon through the lens of simple intuition it does not make sense at all. This is exactly what happens when we try to analyze the causal relationships in economy or large management systems.

The system's sensitive points are frequently not in the locations where we expect them to be. Furthermore, if one identifies a sensitive point where influence can be exerted, the chances are still that guided by simple intuition and judgment they will alter the system in the wrong directions.

On the one hand, that tells us to do a careful examination of the system as to its sensitive elements before attempting to introduce any strategic changes. Otherwise we risk a great and costly waste of time, efforts and opportunities as well as long term damage to the system that is hard to be fixed; not alone losing one's face as a change leader and decision-maker.

In a complex system, a change program that produces improvements in the short run is also, in many instances, the one that degrades the system in the long run. Likewise, those strategies and programs that produce long-term improvements may initially depress the behavior of the system. This is especially misleading. The short run is more visible and more compelling. It speaks loudly for immediate attention. But a series of actions all aimed at short-run improvement can eventually burden a system with long-run depressants so severe that even heroic short-run measures

[1] The powerful concept of counterintutivity of social systems was first conceived by Jay W. Forrester [4].

are no longer enough. Many of the problems that organizations face today frequently are the results of short-run measures taken long ago [4].

The problem of decision makers in the middle of the process of introducing a new strategy is then to distinguish between a good strategy that still needs time to reach its expected effects, and a bad strategy that should be dropped after the trial period. Just for how long should one wait to be truly able to evaluate the new strategy? In most cases, the pressure for immediate positive results is so high that organizations discontinue potentially good strategies because they do not produce immediate outcomes and move to another one thus creating a vicious circle of constant and erratic strategic moves.

4. The complexity theory and economy

The fascinating and important features of complex systems have led to creation of a new inter-disciplinary field called *complexity theory*. It attempts to integrate different findings about these systems as well as to raise some new fascinating questions. It certainly needs attention of the organization and management theory as it enriches their methodological toolbox.

Ilya Prigogine, the guru of this movement, started with a question: *Why is it so that there is order and structure in the world? Where does it come from?* [13]. After all, it seems that Nature was less interested in creating structures than in tearing them apart, as it is codified in the second law of thermodynamics that paradoxically says: *You can't unscramble an egg*.

Left alone, says the second law, atoms (or other elements of a system) will mix and randomize themselves as much as possible. However, the point is that elements are never left alone. They are almost always exposed to energy and material flowing in from the outside. It is as true for a chemical substance as it is for an economy. And if they are strong enough, then the steady degradation can be reversed to some extent.

In fact, over a limited area, a system can spontaneously organize itself into a whole series of complex structures. Economy is such a self-organizing system where market structures are spontaneously organized by demand for labor, money, information, goods and services.

Economies, societies and large organizational structures are not only *self-organizing systems*; they are also examples of *complex adaptive systems*. In the natural world, the examples include brains, immune systems, eco-systems and cells. In the human world they include cultural and social systems such as social and interests groups, political parties, societies, academic schools or, lately, Internet communities.

An economy is a complex adaptive system in the following sense:

1. It is a network of many agents (firms, institutions, social groups, communities etc.) operating in parallel in an environment created by its interactions with the other elements of the system. It is constantly acting and reacting to what the other ones are doing. That is why nothing in the environment is stable;
2. Control of these systems tends to be highly dispersed;
3. It has many levels of organization, with agents at any one level serving as the building blocks for agents at a higher level;
4. They are constantly changing and rearranging their building blocks as they gain experience;
5. They anticipate the future, but the process of anticipation goes far beyond the issues of human foresight. It has implicit predictions encoded in its genes: *in a situation ABC, an action XYZ is likely to pay off*. They are more than simply passive blueprints – they are active;
6. They have many niches. Each one of them can be exploited by an agent adopted to fill that niche. The very act of filling one niche opens up more niches. That is why a complex adaptive system is always in transition and never in equilibrium [15];
7. Self-organization depends upon self-reinforcement: a tendency for small effects to become magnified, when conditions are right, by positive feedback, instead of dying away. Positive feedback seems to be the dominating mechanism of change, of surprise, of life itself. And yet, it is what the neoclassical economic theory didn't have. It assumed that the economy was entirely dominated by the negative feedback: the tendency of small effects to gradually vanish. It was implicit in the doctrine of *diminishing returns*: the second piece of chocolate doesn't taste as good as the first one, the second dollar invested brings smaller return than the first one. This doctrine underlies the whole neoclassical vision of order, stability, and equilibrium in the economy. But what happens if you have positive feedback (increasing return)? *Don't worry*, says the neoclassic, *it happens very rarely and doesn't last long* [15].

The neoclassical theory argues that a free market promotes the best and most efficient technologies. But, how would you then explain such examples as that of QWERTY keyboard, VHS videotape format, PC Windows, PC format that were quite inferior to their competitors (ergonomic keyboards, Beta video format, Apple, respectively) and yet they had won?

And here comes the *lock-in mechanism*. It is the phenomena of e.g. locking-in the process of vigorous increase in sales (presence, dominance) of a certain product, technology or idea after reaching the critical number of buyers (users, followers). Usually, it happens to products that have the ability to become standards. It reaches the lock-in point and the winner takes it all. Thus, for a company or economy, it may well be that it is the tiny accidents of history – the indefinitely small developments and initially invisible irregularities of organizational processes that get magnified by the positive feedback into major differences in the outcome. This probably explains

why a company's or economy's history – paraphrasing Winston Churchill's famous statement about politics – *is just one damn thing after another.*

The existence of the lock-in mechanism makes us reconsider the policy of economic liberalism when it comes to e.g. hi-tech products entering a new market. But at some philosophical level it also brings us to quite a fundamental question: if the economy and organizational world may lock-in many possible developmental patterns then can we predict anything? And if we cannot make predictions, then, is what we are doing still science? Is management a science in the sense that we attach to it?

5. The concept of autocatalytic systems

Let us get back from business to the primordial soup again. Suppose that some of the billions of molecules floating around were able to act as catalyst-submicroscopic matchmakers. Chemists see this sort of things all the time. Imagine that one of them is a molecule *A* that was busily catalyzing the formation of *B*. The very first molecule *A* was not probably a very effective one (since it essentially formed at random) but it did not have to. It still helped to make *B*-type faster than they would have otherwise.

Now, suppose that *B* had had a weak catalytic effect itself, so that it boosted the production of some molecule C that later also acted as a catalyst, and so on.

If the pot of primordial soup was big enough, and if the initial variety of molecules was sufficiently high, then somewhere in the line there might have been created molecule *Z* that closed the loop and catalyzed the creation of *A*. But now there would have been more catalysts available to enhance the formation of *B*, then *C*, then *Z* again.

In other words, if the conditions in the primordial soup were right, the random reactions would not be necessary at all. The compounds in the soup could have formed a coherent, self-reinforcing web of reactions. Furthermore, each molecule in the web would have catalyzed the formation of other molecules that were not a part of the web. Taken as a whole, in short, the web would have catalyzed its own formation. It would have been an autocatalytic set[2].

Autocatalytic sets, the idea first conceived by Steward Kaufman, are, then, self-sustaining chemical factories, in which the product of one reaction is the feedstock or catalyst for another. The result is a virtuous, self-contained cycle of chemical creations. The concept may have remarkable consequences for our understanding of complexity, evolution and the phenomenon of emergence. It can explain how evolution can work on a single autocatalytic set, producing new subsets within it that are mutually dependent on each other. This way, it produces an environment in which

[2] The explanation taken from: [15].

newer subsets can evolve. As a Nobel Prize winner prof. Gel-Mann once observed: *we do not need something else to get something else* [6].

Economy can be perceived as essentially the process of transforming raw components (materials, information, money, ideas etc.) into products such as books, bread, cars, ideas etc. that themselves facilitate further transformation of products, and so on. Hence, it is perfectly sensible to view economy or large organizational systems as emergent autocatalytic set, exhibiting some sort of functional closure. Consequently, the autocatalytic sets may explain the origin of life, the nature of emergence and provide a foundation for understanding the development of economic and organizational systems.

Here it is one of the ways the order in organizational systems might be originated – order for free. Order may be arising naturally from the laws of physics and chemistry, and perhaps also the economic, social and management systems; order emerging naturally from molecular chaos and manifesting itself as a system that grows. Isn't the Internet this kind of chaos? Isn't the Internet an autocatalytic set, then?

Let us note: any given molecule participating in the autocatalytic set would have looked pretty much like any other. Its nature was not to be found in any individual piece of a set, but in the overall dynamics of the set: in its collective behavior. If this is true, the origin of order (life) did not have to wait for some ridiculously improbable event to produce a set of enormously complicated molecules. The real key to development is then to get an entity that could survive and reproduce itself; after that evolution can do its work in a comparatively short order. The whole concept of an autocatalytic set provides us with much too illustrative a metaphor to pass it up.

It is because, in a very real sense, economy and business are autocatalytic sets. If development results from new combinations of old elements, then the number of possible new elements would go up very rapidly as more and more elements become available. Thus, if the economy and organizations become more global and internally diversified (contain more different kinds of agents) then it is likely to produce more new phenomena. That probably explains the unprecedented speed of development in the last decades.

6. The third-order phase transition

In fact, once we get beyond a certain threshold of complexity we can expect a kind of phase transition analogous to the one we find in autocatalytic sets. Just look at the vigorously growing information technology industry that certainly is an example of a phase transition. Some 70% of its income today comes from products that did not exist 5 years ago.

The existence of a phase transition helps us to understand why diversity of elements is critical to economy and organizations. It is because injecting a new molecule

into a set can often transform it entirely. Just consider the examples of automobiles or computers.

An important distinction has to be made here. The first-order transitions, as we know them, are the kind that we are familiar with: sharp and precise, water-and-ice type, e.g.: setting up (or closing down) a new company, a merger, an introduction of a new product on the market etc.

Second-order transitions are much less common in nature and less obvious. It is because the elements („molecules") in such a system do not have to make that either-or choice. They combine both chaos and order, and the balance between them is constantly shifting in a complex, ever changing interplay. The order spreads out across chaos for arbitrarily long distances and arbitrarily long time, in a pulsating way.

The third order phase transition is making a new order out of those pulsations of order and chaos that have reached the bifurcation point(s). The third order phase transition is then the origin of evolution.

Thus, *evolution is chaos with feedback* as the physicist Joseph Ford once put it. The world (Universe) is randomness and dissipation. But randomness with direction can produce surprising complexity. *Dissipation is an agent of order*, Edward Lorentz, the father of chaos theory, concluded.

God doesn't play dice with Universe, said Einstein arguing against the leading role of randomness in the evolution of the Universe. In the light of the complexity theory and the concept of autocatalytic sets one may now respond to this statement by saying: *Yes He does, but they are loaded dice.* They are loaded with the autocatalytic abilities.

7. Toward the new economics?

The complexity theory, if taken seriously, requires a change in the traditional approach to economic and management thinking [based on: 15]:

Economics, Management Theory

Old	New
* decreasing returns	* much use of increasing returns
* based on 19th century physics (equilibrium, stability, deterministic dynamics)	* based on biology (structure, pattern, self-organization, life cycle)
* people identical	* people separate and different
* if only there were no externalities...	* externalities and differences become a driving force
* elements are quantities and prices	* elements are patterns and possibilities
* no real dynamics (everything at equilibrium or in search of it)	* economy/management constantly on the edge of time, order and chaos

8. The Catastrophe Theory and a new concept of change

Some 40 years ago, French mathematician René Thom criticized biology as being „a graveyard of facts". He was not questioning the facts though – he criticized the graveyard. He wanted a theory to organize all facts, and, in a way, bring the graveyard to life.

Thom was interested in the phenomena of sudden change or morphogenesis, or – as we may call it now – the 3rd order transition (systemic transformation). He proposed seven models of '*catastrophes*' (sudden, radical changes) differing in the number of control parameters. The theory itself was not successful in the scientific circles but its methodological assumptions were incredibly powerful. Combined with the chaos theory, Thom's concept offers an entirely different approach to transformational changes[3].

Traditionally, when faced by a systemic change we look for its cause assuming that there must have been some variable that had reached its critical level and caused it. When we cannot find it, and that happens very often, then the cause of the transformation remains mysterious. This was the case with the above-mentioned post-socialist revolutions, stock markets crushes or the critical problems on international money markets. We could not explain them because in most cases none of their variables reached its critical state. It is the *crisisogenic* structure of elements – not a single element – according to Thom that is responsible for crises to actually occur. There can be many *crisisogenic* structures for a given system. They are represented by Thom's multidimensional models.

This concept takes us far from simple measurement of system parameters, as we tend to do in most economic and management analyses, towards the much more important problem of their structures.

9. Morphogenesis

The understanding of the systemic transformation phenomenon was taken even further by the concept of *morphogenesis*. Fritz Zwicky used this term to describe the evolution of galactic forms out of the primordial chaos. A new form, unpredicted by any of its parts, can arise in such a system. The requirements for morphogenesis are: diversity, openness, complexity, mutual causality, and indeterminacy. It also opens up a fascinating topic for management research: the study of the possible structures of organizational parameters that are potentially crisis-generating ones.

[3] Extensive explanation of the concept may be found at: [9].

Morphogenesis and dissipative structure

Ilya Prigogine received a Nobel Prize for his theory of dissipative structures that derives lots of its assumptions from Thom's work. It describes the way in which complex systems in the open environment make a transition from lower to higher complexity. It is the fluctuations of system parameters mutually affecting each other that lead to the formation of new structures. Deterministic causality is replaced here by the unpredictable possibility of creating a „new" by morphogenesis, i.e. mutual interactions of fluctuations.

Prigogine called this concept *order through fluctuations* [13]. It helps to understand the complicated game between individual and collective behavior of the system. Complex systems may continuously pass through several levels of equilibrium mastering their adaptive abilities on the way, and improving their chances for survival. Transformation is a result of a series of „conscious" disequilibriums. Those, in turn, are created by micro-fluctuations being random attempts at establishing new adjustments to the environment [12]. When it is successful, then the positive feedback amplifies the fluctuation to the level of *bifurcation*. Bifurcation is a point at which the fluctuating process „has a choice" and „makes decision" as to which way it will develop further. As a result, the present structure breaks down and is being transformed into a new more stable equilibrium. This process is called *deterministic chaos*. It is chaos because we cannot predict which way it will go at each bifurcation point.

10. Hysteresis

With relation to bifurcation, the strange and enlightening phenomenon known as *hysteresis* has to be mentioned here. Despite its physical origin it may bring a lot of insights into organizational strategic thinking. The hysteresis is both bizarre and common. It applies to everyday life, and business. Most people are familiar with the fact that for the same single position of the water faucet handle, water flows out of the faucet differently, depending on whether we have turned it down slowly or quickly from the „full on" position.

The important point is this: between 2 points there are 2 possible states of the system. Knowing the exact equation of the motion is not enough to understand the behavior of the system with the hysteresis effects. We also have to know the „history" of that process. The term "history" is used here in the very limited sense of „the record of past behavior".

In fact, almost every system that undergoes bifurcation (including business systems, naturally) is a likely candidate for this type of effect. That raises a question about the possible consequences of this phenomenon for management and economic

research and practice. To what extend do we have to know the history of the organization to fully evaluate its present state?

Chaos Theory – the study of system's geometry

All this brings us to *chaos theory* – a relatively young field of scientific inquiry that stretches across many disciplines and uses most of the concepts of complexity and morphogenesis that have been presented so far in this paper. It attempts to study dynamic nonlinear systems qualitatively, meaning it is asking about the general character of their long-term behavior, rather than seeking to arrive at numerical predictions of their future state. In this sense it is quite related to strategic studies in management and economics as it typically asks such questions as: what characteristics will all solutions of this problems exhibit, and how does this system change from exhibiting one kind of behavior to another. The chaos theory offeres us, then, the *geometry of a system's behavior* rather than its algebra.

There are, then, two meanings of the word *chaos*:

- an equivalent of no order, randomness and messiness as we use it in every-day language;
- and, as it is understood by the chaos theory, the deterministic yet unpredictable complexity resulting from simple behaviors.

Thus, the chaos theory is a fascinating concept with a wrong (misleading) name. It is a qualitative study of deterministic, nonlinear, and dynamical systems with unstable and aperiodic behavior.

Unstable behavior means that a system never settles into a form that resists small disturbances. Even small disturbances, in certain circumstances, can take the system out of balance due to the positive feedback mechanism. As it was mentioned earlier, the neoclassical economics did not treat small disturbances seriously enough as it believed that the powerful stabilizing forces based on negative feedback would always diminish their effect and restore the balance.

With reference to the previously mentioned feature of „insensitivity to most policy changes" we may add that these disturbances have to occur in the „sensitive" areas, otherwise the system remains stable.

Aperiodic behavior occurs when no variable describing the state of the systems undergoes a regular repetition of values. It is highly complex. It never fully repeats itself and it continues to manifest the effects of any small perturbation.

Such behaviors that are both unstable and aperiodic may be initially hard to picture, but in fact there is plenty of it around. Examples include human and economic history, stock markets, weather etc.

11. The far-reaching philosophical consequences of chaos

The chaos theory brings about a tricky yet fundamental methodological problem. Typically, the major methodological approach in the history of science has been search for repetitive patterns. Out of the whole ocean of data that flow toward us it is only those that form recognizable patterns over time that we consider "valid", representing some „real" law (rule) at work.

In chaos, data describing an aperiodic and unstable system usually do not form any identifiable pattern that „makes sense" in the traditional scientific meaning of „sense". Consequently, we consider them noise and reject as not having any importance. This is, indeed, a sure way to concentrating on symptoms rather than on causes in complex system's analysis.

We are accustomed to think that a behavior that is both aperiodic and unstable is either „chaotic" in a popular sense, or it has to be caused by complex interactions of a large number of agents. Yet, the central insight of chaos theory, both new and important, is that systems can exhibit elaborate and complex, indeed unpredictable behavior, and still result from simple causes. To put it the other way around: in real world, in many instances of apparent „chaos" and no order there may be very simple causes behind them.

Much of nature does have a hidden order, and some of it may be coded in simple rules, called *fractals*. As it is demonstrated by the very vigorously developing field of fractal design, even complex images may be a result of simple fractals multiplied many times according to a certain simple pattern. In some sense, as Barnsley contended, nature must be playing its own version of the chaos game [2]. That brings us to the intriguing question of a possible fractal order of economies and societies. Benoît Mandelbrot, the father of fractal geometry made an inspiring presentation of how this kind of analysis may be both enlightening and useful in his book on the (mis)behavior of markets [11]. The intrinsic unpredictability of unstable and aperiodic systems results from the feature of all chaotic systems known as *sensitive dependence on initial conditions*. It means e.g. that two systems (processes) that start very close together may eventually move very far apart. Two leaves put down „at almost the same spot" at the top of a waterfall may well end up yards away from each other at the bottom. Two companies that are „almost the same" may develop entirely differently after some time.

This feature makes the chaotic system unpredictable because even the smallest degree of vagueness in specifying the initial conditions may grow enormously thus creating big errors in the calculation of the system's future state.

With the chaos theory, science is again in a process of recognizing its own limits, for this idea forbids us from ever being able to predict the destiny of a dynamic

system whose flow is on a strange attractor no matter what we do. It is so because chaotic systems require impossibly great resources for accomplishing useful predictions. Scientists of all fields did not expect that, for they accepted a methodological assumption that small errors in specifying initial conditions would remain small in further computations.

The strange attractor is one of the central concepts of the chaos theory, still little understood but both instinctively felt important and providing us with another useful metaphor. A strange attractor is a set of points in the „space of the system" such that all trajectories nearby converge to it. It is called strange because it demonstrates two seemingly contradictive effects: they are attractors, and they exhibit sensitive dependence on initial conditions which means that trajectories initially close together on the attractor diverge rapidly. An attractor may be e.g. a social leader, a certain interrelation of international currency rates in a given period, or a certain level of stock market activity.

The chaos theory does not simply postulate the impossibility of prediction of certain systems analogous to the postulated finite speed of light. Instead, it offers the term of *predictive hopelessness* to describe a situation, created by the sensitive dependence on initial conditions, in which those predictions we can make fail to provide any information about the system whose behavior we are seeking to predict. We will never be able to predict the future of complex systems, claims the chaos theory.

We face the predictive hopelessness when our best predictions are so inaccurate that the standard "deviation spread" is roughly the same size as the allowable state--space region. The chaos theory does not only argue against the predictability of certain systems, but also leads us to serious doubts about the determinism itself: maybe determinism and prediction do not have to work in tandem? We may never be able to tell which unique trajectory the system will choose. What are the consequences of that for long term economic and management prognoses?

It was Milton Friedman who said that the only criterion for a theory's value is its ability to predict. In this (and only this) sense social theories, indeed, have no value.

12. The legacy of complexity and chaos theories

Let us sum up all the new assumptions, propositions and findings offered by the complexity and chaos theories. There is no question, that they represent a real breakthrough in the traditional way of scientific thinking, and provide it with a fascinating and powerful instrument of enquiry.

They have both enriched the whole science by raising a great number of new methodological questions related to both the scientific enquiry's process and methods.

Their unusually rich legacy of original thinking includes a number of fundamental concepts important for organizational, economic and management studies as well, such as:

- simple vs. complex system's characteristics:
  - the role of the simple intuition;
  - the counter-intuitiveness phenomena;
  - the insensitivity to most policy changes;
  - the short vs. long outcomes of policy changes;
- the importance of positive feedback;
- the lock-in mechanism;
- the nature of autocatalytic systems;
- the concept of complex adaptive systems;
- life as the process of interplay between order and chaos:
  - the evolution as chaos with feedback
- catastrophe theory's position on transformation: structure as the key to systemic change;
- concept of morphogenesis: order out of chaos;
- understanding the nature of dissipative structures;
- concepts of bifurcation and deterministic chaos;
- concept of hysteresis: on the importance of history of a process for understanding its present;
- the study of complex systems as search for geometry of behavior;
- the nature of aperiodic and unstable behaviors;
- the concept of fractals: simple causes of complex behavior;
- the sensitive dependence on initial conditions and its philosophical consequences;
- the concept of the strange attractor;
- the notion of Predictive Hopelessness;
- the questioning of the traditional link between understanding and predictability.

Complexity and chaos theory have, indeed, a lot to offer. They generate pretty pictures. They represent the latest thing in science. Is this enough, however for the big fuss surrounding the complex nonlinear dynamic system's theories?

One of their most intriguing suggestions is the revision of our notion of scientific understanding. Science must now be seen as holistic, de-centered and dialogic. They provide us with a „new microscope" for looking at complex systems. They also help us to think about and respond to some aspects of the world in an interesting and useful ways. They enable us to understand how complex, unpredictable behavior appears in simple systems. And, what is of utmost importance, they completely change the beliefs on what it means to know something.

The complexity and chaos theories bring us to the conclusion that there are, in fact, three levels of understanding of the (business) world:

1. The level of STARING AT. Typical behavioral strategy: *Everything is a chaos, an unpredictable game of circumstances, an unclear plot of facts, phenomena, causes and results. Since we do not understand the reality that surrounds us, then life (business) is all about mobilizing quick defensive responses to the unexpected developments.*
2. The level of SEEING – there is some order hidden behind the apparent chaos. Typical behavioral strategy: *Different phenomena are governed by different rules of "if A than B". The world is a complex but readable picture. Thus, life (business) is about selectively applying the whole range of all these if-A-than-B rules in different situations to be able to cope with the changes.*
   This strategy may serve us well in many business situations; after all, we usually do know what is going to happen if, e.g., the prices go down or the unemployment goes up, or the interest rates change. However, it may create some risk by making us think that we already see everything that is to be seen in a complex reality to fully understand it. In most cases it is just an illusion.
3. For this purpose we need the Level of UNDERSTANDING of the fundamental rules that govern the visible order. The typical behavioral strategy: *Just as the apparent chaos is governed by many specific rules (concerning human behavior, economic processes, supply and demand, stock market changes etc.), they are all, in turn, governed by the more general rules.* The principal strategy at the level of understanding is using the system's own forces for making the planned changes or strategic moves.

As examples in physics may serve: the laws of gravity, electromagnetism and intra-atomic forces on the one hand, and the unified field theory (still to be discovered) on the other. Is a unified management of economic theory possible at all? In one of his books, George Soros declares at some point that he "understands the nature of capital markets" [14]. Another highly successful investor, Warren Buffet, is famous for saying frequently that he only invests in businesses he understands. Neither of them ever explains, though, what it is that they understand and what is the meaning of the term "understanding" they use. However, it seems quite clear that for them "understanding" is something more than "knowing about".

Conclusions

For a long time, science neglected disorder despite the fact that it is the omnipresent phenomena in nature, starting with the formulation of clouds, to turbulence at sea, the fluctuations of markets, the oscillations in the heart and the brain. Science

was too busy tracing patterns and regularities in search for universal laws. It was only in the 1970s that some physicists, mathematicians, chemists and biologists started trying to look for a way through disorder and find the connections between different kinds of irregularity. As James Gleick pointed out in his *Chaos: Making a New Science*, a book that initiated and popularized broad interests in this new approach, the results were striking: cardiologists found a surprising importance of chaos in the human heart, ecologists explored the rise and fall of gypsy moth populations, economists analyzed the historical stock market data and came out with new insights, tried a new kind of analysis, the astronomers found new explanations for galactic clustering of stars [7].

Chaos provides science with a new overwhelmingly powerful metaphor. Now, wherever science looks there is chaos and complexity: in the behavior of societies, the stock market, the physiological processes, the brain, the formation of the coastline and the solar systems. No matter what the medium, they obey the same laws of disorder. Indeed, where chaos begins, the classical science, as we know it, stops. Chaos breaks across the lines that separate scientific disciplines as it makes claims about the universal behavior of random, complex systems. It creates a new class of problems that defy the accepted methodologies in science.

Typically, scientific research is seen as primarily an analytic enterprise working by deduction. It is not; actually it works by applying metaphors. At the basic general level science has always used some cognitive metaphor, a kind of prism through which it looked at the world. Each period in the history of science had its own metaphor. Today, the previous Newtonian mechanistic metaphor of clockworks, leverages and transmissions is being replaced by the metaphors of morphogenesis, holograms and *heterarchies* (non hierarchical systems with many control points at different levels). Much of it is, in fact, derived from the complexity and chaos theories.

The acknowledgement of chaos creates a revolution of ideas in science. There are a lot of reasons to believe that, e.g. in physics, the twentieth century will be known for only three major theories: Relativity, Quantum mechanics, and Chaos. As one physicist puts it: *Relativity eliminated the Newtonian illusion of absolute space and time; quantum theory eliminated the Newtonian dream of a controllable measurement process; and chaos eliminates the Laplace's fantasy of deterministic predictability* [1]. It inevitably raises the question of what theories in economics, management or social sciences in general originated in the twentieth century will be still worth remembering a hundred years later, and why?

Thus, the revolution in science marked by the transition in major paradigms, from the Newtonian metaphor of 'system-as-mechanism' to the 'holographic' metaphor – the quantum-based, relativistic, morphogenetic systems with deterministic chaos – is not limited to natural sciences only. In fact, it concerns all and any disciplines that deal with complex, multi-agent systems with horizontal causality. The management

and organizational theory (or, rather, theories) obviously falls into this category. Then, scientists should closely watch the developments in this new paradigm as it may fruitfully expand their methodological and analytical toolbox.

References

[1] Atkinson A., *Chaos theory and fractals, a revolution of ideas*, http://angelartweb.net/page_de_discussions_eng.htm, [August 10, 2013].

[2] Barnsley M.F., *Fractals Everywhere: New Edition*, Dover Books on Mathematics, 2012.

[3] Brown S.L., Eisenhardt K.M., *Competing on the Edge: Strategy as Structured Chaos*, Harvard Business Review Press; 1998.

[4] Forrester J.W., *Counterintuitive Behaviour of Social Systems*, "Technology Review", Alumni Association of the Massachussets Institute of Technology, updated March 1995.

[5] Foster R., *Creative Destruction Whips through Corporate America*, Innosight, Executive Briefing, Winter 2012.

[6] Gell-Mann M., *The Quark and the Jaguar: Adventures in the Simple and the Complex*, St. Martin's Griffin, 1995.

[7] Gleick J., *Chaos: Making a New Science*, Kindle Edition, March 22, 2011.

[8] *Historical Development and Applications of the T21 Model*, http://www.millenniuminstitute.net/integrated_planning/tools/T21/timeline.html, [June 10, 2013].

[9] http://www-history.mcs.st-andrews.ac.uk/Biographies/Thom.html

[10] March J.G., Simon H.A., *Organizations*, 2 edition, Wiley-Blackwell, 1993.

[11] Mandelbrot B.B., Hudson R.L., *The (Mis)Behavior of Markets: A Fractal View of Risk, Ruin, and Reward*, Basic Books, New York 2004.

[12] Prigogine I., *Chaos, and Dissipative Structures*, http://www.osti.gov/accomplishments/prigogine.html, [July 26, 2013].

[13] Prigogine I., Stengers I., *Order Out of Chaos*, Bantam, 1984.

[14] Soros G., *The Alchemy of Finance*, Wiley Investment Classics, 2003.

[15] Waldrop M.M., *Complexity: The Emerging Science at the Edge of Order and Chaos*, Simon & Schuster, 1993.

EXPANDING THE TOOLBOX OF ORGANIZATIONAL AND MANAGEMENT THEORY: COMPLEXITY, MORPHOGENESIS, CATASTROPHE AND CHAOS

Abstract

The paper attempts to analyze the applicability and transferability of chaos and complexity theories and related concepts for the field of organizational, management and economic disciplines. It is based on the assumption that since the latter also deal, in fact, with highly complex, multi-faceted and multi agent systems such as societies, economies and large organizational structures dominated by nonlinearity and predictive hopelessness they, indeed, have a lot to learn from findings and metaphors derived from the previous, seemingly "distant" ones. The concepts discussed include: complexity phenomena, catastrophe theory, morphogenesis and autocatalytic sets, counterituitiveness of socio-economic systems, third-order phase transition and, finally, the chaos theory understood as the qualitative study of deterministic, nonlinear, and dynamical systems with unstable and aperiodic behavior.

SIGNE VESSO*, RUTH ALAS**

THE MAIN COACHING AREAS FOR ESTONIAN LEADERS FOR MANAGING ORGANISATIONAL CHANGE

Introduction

Since organizations are facing constant change leaders need to be constantly changing.

Senge (1997) mentioned that human beings are more complex than we often assume. Employees' attitudes towards change are related to the leaders' impact. The role of leaders is significant in the change process and therefore it is important to find opportunities which would help the leaders themselves to change efficiently in a changing environment.

If Estonian enterprises want to develop future leaders for successful change management it has to be known what the main needed coaching areas for leaders are. Coaching has widely been recognized as an effective tool in developing leaders. Nowdays in order to put change into practice successfully it is important for leaders to use their impact, communication skills and employee coaching in addition to formal power with awareness. It is important to support employees to be an active part of changes instead of being changed by someone else. A participatory style of leadership and choosing the management practices which help to create a learning environment form a great part in the success of the change process (Alas et al., 2009). Leaders need to focus on their personal influence, and also on the relationship orientation and task orientation in teams.

The aim of this paper is to find the main coaching areas for Estonian leaders towards effective change management. This paper consists of a theory about change

* **Signe Vesso, Ph.D. student** – Estonian Business School.
** **Ruth Alas, Ph.D., Professor** – Estonian Business School.

management, leadership, organizational culture, coaching, and trust. The theory is followed by an empirical study on Estonian enterprises.

1. Theoretical framework

1.1. Change management

While, historically, organizations often faced single focal changes, now they are facing constant change (Kotter, 2008). According McKinsey (2008) only a third of organizations implementing change achieve a real performance improvement.

Lawer and Worley (2006) argue that rather than creating change efforts, organizations should be "built to change". Business students are traditionally taught about the tools of analysis: finance and accounting, operations management, and strategy. The product of such an education may be great thinkers but they may not necessarily be good at communicating their ideas, influencing others to work toward shared goals, or collaborating with others in a team. (Hunt, 2002). The results of this excessive focus on analysis can be seen in poor change management.

In order to implement changes successfully, several support processes are needed to identify resistance as an obstacle to overcome (Armenakis and Bedeian, 1999).

Ackerman (1986) describes three types of organizational change: (1) developmental change, (2) transitional change, and (3) transformational change. Leaders should be trained so that they would be capable of constantly implementing foremost (1) developmental change, and (2) transitional change.

Since transformation change is the most difficult to carry out, then leaders especially need support for that. In those cases it would be wise to use help from outside coaches because those changes are also intimidating for the leaders themselves.

1.2. Leadership

According to Gardner (1997) *leader* is a person who, by word and/or personal example, markedly influences the behaviors, thoughts, and/or feelings of a significant number of their fellow human beings.The core of almost all leadership definitions concerns influence – that is, how leaders influence others to help accomplish group or organizational objectives (House et al., 2004). Among the most common outcomes of leadership behaviors is the facilitation of organizational change (Bass et al., 2008; Kotter, 1990). Leadership scholars frequetly define leadership in terms of the leaders'role in bringing about change (Bass et al., 2008).

To grasp the opportunities and lessen the anxiety that come with change processes, leaders must have collaborative, problem-solving and influencing skills, an astute

understanding of how to analyze complex processes and grasp the intricacies of their company's value chain, as well as the ability to deal with inefficiencies (Kets de Vries, 2008).

If leaders want to achieve organizational changes then as the first stage they should implement changes in themselves. Only then can leaders change their own attitude and behaviour. According to social scientists, behaviour is a function of the meaning of a given situation. Participants in social events bring to them prior meanings and stereotypes, which can be understood only in a historical and cultural context (Sahlins, 1985). Employee attitudes are considered an indicator of the future success of an organisation (Hurst, 1995). It has been postulated that attitudes motivate behaviour (Eagly et al., 1993).

Through leaders' interpretations of organizational reality and their choices of employee behaviors and outcomes to be emphasized, leaders of organizations substantially influence what their organizations will look like (Hambricket al, 1984; Miller et al., 1988).

The empirical studies indicate that leadership has effects on team motivation, efficacy, and performance (Sivasubramaniam et al., 2002; George, 2000; Schein, 1985; Dickson et al., 2001) primarily through the development of a climate in a team (Piloa-Merlo et al., 2002).

According to Hackman (2003), work team effectiveness is a function of three performance processes: effort expended by team members, the match between the task, situation, and performance strategies employed by team members, and the level of knowledge and skills they possess.

Gavin and Hofmann (2002) studied the relationship between the significance of an individual task and hostility behavior, and found a significant moderating effect of leadership climate. They underscored that in contexts with a supportive leadership climate, the effects of task significance on hostility are attenuated.

1.3. Organizational culture

Several theorists have pointed out *task-orientation and relationship-orientation* of organizational culture: Kilmann and Saxton (1983) and Cooke and Lafferty (1986) focus on people versus task; Goffee and Jones (2000, 2001) particularise sociability, which is similar to relationship-orientation and solidarity, and similar to task--orientation; Harrison (1995) distinguishes between power culture, role culture, achievement culture and support culture. Roots (2002) in his monograph about typologies of organizational culture points out, that from these four types two – achievement culture and support culture – are more relevant today than the others. The former is similar to task-oriented and the latter to relationship oriented organizational cultures. In the context of organisational change, task-orientation

could influence people's attitudes by establishing clear goals and developing values, which could help the achievement of these goals at all levels of an organisation. But achieving employee participation at the beginning is not enough; ensuring that the change process does not reverse and building more effective relationships between peers is also necessary (Landau, 1998). Relationship orientation could influence people's attitudes toward change through informal structures and communication (Salancik et al., 1978).

Task orientation of organizational culture reflects the extent to which all members are willing to support the achievement of common goals. A certain degree of freedom, acknowledgment of good work done and the occurrence of constant positive change inspires organizational members. It makes people think more about the needs and objectives of their organization (Vadi et al., 2002).

Relationship orientation of organizational culture indicates belongingness. People assist each other in work-related problems and discuss all the important topics with each other. People know how to communicate with each other and there is a strong feeling of unity in difficult situations. (Alas, 2004). Both these orientations are important in the context of organizational change.

1.4. Coaching

In the past 20 years, coaching has received increasing attention and endorsement as an important managerial activity (Bartlett et al., 2002). Some management experts consider coaching to be more important than all other management skills (Barry, 1992).

Coaching is about helping other people succeed now and in the future. Coaching can thus be defined as the process of challenging and supporting a person or a team to develop ways of thinking, ways of being and ways of learning. The purpose is to achieve personal and/or organizational goals (Berg, 2006). Coaching is a tool that can develop self-confidence and contribute to actions that create results. Coaching is fundamentally a human change process (Linley, 2006).

According to the Chartered Institute of Personnel and Development (2007), coaching is a major, pervasive learning and development tool used within 71% of surveyed organisations in the UK. Latham et al (2005) also showed that managers in large organisations are increasingly expected to provide coaching to their subordinates.

Setting goals, assessing progress, facilitating improved performance are becoming the major tasks that managers are facing. It is critical for managers to acknowledge employees whose performance and results have improved. A culture of coaching is one in which the regular review of performance and just-in-feedback is expected (Lindbom, 2007).

Establishing trusting relationships, building on peer influence, and striving to align organization and employee goals were determined to be all elements appropriate to incorporate into a culture of coaching.

1.5. Trust

Trust can be viewed as an attitude held by one individual – the trustor – toward another – the trustee (Robinson, 1996). Building trust is the first step towards building a cohesive team (Lencioni, 2012). Watkins (2008) stated that subordinates must have a sincere belief in their leader's full confidence and trust. Without a baseline of trust, a mutually beneficial relationship will not develop because subordinates will not be open and honest with the leader. Positional authority is not a condition of respect; instead, the existence of greater ability will prove to be the basis for respect. Secondly, performance standards must be established for work and personal conduct. Subordinates do not appreciate unwarranted praise and are interested in candid performance feedback. Subordinates appreciate positive or negative feedback, as long as the feedback is accurate. The leader's adherence to performance standards lends validity to the leader's approval. Thirdly, the leader needs to establish a team environment in which subordinates are able to participate and feel good about their contributions.

The single cultural trait with the largest impact on employees performance is a culture of risk taking. Risk taking – a culture in with employees are provided with incentives and encouragement to work on new ideas despite uncertain outcomes or initial failures – can improve employees performance by a striking 39 percent (2002 Corporate Leadership Council). One needs a high level of trust to take risks. Cataldo et al (2009) found that organizations that wished to improve employee development programs needed to create a culture of trust so that employees were comfortable to share opinions.

Interpersonal trust improves cooperation as a result of the effective working relationships that develop between individuals (Massey and Kyngdon, 2005) but it takes a significant amount of time and energy to build trust.

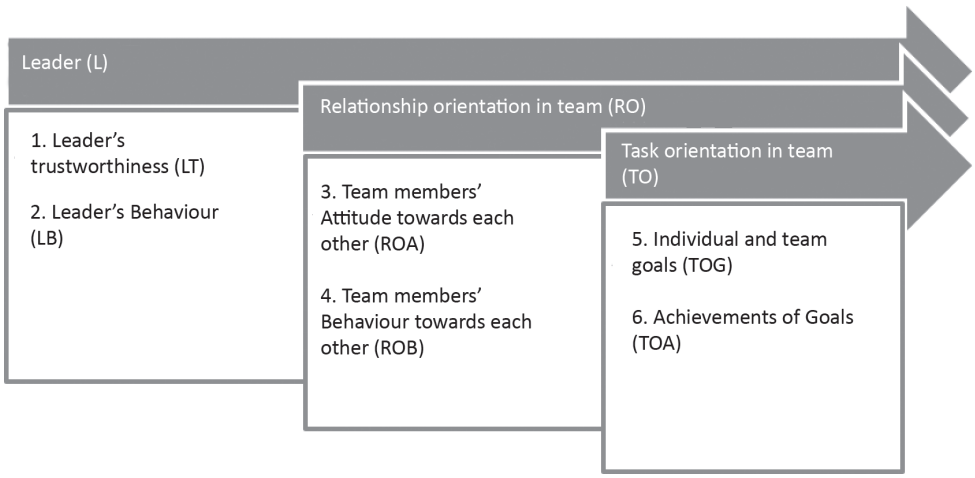
2. The theoretical model for the empirical study

Based on existing literature, the author developed a theoretical model for the study (Figure 1).

The model consists of three levels: (1) Leader (L), (2) Relationship Orientation in a team (RO), and (3) Task Orientation in a team (TO). These levels on its own are divided into two further levels.

Leader (L) consist of Leader's trustworthiness (LT) and Leader's Behaviour (LB). Relationship Orientation in a team (RO) is divided into Team members' Attitude towards each other (ROA) and Team members' Behaviour towards each other (ROB). Task Orientation in a team (TO) consists of Individual and team goals (TOG) and Achievement of Goals (TOA).

Figure 1. Components of influencing leaders change management ability



All these levels influence the leaders ability to manage change and they are interconnected.

The first level – **The leader** has the most influence on the implementation of organisational changes. Two aspects have been brought out from leadership in this model: the leader's trustworthiness and the leader's behavior. Does the leader create trust and how easy is it to communicate with leader; is the leader instructing and coaching team members, can he/she create positive energy through his/her behavior which is needed for successful change initiation and implementation etc.?

The second level in the model is **Relationship Orientation** in a team. There are two aspects brought out from that level in the model. The first one is team members' attitude towards each other – how well do the team members know each other, do they have fun together and how open are they to help each other? The readiness to contribute to achieving common goals depends on that. The second one is team members' behavior towards each other – how much people encourage, acknowledge each other and give supportive feedback to improve results – these demeanors can help achieve goals.

The third level in the model is **Task Orientation** in a team, which has two components. The first one is the setting of individual and team goals – does everyone have clear and measurable personal goals, does the team have a the best goal on the team level to achieve, is the team focused on solutions, there are team "game rules"? That is the prerequisite for implementation. The second one is the achievement of goals – how well is the team informed about how close they are to their goals, do they take time to analyze it together, are they doing the right things and are they doing them right, how persistent are they and is success celebrated?

Based on the proposed theoretical model three hypotheses are suggested:

H 1: Leaders evaluate themselves and the team situation higher than team members.

H 2: Leaders' highest evaluations of relationship orientation and task orientation of a team are in big enterprises.

H 3: Leader's trustworthiness influences the relationship orientation and goal orientation in teams.

3. The empirical study

The empirical study was conducted with 336 respondents. The author developed three scales based on existing literature. The participants were 149 leaders and 182 team members from Estonian organizations. From the participants 24.4% were representatives of large-scale enterprises; 39.58% were from small businesses and 18.15% were from state-owned companies.

The *first* scale Leader (L) was composed of 6 questions; 3 questions about the leader's trustworthiness (LT) and 3 questions about the leader's behavior (LB). The *second* scale Relationship Orientation in teams (RO) was composed of 6 questions; 3 questions about the team members' attitude towards each other (ROA) and 3 questions about the team members' behavior towards each other (ROB). The *third* scale Task Orientation in teams (TO) was composed of 8 questions; 4 questions about setting individual and team goals (TOG) and 4 questions about achievement of goals (TOA). The internal consistency, or Cronbach's Alpha coefficient, is between .848 and .923 for all scales.

In order to test the hypotheses, groups of respondents were compared with the ANOVA and T tests.

4. Results

H1 stated that leaders value themselves and the team situation higher than team members. This hypothesis found support (Table 1).

Table 1. Managers and Team-members

	Leader (L)		Relationship Orientation in Team (RO)		Task Orientation in team (TO)	
	Mean	SD	Mean	SD	Mean	SD
Managers N=151	7.45	1.91	7.45	1.79	6.91	1.89
Team-members N=180	6.09	2.47	6.45	2.29	5.79	4.70
T-test .p	.000		.000		.000	

Note: Bold indicates statistically significant differences according to T-test.

According to T-test in all scales leaders value themselves and the team situation higher than team members.

H2 stated that the highest results are in large-scale enterprises since they have more resources to constantly deal with the development of leaders. Hypotheses found support (Table 2). According to results in Table 2 big companies results in all scales are higher than small companies and state companies.

Table 2. Leader, Relationship Orientation in a team and Task Orientation in a team in Big Companies, Small Companies and State Companies

Big Companies N =82	7.21 2.00	7.02 2.07	6.77 2.05
Small Companies N=133	6.5 2.50	6.9 2.08	6.17 2.27
State Companies N=61	6.33 2.53	6.58 2.41	6.01 2.41
Total N=276	6.67 2.39	6.83 2.16	6.31 2.25
Anova test – p	.048	.456	.081

According to ANOVA there were no statistical significant differences between these three groups of companies.

To find answers to hypotheses 3 the whole sample was divided into three equal groups according to how respondents rated the scale Leader's Trustworthiness'. The result was three groups: groups with low, intermediate and high evaluations of the leader's personality. The average indicators for the rest of the 5 scales were calculated for those groups. According to the Anova test in all five scales the averages were statistically significantly different.

Table 3. Higher, medium and lower group

Leader's trustworthiness		Leader's trustworthiness (LT)	Leader's behaviour (LB)	Leader (L)	Team-members' attitude towards each other (ROA)	Team-members' behaviour towards each other (ROB)	Relationship Orientation in Team (RO)	Individual and team goals (TOG)	Achievement of goals (TOA)	Task Orientation in team (TO)	Total 6 scalas
lower group	Mean	4.12	3.90	4.03	5.51	4.46	4.98	4.45	4.06	4.26	4.41
N=112	SD	1.56	1.95	1.57	2.03	2.11	1.92	1.80	1.83	1.74	1.88
medium group	Mean	7.70	6.68	7.18	7.38	6.78	7.08	6.51	6.62	6.57	6.94
N=112	SD	.690	1.62	0.99	1.25	1.63	1.33	1.73	1.80	1.67	1.45
higher group	Mean	9.48	8.24	8.90	9.01	8.29	8.65	8.11	8.00	8.06	8.52
N=112	SD	.44	1.57	0.76	1.01	1.54	1.18	1.39	1.50	1.36	1.24
Total	Mean	7.11	6.27	6.70	7.30	6.51	6.90	6.36	6.23	6.30	6.62
N=336	SD	2.45	2.49	2.32	2.07	2.37	2.13	2.23	2.37	2.23	2.33
Anova test – p		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Note: Bold indicates statistically significant differences according to ANOVA test.

H3 stated that leadership influences the relationship orientation and goal orientation in teams.

According to results of Linear Regression analysis, hypotheses found support.

Also, according to results in Table 3 in the higher and medium group were high LB and also high RO and TO. In the lower group was lower LB and also low RO and TO. The lower group is characterized by the fact that LI was lower than RO.

In big companies leaders' (L) evaluation is the highest, the next is relationship orientation (RO) and task orientation(TO) is the lowest (L 7,20, RO 7,02 and TO 6,76). The scales are in the same order as in big companies also in higher (L 8,85, RO 8,65, TO 8,05) and medium (L 7,19, RO 7,08, TO 6,56) groups according to leaders' trustworthiness. But in the lower group according to evaluations on leader's personality (L 4,0, RO 4,98, TO 4,25) relationship orientation (RO) and task orientation (TO) were evaluated higher than leadeship.

Discussion

The first hypothesis that found support stated that leaders evaluated all scales higher than team members. The highest difference was in evaluations about leadership: leaders rated leaders' trustworthiness and behavior higher than employees. Therefore leaders and team members see the situation diffrently and also react differently. Since

leaders are often not aware how team members see them and what impact they have on their teams, they do not see the need to change themselves. Secondly, since the leaders evaluate the situation better than the team members, they do not see the need to change the situation. Often the leaders expect that the employees trust them and hope that people will give them feedback when something is not working. But in reality the subordinates see the leader as less reliable and keep the information about the real situation just to themselves.

The secondly study found that the results of big companies are higher than small companies and state companies companies on all scales. The lowest results are in state owned companies. In state companies all scales, except leaders' behavior, were lower than in big and small companies. On the one hand, it can be explained by the fact that state companies do not traditionally set as challenging goals as private companies do. The biggest difference is leaders' trustworthiness, from which a conclusion can be drawn that relationships between leaders and employees are better in private companies than state companies. Therefore in the development of leaders of state companies, the most important topic is to increase the leaders' awareness of the influence of their personality.

In small companies as well as in state companies the relationship orientation was higher than leadership and all scales were lower than in big companies. Probably Estonian big companies have made the most effort in leader development.

The most interesting results came from the last hypothesis. The whole sample was divided into three groups according to the influence of team leaders' trustworthiness – high, medium or low. In the higher and medium groups leadership was evaluated as highest, followed by relationship orientation and task orientation of teams. Those leaders can have the desired effect on a team, to achieve high relationship orientation and high task orientation. In the group with lower evaluations of leaders' trustworthiness also the relationship orientation and the task orientation of teams were lower than in the previous two groups. When the evaluations of leaders are lower than of the relationship orientation, then it is hard for the leader to initiate change and to get support. This leader is not able to have the desired effect on the team or does not know how to encourgae the team to make changes. In this case team members may prefer to keep good relationships with each other and rather ignore the leader's ideas and proposals. By finding arguments against the leader's ideas they resist the proposed changes.

To conclude according to the study results the most important coaching areas of Estonian leaders are awareness of the impact of the leaders' trustworthiness and behavior on team members. It is especially important in state owned and small companies. The other important development areas are the goal setting on individual and team levels and achievement of these goals.

References

[1] Ackerman L.S., 1986, *Development, Transition or Transformation: The Question of Change in Organisations*, "Organisational Development Practitioner", December, pp. 1–8.

[2] Alas R., 2004, *Organisational changes during the transition in Estonia: Major influencing behavioral factors*. The Faculty of Economics and Business Administration, The University of Tartu, Estonia.

[3] Alas R., Sun W., 2009, *Organizational Changes in Chinese companies*, [in:] Alas R. (ed.), *Implementation of Changes in Chinese Organizations: Groping the Way through the Darkness*, Chandos Publishing (Oxford) Ltd, Oxford, pp. 1–80.

[4] Armenakis A.A., Bedeian A.G., 1999, *Organizational change: A review of theory and research in the 1990s*, "Journal of Management", 25 (3), pp. 293–315.

[5] Barry T., 1992, *The Manager as Coach*, "Industrial & Commercial Training", 24 (2), p. 14.

[6] Bartlett C.A., Ghoshal S., 2002, *Building competitive advantage through people*, "MIT Sloan Management Review", 43, pp. 34–41

[7] Bass B.M., Bass R., 2008, *The Bass handbook of leadership: Theory, research, and managerial applications*, 4th ed., The Free Press, New York.

[8] Berg M.E., 2006, *Goaching*, Universitetsforlaget.

[9] Cataldo C.G., Raelin J.D., Lambert M., 2009, *Reinvigorating the struggling organization*, "Journal of Applied Behavioral Science", 45 (1), pp. 137–138.

[10] Cooke R.A., Lafferty J.C., 1986, *Organisational Culture Inventory (Form III)*, Human Synergetics, Plymouth, Michigan.

[11] Dickson M.W., Smith D.B., Grojean M.W., Ehrhart M., 2001, *An organizational climate regarding ethics: the outcome of leader values and the practices that reflect them*, "The Leadership Quarterly", Vol. 12, pp. 197–217.

[12] Eagly A.H., Chaiken S., 1993, *The psychology of attitudes*, Harcourt Brace Jovanovich College Publishers, Orlando, Florida.

[13] Gardner H., 1997, *Leading Minds an Anatomy of Leadership*, Harper Collins Publishers, London.

[14] Goffee R., Jones G., 2000, *The Character of a Corporation: How your company's culture can make or break your business*, Harper Collins Business, London.

[15] Gavin M.B., Hofmann D.A., 2002, *Using Hierarchical Linear Modeling to Investigate the Moderating Influence of Leadership Climate*, "Leadership Quarterly", 13 (1), pp. 15–33.

[16] George J.M., 2000, *Emotions and leadership: The role of emotional intelligence*, "Human Relations", Vol. 53, No. 8, pp. 1027–1055.

[17] Goffee R., Jones G., 2001, *Organisational Culture: A Sociological Perspective*, [in:] Cooper C.L., Cartwright S., Earley P.C. (eds.), *The International handbook of Organisational Culture and Climate*, John Wiley & Sons, New York, pp. 3–20.

[18] Hackman J.R., 2003, *Learning More by Crossing Levels: Evidence from airplanes, hospitals, and orchestras*, "Journal of Organizational Behavior", 24 (8), pp. 905–922.

[19] Hambrick D.C., Mason P.A., 1984, *Upper echelons: The organization as a reflection of its top managers*, "Academy of Management Review", 9 (2), pp. 193–206.

[20] Harrison R., 1995, *The Collected Papers of Roger Harrison*, Jossey-Bass Publishers, San Francisco.

[21] House R.J., Hanges P.J., Javidan M., Dorfman P.W., Gupta V., 2004, *Culture, Leadership, and Organizations, The GLOBE Study of 62 Societies*, Sage Publications, Thousand Oaks.

[22] Hunt J.M., Weintraub J.R., 2002, *The Coaching Manager: Developing Top Talent in Business*, Sage Publications, Thousand Oaks.

[23] Hurst D.K., 1995, *Crisis and Renewal: Meeting the Challenge of Organizational Change*, Harvard Business School Press, Boston.

[24] Kets de Vries M., 2008, *Leadership Coaching and Organizational Transformation: Effectiveness in a World of Paradoxes*, INSEAD Working Paper Series 2008/71/EFE.

[25] Kilmann R.H., Saxton M.J., 1983, *The Kilmann-Saxton Culture-Gap Survey*, PA Organisational Design Consultants, Pitttsburgh.

[26] Kotter J.P., 1990, *A force for change: How leadership differs from management*, Free Press, New York.

[27] Landau J., 1998, *Short-lived Innovation: Participation and Symmetrical Relationships in the Italian Public Sector*, "European Journal of Work and Organisational Psychology", 7 (2), p. 233.

[28] Latham G.P., Almost J., Mann S., Moore C., 2005, *New developments in performance management*, "Organizational Dynamics", 34, pp. 77–87.

[29] Lawer E.E.I., Worley C., 2006, *Built to change: How to achieve sustained organizational effectiveness*, 1st ed., Jossey-Bass, San Francisco.

[30] Lencioni P., 2012, *The advantage: Why organizational health trumps everything else in business*, Jossey-Bass, San Francisco.

[31] Lindbom D., 2007, *A Culture of Coaching: The Challenge of Managing Performance for Long-Term Results*. "Organizational Development Journal", Vol. 25, No. 1, Spring, p. 101.

[32] Linley P.A., 2006, *Coaching Research: who? what? where? when? why?*, "International Journal of Evidence Based Coaching and Mentoring", Vol. 4, No. 2, Autumn.

[33] Massey G., Kyngdon A., 2005, *The measurement of interpersonal trust between peer managers: a test of a specific item bank using factor analysis and Rasch Modelling* Working Paper Series, School of Marketing, Faculty of Business, University of Technology, Sydney.

[34] McKinsey, 2008, *Creating organizational transformations*, www.mckinseyquarterly.com, [11.09.2008].

[35] Miller D., Droge C., Toulouse J.M., 1988, *Strategic process and content as mediators between organizational context and structure*, "Academy of Management Journal", 31 (3), pp. 544–569.

[36] Pirola-Merlo A., Hartel C., Mann L., Hirst G., 2002, How leaders influence the impact of affective events on team climate and performance in R&D teams, "*The Leadership Quarterly*", 13, pp. 561–581.

[37] Robinson S.L., 1996, *Trust and breach of the psychological contract*, "Administrative Science Quarterly", 41, pp. 574–599.

[38] Roots H., 2002, *Organisatsioonikultuuri tüübid*, Sisekaitseakadeemia, Tallinn.

[39] Sahlins M., 1985, *Islands of History*, University of Chicago Press, Chicago.

[40] Salancik G.R., Pfeffer J., 1978, *A Social Information Processing Approach to Job Attitudes and Task Design*, "Administrative Science Quarterly", 23, pp. 224–253.

[41] Schein E., 1985, *Organizational Culture and Leadership*, Jossey-Bass, San Francisco.

[42] Senge P.M., 1997, *The Fifth Discipline. The Art and Practice of the Learning Organisation*, Century Business, London.

[43] Sivasubramaniam N., Murry W.D., Avolio B.J., Jung D.I., 2002, *A longitudinal model of the effects of team leadership and group potency on group performance*, "Group and Organizational Management", Vol. 27, No. 1, pp. 66–96.

[44] Vadi M., Allik J., Realo A., 2002, *Collectivism and its Consequences for Organisational Culture*, Working Paper Series. School of Economics and BA University of Tartu, No. 12.

[45] Watkins D, 2008, *The common factors between coaching cultures and transformational leadership, transactional leadership, and high-preformance organizational cultures*, A Dissertation Presented in Partial Fulfillment of the Requirements for the Degree of Doctorate in Management and Organizational Leadership at University of Phoenix.

THE MAIN COACHING AREAS FOR ESTONIAN LEADERS FOR MANAGING ORGANISATIONAL CHANGE

Abstract

The aim of this paper is to find the main coaching areas for Estonian leaders for managing organisational change. Based on previous literature the author developed a model consisting from 3 components: leader, relationship orientation and task orientation of a team. According to the study results the most important development areas for Estonian leaders are awareness of the impact of the leaders' trustworthiness and behavior on team members. It is especially important in state owned and small companies. The other important development areas are goal setting and achievement of these goals.

Key words: leader, task orientation, relationship orientation, change management

GŁÓWNE OBSZARY SZKOLEŃ DLA ESTOŃSKICH LIDERÓW ZARZĄDZANIA ZMIANAMI ORGANIZACYJNYM

Streszczenie

Celem pracy jest znalezienie głównych obszarów szkolenia estońskich liderów zarządzania zmianami organizacyjnymi. Na podstawie dotychczasowej literatury autor opracował model składający się z trzech elementów: lidera, orientacji na relacje i orientacji na zadanie dla zespołu. Wyniki badania sugerują, że najważniejszy obszar rozwoju dla estońskich liderów to świadomość wpływu zaufania i zachowania przywódców na członków zespołu. Jest to szczególnie ważne w małych i państwowych firmach. Inne ważne obszary rozwoju to ustalanie celów i realizacja tych celów.

Słowa kluczowe: przywódca, orientacja na zadanie, orientacja na relacje, zarządzanie zmianą

KATARZYNA HYS*, LILIANA HAWRYSZ**

SYSTEM – INTERDISCIPLINARY UNDERSTANDING

Introduction

The development of a scientific approach to the theory of organization and its management began in the early nineteenth century (Stoner et al., 2001, p. 48). Over the years, on the basis of practical application and science, trends and schools of management formed successively, forerunners of which created, developed and supplemented original or existing conceptions.

The essence of this study is to present an idea of the concept of the system, invoking the fundamental archetypes of the system – known, functioning and described in the history of the civilization's culture, and to present the fields of application of the term *system* as well as the contexts of its use in science, on the basis of an the analysis of Polish and foreign literature.

It is shown in the source texts (Roberts, 1986, pp. 114–355) that one of the first developed, contemporary well-known, applied systems on the earth was the system of written communication. The Sumerians were the inventors, who used cuneiform writing to provide information in time and space. For comparison the Mesopotamians used clay tablets, Egyptians created their own system – hieroglyphics, people of the Indus Valley – picture writing (pictograms), while the Chinese developed keeping records using characters (each concept has a different character). Writing plays a great role in the history of civilization because it makes possible to influence the formation, flow and modification of information.

* **Katarzyna Hys, Ph.D., Eng.** – Department of Production Engineering and Logistics, The Opole University of Technology.

** **Liliana Hawrysz, Ph.D., Eng.** – Department of Economics and Management, The Opole University of Technology.

Writing systems provide only a germ of evidence of the development of the specific systems for particular civilizations of the world, in fact it is a reflection of the level of its development and it gives the possibility of evolution against a background of other communities. The concept of the system has a lot of contexts, so below some examples are presented (Ziółkowski, 2009, p. 17; Jaczynowska, 1984, p. 376; Roberts, 1986, pp. 114–355):

- a system of weights and measures, a timing system, the lunar calendar (the Sumerians, the Mayans, India),
- an agrarian system (the Sumerians, the peoples of India),
- systems of roads and building engineering (Sumer, including the famous ziggurats, Incas, India, Babylonians, Greeks, Romans, peoples of India),
- irrigation (watering) and drainage (Sumer, India, famous for Harappa and Mohenjo-Daro, Egypt),
- a system of waste disposal – landfills (India),
- a system of law (Mesopotamia – the Code of Hammurabi, Assyria – forced conscription, deportation to forced labor, Greece, Rome),
- a monetary system – money as legal tender (Phoenicians, Greeks, Chinese, Romans, Egyptians, Greeks, Mesopotamia and people of the Indus Valley),
- a system of marking goods (goods identification) – India, Greece,
- a system of writing, printing and communication (in Mesopotamia, Sumer, China, Egypt, India, Greece),
- a decorative system (Egyptians – sarcophagi; Greeks – dishes, Romans),
- a military system (Romans, Assyrians – forced conscription, Greeks, Romans),,
- an education system (Greece, Rome, China),
- socio-political or administrative systems (Sumer – the first government inspection: Sumerian channel inspection; Egypt, peoples of India, China, Greece, the Babylonians, Rome),
- or last but no less important – mental systems, typical of groups distinct from others in social, cultural or political terms (Sumer, Mesopotamia, Egypt, India, Crete, China and later).

So many designs of systems applications by people throughout the history of the world allow to assume that everything in the world, in fact, is a system. The secondary notion seems to be an issue of human consciousness, the possibility of perception, recognition of the idea of the system in daily life, capturing the existing links and feedbacks. Perhaps currently a time perspective time allows one to analyze the known facts and to interpret them in the direction of a systemic approach.

The idea of the systems used by humans (Zymonik, 2004, pp. 36–38; Tatarkiewicz, 1978) dates back to the original, ancient et seq. times. It has accompanied mankind from the dawn of history till present. Considering these issues in broader areas, nowadays it might be also suggested that the moment of creation of the world or universe also had to be subjected to the laws governing a system.

Nature develops in stages, step by step, improving or "repairing" previous solutions. Noting this phenomenon, Charles Darwin (Dickstein and Nusbaum, 1959), explaining the principles of his theory of biological evolution said that the fittest survive. Thus, the process of evolution and further adaptation is a natural implication of life, as will be shown later in the work, in all of its available forms of existence.

Every civilization repeats, so to say, the pattern of development, and evolving it achieves success and failures. By applying (Bambrough, 1967) *the trial-and-error method* it seems to develop somewhat naturally. *Usually the first attempt brings failure. The second attempt uses the experience of the first one. Sometimes it takes third, fourth and more attempts.* Nevertheless it was possible to define and determine the five axioms (statements that do not require proving) characteristic of the system (Stefanowicz, 2007):

1. Synergy axiom: the system shows the features of synergy. Wholeness, namely the system, is not a simple sum of parts because it gains properties that the particular parts of it don't have.
2. Context axiom: every system is affected by its surroundings. Every system is a selected part of reality, which means that understanding the system cannot be limited to itself but has to be treated as an element of a larger whole (problem, system, surroundings).
3. System's equivalence axiom: different systems may lead to the same destination. This means, that systems may be equivalent in terms of achieved results. Each of them can, however, have a different measure of effectiveness and efficiency as also other costs of construction and functioning.
4. Ashby's diversity axiom (*Ashby's law* – Ashby, 1956): "Only variety can destroy variety" – each variety can be balanced only by another variety. The degree of diversity and flexibility of the system components depends on the variety and variability of input items. Measure of the system stability becomes a sufficient degree of diversity of system components and their flexibility in confrontation with the surroundings in which the system will operate. Flexibility of each element forming part of the system must be balanced and correlated with the flexibility of all the other elements: the system must be balanced so none of the elements becomes a "bottleneck" of the system in terms of its functionality.
5. System's efficiency axiom: efficiency of the system in terms of the criterion K depends on the efficiency of its weakest element in terms of defined criteria. The criterion K may indicate reliability of the system, its dynamics, resistance to interference from the environment, flexibility, which is mentioned in Ashby's axiom, and any other feature, which the observer assigns to the system.

Specificity of the system is therefore a synergy of its components, context of use, diversity and the equivalence of different systems as also their efficiency. Depending on the field of application, for each system, all of these features may be defined

differently – they create a universal dimension and thus, infinite possibility of interpretation. They relate to past, existing and those yet-to-appear systems.

1. The origin and definition of the concept of the system and the source of the system concept

At this point of study, quite atypically, a brief introduction will be added, which is important to understand the contexts included in the further work. The author identifies herself with such a grasp: *Modern science* (Szymański, 2002, p. 19) *does not know the concept of the absolute error. Any object of knowledge can be determined, defined always and only by comparison with something else, or by reference to some object. This object is called a system or frame of reference. The reference system in the main contains a set of objects of faith or objects of knowledge, opinions, evaluations etc.* The resulting conclusion is as follows: people are (Szymański, 2002, p. 4) *capable of learning and evaluating phenomena only for a given reference system. Any contextless understanding is an illusion*, or going further a simplification or hypocrisy (Szymański, 2002, p. 25). (In a simplified world there has always existed and still exists the concept of truth and falsehood in the sphere of knowledge, which are regarded as absolute values. However, in the world of science publications deny a recognition of such a world. Albert Einstein in his publication Annalen der Physik (1905) demonstrated that "there is no absolute reference point for the physical phenomena". Any physical phenomenon can be extracted and described always and only from a given reference point, or for a given system (framework) of reference. Similarly, this idea developed by Karl R. Popper, considering the idea of Alfred Tarski on asymmetric dependence of the metalanguage of language has proved that any observation is the only interpretation of facts "for a given observer").

In such terms the systemic approach constitutes a specific domain of knowledge as also postulates for a creation of the ability of better understanding and harmonious development of the reality surrounding people. It is the science that points to (Kryszpin, 2011) *validity of the holistic approach and logical-mathematical thinking* in every configuration consisting of cooperating components. Therefore it can be devised that the properties of a system's structures can be and are universal.

The notion of the *system* (Brückner, 1993, p. 512; Sobol, 2003, p. 1065) derives from the Greek word *sỳstēma* (gr. *σύστημα*), which literary means "the complex". Nowadays this term has many different meanings, as a configuration, collation or combination of components with some relations, that ensure energy, information and/or matter flow.

The notion of system was used and adopted in works of Ludwig von Bertalanffy (Brauckmann, 1999), who is considered to be a precursor of the concept of the General Systems Theory (GST). 1954 is admitted to be the date of GST creation. In this year Bertalanffy founded the Society for General Systems Theory (publisher of the journal General Systems). It is important because it has its implications in today's understanding and direction of research. Within the program of activities implemented by the Society for General Systems Theory Development following priorities were defined (Gomółka, 1994, p. 18):

- testing isomorphism of concepts, rules and models in various fields and promoting their effective transfer from one field to other,
- encouraging the development of theoretical models in fields that require it,
- maximum reduction of the repetition of the same theoretical work in different disciplines, conducing the unity of science by improving mutual communication among specialists.

The general systems theory is developing very dynamically. In cooperation with cyberneticists, GST developed in the direction of systems engineering (Szymański, 2002, p. 44; Blanchard, Fabrycky, 1990), generally defined as the creation and designing system by humans for human needs. (The name of the systems engineering involves practical action programs based on the logic of the system as an element of assumptions (called Intellectual Commitments). Proceeding from the needs which are outside the realm of science, engineering systems use logic systems as a general pattern of thought. Usually seven phases of the project are distinguished in the field of systems engineering: a study to define, design original, detailed design, na adjustment program for the crew, testing, work supporting the operation and maintenance of the system).

Systems engineering (Cempel, 2008, p. 1) *should therefore be used to optimize the effort, effect and risk in bringing into existence and functioning new systems, harmoniously intertwined into existing environment.* Currently, GST in an interdisciplinary way, includes almost all fields of science and life. Bertalanffy's main achievement (Drożdżowicz, 1999, p. 11) *is creation of such a learning approach, that allows you to combine seemingly unrelated phenomena and understand how they interact*.

Human perception is limited because (Szymański, 2002, p. 25) *all perception is conditioned by the concepts, metaphors and models that cannot provide the complete truth about reality*. For it constitutes a specific method of identification and description of all phenomena, where basic internalization is made using a set of defined symbols. Usually for this purpose abstract mental structures called models are used, and they always represent only a simplified reflection of reality. Consequently, in order to apply the systems approach, specific stages of development must appear (Szymański, 2002, p. 4): one must understand the systemic approach (its ideas, concepts), and

must learn to apply the systemic approach (which requires a transformation of one's own mental structure).

The systemic approach is a landmark interpretation of reality, after all it is called *the scientific paradigm* among the scientists (Toffler, 1996, pp. 34 and 38; Kay, 2006, p. 32; Szymański, 2002, p. 4). P. Senge described the systemic approach as the fifth discipline (Senge, 2002), where the systemic thinking is understood as *developing the capacity to combine different elements and perception of things as a whole.* Therefore it might be said, that the systemic paradigm contains heterogeneous fields of human activity, an implication of which is a team approach to the work of experts understanding the problem and, what is important, each other. The key features of the systemic paradigm are as follows (Kaposi and Myers, 2001, pp. 4 and 375):

1. The systemic paradigm is based on the recognized disciplines of science, technology, engineering and management.
2. It must be on general release and understood by all the concerned (e.g. managers, line employees, stakeholders).
3. The idea of systemic paradigm must be clearly and aphoristically defined, as it also must have a coherent structure (the best-formal record).
4. The systemic paradigm must also include a high quality of standards, according to which customers' requirements are taken into account, as well as environmental and social requirements and costs.
5. This paradigm must include a complete documentation of models, methods and procedures, data sources, evaluation criteria, a risk calculation, financing forms, a schedule of activities.
6. The paradigm must also be sufficiently general (including the maximum possible class of problems) but at the same time open, allowing for solving emerging problems.
7. Applied systemic approach is holistic in its nature, including 'hard' science and engineering problems, problems of calculation, simulation, management, socio--economic and environmental; 'soft' understanding and learning problems, and any combination of these problems.

Thus, a systemic approach is a reflection of a holistic team thinking including cause-effect relationship, as also the future effects of taken decisions. A systemic approach can be defined by specific laws (Sage, 1995, p. 605):

1. Contemporary and future problems are often the effect of previous solutions (treatments).
2. For every action there is a counteraction.
3. Short-term improvements often lead to long-term problems and difficulties.
4. The solution may be worse than the problem.
5. An easy solution may not be a solution at all.

6. A quick solution, made at the level of symptoms of the problem, often leads to many problems that did not exist before.
7. Cause and effect do not necessarily have to be "closely" related in time and space. Often the effects of recently taken actions will appear later, that's why they might not be linked with each other.
8. Activities that bring the best results usually are neither obvious nor immediately visible.
9. Low cost and high effectiveness of solutions cannot be the subject of mutual exchange.
10. The whole problem is always greater than the simple aggregation of the elements of this problem.
11. Always consider holistically the whole meta-system, consisting of the system and its environment.

Those laws define the essence of the system – they express their complexity, relations and coupling that occur in them, they point out the cause-effect results of actions and their consequences, often occurring in the distant future, which causes an additional difficulty in their connection with the primary cause.

On the subject of systems, the author's idea is to present a recognition of the concept of the systems approach, and [once more] to start a discussion on the significance of those issues, especially in the reality of the organization.

2. The evolution of the concept of system, application of the system concept in various fields of science

The interpretation of the *system* concept is an open issue. Basic definitions mentioned in dictionaries tend to give, apart from short characteristics, contexts of use of this category, which will be a starting point in the analysis. The system concept is considered in various aspects, in logic, mathematics, physics, computer science, literature, philosophy, religion, political science, geology or management (see: Table 1).

Regardless of science, in which the concept of *system* is applied, it is important that the elementary definitions invariably point to its basic components. There is always a concept of set, layout and interaction as also mutual coupling. Current definitions reflect the original essence of the definition of *system*. To tell the truth, the theory of systems as a science appeared in the world in the 20th century, however its first portents and mentions, emerging from the observation of the world, might have been seen in the act of the creation of the world and descriptions of ancient philosophers.

Table 1. The classic definitions of the "system" notion

Field of science	Basic definitions of the system notion
logic	comprehensive and ordered conjunction of sentences connected with each other with relations of logical results
mathematics	positional system, a way to save numbers based on the fact, that the meaning of digits depends on the location (position) on which they are situated, such as the binary or decimal system
physics	system of units based on the models of meter and kilogram, which uses the principle of decimal multiples when creating secondary units
computer science	operating system, basic computer program that enables and facilitates development and implementation of application programs (computer system, computer hardware and software, understood as a whole)
literature	constant scheme of arrangement of poetry phonic material
philosophy, religion	ordered set of assertions, views, creating some theory
political science	form of political system (e.g. feudal system)
geology	unit of geological formations division, a group of rocks formed during on geological period
management	principles of organization of something, a set of regulations, rules in force, applied in any field

Source: Developed on the basis (Sobol, 2003, p. 1065).

God created the world in stages – the whole process took (symbolically) seven or, as some people consider (Dynarski, 1990, Rdz 2,2), six days and he rested the on the seventh – ending the cycle of creation. According to the described logical arrangement (Dynarski, 1990, Rdz 1,1–2,25) (the system), God created the world out of nothing, *creatio ex nihilo*, as evidenced by words (Dynarski, 1990, 2 Mch 7:28; Krasiński, 2002, pp. 1245–1249): *look upon the heaven and the earth, and all that is therein, and consider that God made them of things that were not* (...). He created his works as follows (Dynarski, 1990, Rdz 1,1–2,25):

- day one – the light and its separation from the darkness,
- day two – firmament separating the upper water from the lower,
- day three – land and flora,
- day four – sun, moon and stars,
- day five – aquatic and flying animals,
- day six – land animals and humans,
- day seven – defined as the day of rest or the day of completion of creation by God.

The description of the creation indicates the close relation and logical structure among undertaken works. God created in turns, according to a hierarchy, following elements of the world, he judged them – when he decided that *everything that he had made* [creation] *was very good* (Dynarski, 1990, Rdz.,1:31): he began another day of

work. In this order we can make out a specific arrangement of entities and dependencies between them. We can see a logical sequence of events, a consequence and regularity of action. This act might therefore be compared to the system of actions, in which every further action is a consequence of a previous one and at the same time of the relations which occur between them.

In search of further contexts of *system*, a following statement, repeatedly indicated in the literature of the subject, can be found: *the whole is greater than the sum of its parts.* It is considered that this sentence is a paraphrase of the following words of Aristotle (Arystoteles, 1990) *in case of all things that have many parts and in which the whole is not, as it were, a mere heap, but it is something off the parts, it is the cause [of unity], with reference to material things, in some cases it may be a contact point, in others – consistency, or other such feature*. It seems, therefore, that this is a record that reflects the context of spatial perception of different types of systems.

In Aristotle's economics another record can be found. It also points to conduction of deliberations on the theory of systems in ancient times, namely (Arystoteles, 2001, pp. 232–263): *The state is the largest group of houses, fields, and possessions sufficient to lead a happy life.* (...) *A household is in fact a part of the state.* (...) *The components of a household are humans and property.* These sentences are a kind of evidence that awareness of the existence and interdependence occurring between them were noticed and raised in the considerations by our ancestors. What was wonderfully created by nature and mastered by humans, people are able to perceive through conscious observation of the environment, but only if they look and see. It seems, that a specific state of spirit and mind is the key to mental evolution, implication of which is a change in the direction of the development of the world.

Defining the system Igor Alexander called it (Stefanowicz, 2011, p. 54) *the manner of division of complex worlds*. This division is, however, contractual, boundaries are outlined by humans on the basis of the knowledge they have. But these boundaries do not always seem to meet the conditions of existence, coexistence and homeostatic systems. And Toffler even said (Toffler, 1996), that *modern science is so good at taking problems to pieces, that it often forgets later to put them back together*. R.A. Fisher (Box and Fisher, 1978) added, however, that (Szymański, 2002, p. 29) *the examination of separate facts does not allow for achieving information about the mutually interacting variables.* Therefore, only a comprehensive analysis, allowing for the study of systems at the worldwide level, allows for obtaining a universal solution.

Many thinkers had an influence on the modern concept of *system*. In their works they expressed theories in the field of systems and their impact on people's lives, and more – on the civilization. Claude Henri de Rouvroy (Henri de Saint-Simon, Comte de Saint-Simon, 1760–1825), in opposition to the feudal and military system, supported a form of national socialism in the technocratic system where the industrialists are to lead to the elimination of the poverty of the lower classes on the basis

of cooperation and technological progress (Manuel, 1962; Newman, 2005). Thus, he saw occurring connections and relations, at the same time pointing towards the necessary changes. Similarly, considerations of a philosophical and political character were led by Karl Heinrich Marx (1818–1883), who, in his works, pointed to systemic solutions through socio-political theories (Olszewski, 1967). Herbert Spencer (1820–1903) is considered as the creator of the concept of *surviving of the strongest*, he has expanded the discussion of evolution of mankind into the realm of sociology and ethics (Peretiatkowicz, 1960).

Alexander Aleksandrovich Bogdanov (1873–1928), considered today as the precursor of systems theory, developed the original theory of "tectology", in which he proposed a unification of all social and biological groups, as also physical sciences, recognizing them as systems of relationships (Biggart et al., 1998; Brown et al., 2002). He exhorted scientists to explore the organizational principles that are at the heart of all systems. His considerations are reflected in the sections and actions of Kurt Z. Lewin (1890–1947), (Lombardo and Foschi, 2004). He dealt with social psychology and he was widely believed to be its inventor. He conducted one of the first studies on group dynamics and organizational development. As one of the pioneers of the theory of modern social, organizational and applied psychology he considered existence and studied occurring relationships among them.

The following, among others, had an influence on the shape of the recognition of the world as a *system*, that is a being in which all coexisting elements are in permanent relationships:

1. Norbert Wiener (1894–1964) – considered to be a creator o cybernetics, he introduced a formalization of the concept of "feedback" with many consequences for the engineering, control systems, computer science, biology, philosophy, and civil society organizations (Vallée, 1990, pp. 343–348).
2. Ludwig von Bertalanffy (1901–1972) – a creator of the systems theory and precursor of systemic thinking (Weckowicz, 1989).
3. Sir Karl Raimund Popper (1902–1994) – a creator of the concept of open society and the principle of falsifiability as a criterion of scientificity (popperism); (Shearmur, 1996, pp. 95–100; Popper, 1995, p. 274; 5).
4. William Ross Ashby (1903–1972) – pioneer of cybernetics, he led the study on the complex systems (Asaro, 2008).
5. Marian Mazur (1909–1983) – creator of the Polish cybernetic school (Nowakowska, 2002).
6. Władysław Findeisen (1926) – co-founder of the systems theory (Findeisen, 1985; 9).
7. Mihajlo D. Mesarovic (1928) – pioneer in the field of the systems theory and systems engineering (10).

8. Werner Ulrich (1948) – introduced the concept of "critical systems thinking" (CST), (11).

Over the years knowledge, theory and experience in the field of systems have been adapted in various fields of science and life, for example (Langefors, 1966; Churchman, 1971; Laszlo, 1972a, 1972b; Klir, 1976; Schein, 1980; Checkland, 1981; Odum, 1983a, 1989b; Rappaport, 1986; Capra, 1987a, 1995b; Flood and Carson, 1989; Beer, 1990; Swanson, 1991; Toffler, 1996; Tomaszewski, 1998; Aleksander, 2005; Ackoff, 2009; Whittaker, 2009; 12; 13; 16; 17):

1. Economics and social sciences (Kenneth Ewart Boulding, 1910–1993; Niklas Luhmann, 1927–1998; Debora Hammond, 1951).
2. Psychology (Hans Hugo Selye, 1907–1982; Tadeusz Tomaszewski, 1910–2000).
3. Mathematical biology and mathematical modeling of social interaction (Anatol Rapoport, 1911–2007).
4. Ethics (Charles West Churchman, 1913–2004; Ervin László, 1932).
5. Ecology (Eugene Odum, 1913–2002; Howard T. Odum, 1924–2002; Fritjof Capra, 1939).
6. Computer science (Börje Langefors 1915–2009; Peter Checkland, 1930).
7. Communication (Edgar Morin, 1921).
8. Management in the company (Russell Ackoff, 1919–2009; Anthony Stafford Beer, 1926–2002; Gale Alden Swanson, 1939–2009, Peter Senge, 1947; Robert Louis Flood, 1955).
9. Organizational and corporate culture (Alvin Toffler, 1928; Edgar Henry Schein, 1928).
10. Neural networks (Igor Aleksander, 1937).
11. Education (Béla H. Bánáthy, 1943).

The presented list of sciences is not the last one, it is only a contribution to worldwide discussion on the nature of systems in the other and also interdisciplinary domains. Analyzing the list of sciences in which the issue of systems is mentioned, it might be observed that the essence of systems and possibilities of its adaption to various fields arouses constant interest among both theoreticians and practitioners.

In the literature of the subject there are many definitions of the *system* concept. In Table 2, a list of scientific definitions of the "system" notion was made, including (chronologically) the period from the 50's of the twentieth century, taking into consideration the surname of the originator and the year of publication. What is interesting, in spite of many definitions deriving from the period of their origin and context of use, many similarities between them can be seen.

Table 2. Definitions of the "system" notion

No.	Definition of the system	Author, source, time
1.	System is formed by elements in standing relationship	Bertalanffy L. von (1950)
2.	System is a set of elements standing in interrelations.	Bertalanffy L. von (1956)
3.	System is a set of objects together with the relations among them and their properties.	Hall, A.D., Fagen R.E. (1956)
4.	System is a set of elements in interaction.	Ashby, H.R. (1958)
5.	System is a set of elements standing in interrelation among themselves and with environment).	Bertalanffy L. von (1968)
6.	System is a set of real argument functions, in which the formal objects create free variables.	M.D. Mesarovi´c (1968)
7.	Each system belongs to the broader system.	Churchman C.W. (1968)
8.	A system assumes the unity or integrity of a particular type, so that its parts are interrelated.	Bahm A.J. (1969)
9.	In science there are no narrowly restricted areas, only narrow-minded scientific workers; in nature all domains are closely associated with adjacent and overlapping.	Selye H. (1969)
10.	A system is more than the sum of its parts; it is an indivisible whole. It loses its essential properties when it is taken apart. The elements of a system may themselves be systems, and every system may be part of a larger system.	Ackoff R.L. (1973)
11.	System means a configuration of some elements associated with each other so that they form a whole. The consequence is that the activity of any segment of the system more or less affect the activity of any other segment.	Klira G.J. (1976)
12.	System is understood as a whole – forming part of the larger whole, made up of parts (minor whole) linked in a way giving it a certain structure and isolated due to certain functions assigned to the whole.	Weinberg G.W. (1979)
13.	System is an intentionally defined set of elements, the relationships among these elements and their properties. Properties are the characteristics of individual objects and relationships are the relations binding particular parts of a whole.	Mynarski S. (1979)
14.	He considers the concept of the system as a whole rather than individual components. In his reasoning he comes to the conclusion that the properties of the system as a whole are not identical with the properties that characterize its components, therefore these elements that create the structure of a system are subordinated to the rights essential to the whole, the so-called submission laws.	Gościński J. (1982)
15.	System means a configuration of parts connected and joined together by a network of relationships.	Banathy B.H. (1991)

16.	System is a whole, in which separated components interact. Functioning of a system depends on the function of components and relationships among them. Connections of components define the structure of the system. Relations among elements (objects) belonging to the system are stronger than those between system elements and components of its environment.	Bubnicki Z. (1993)
17.	System is an organized number of items related to each other and carrying out certain functions.	Beer S. [in:] Jajuga T., Jajuga K., Wrzosek S. (1993)
18.	System is a set of objects and actions, which has four basic characteristics: content, structure, connectivity and steering.	Rivett P., Ackoff A. [in:] Jajuga T., Jajuga K., Wrzosek S. (1993)
19.	System is a set of interrelated or interacting elements.	EN ISO 9001:2008 Quality management systems – Fundamentals and vocabulary, p. 13 (2008) and EN ISO 9000:2001 Quality management systems – Requirements (2001)
20.	System is a metaphor, theoretical concept expressing the complexity of the phenomena of the universe.	Szymański J.M. (2002)
21.	System S in general, although with different expressions, is described as non-empty set of objects (elements) O, where the object is any material or abstract entity, described by a set of attributes (features) {A1,..., An}, and non-empty set of relations R, defined over that set of objects due to the set $\{A_i\}$ such, that the set of objects and relationships depends on the function F_s, that the system is to perform, or the goals $C_{s,}$ that the system is to achieve. It can be also expressed with the relation 1: $S=(O, R: O \wedge R \rightarrow\{F_s/C_s\})$. (D.8)	Klonowski Z.J. (2004)
22.	System is a being keeping the existence by synergistic interrelation of its parts, or an entity which maintains the existence by the interaction of its parts.	Bellinger G. (2004)
23.	System can be described as an organized or complex whole, as a set or combination of things or parts forming a complex or unitary whole.	Johnson R.A., Kast F.E., Rosenweig J.E. [in:] Penc J. (2005)
24.	System is a being, which is a set of elements with specified properties and relations, a purpose whole.	Cempel C. (2008)
25.	System is a group of objects, called parts, which are interconnected in a certain way.	B. Langeforse [in:] Stefanowicz B. (2011)
26.	System is a layout of elements having a specific structure and constituting a logically structured whole.	sjp.pwn.pl and swo.pwn.pl (2011)
27.	System is a physical or abstract object, in which it is possible to extract a group or groups of elements interrelated in the construction, performing as a superior whole functionality or functionalities.	pl.wikipedia.org (2011)

Source: Own study.

The System, in its definitions, is considered subjectively (definitions 20, 22, 24) and/or objectively (the other definitions in Table 2). However in philosophical and physical or mathematical terms it is described as:

- a being, a metaphor expressing complexity of the phenomena of the universe, subject, abstract object,
- a set of elements, a set of objects, a configuration of elements, a set of relations, a pattern of activities, a set of parts, a certain whole – being a part of larger whole, a certain whole in which separated components interact, an organized amount of elements, an organized or complex whole, an inseparable whole,
- a set of real argument functions, non-empty set of objects.

In the above definitions preponderates an understanding of the system as a category in an objectively-substantial meaning. The basis here is to define the conditions of the system in relation to the subject and also to the whole, treated as a set of elementary factors. The consequence of such a commonly understood concept of *system* is difficulty of expanding thinking patterns in overall terms among men. *System* is treated in the traditional sense, as the one that relates to mathematics, logic, physics, geology, computer science, law, political science, management, literature or philosophy. However, it is hard for people to relate to the *system* as a natural and/or artificial order, to which everyone is subjected, in which everyone takes part – not everyone, however, in a conscious way.

Additionally, in definitions of a system the following concepts repeat themselves: relation, interaction, a related connection, interrelation, synergistic interaction. All those phrases indicate activity and dynamism of the *system* notion. They indicate the existence of relationships and coupling among them by, simultaneously, constant motion creating a kind of perpetual motion, which once started – works infinitely. Only subjects and objects of relation and their properties change, whereas layouts created by the system do not stop, they only undergo metamorphosis of their state. Defined relations concern other relationships occurring among the elements of the system, but also between them and the environment, giving the system a certain structure having the form of a logically structured whole. In such a way that the activity of any system component affects, to a certain extent, the activity of any other element at the same time creating related layouts. What is important, as a consequence of the system functioning, a synergistic effect is achieved, in the sense that the whole is more than its individual parts. Everything is panta rhei (Piszczek, 1966, p. 364), which means that everything is constantly changing. (Panta rhei – this concept is attributed to Heraclitus of Ephesus, the creator of the theory of continuous variation of the world and the idea that everything that exists stems from the struggle of opposites, opposites do not create chaos, but make up the most beautiful harmony).

Conclusions

Development of any science, including systems, was influenced by naturally revealed human curiosity of cognition, observation of the world and the phenomena occurring in it, as also an awareness of "the state of menace" and willingness to influence it. Repeatedly, in the history of mankind, the development of the civilization was influenced by military aspects. The resulting figure and the evolution of science are however its implication. Nowadays the world can be understood in different ways, science has developed many paradigms, one of which is the system. The newly developed system paradigm on one the hand changes the observation point of scientists. On the other hand it imposes, so to say, a specific requirement for research and its scope. The systemic approach allows for the redefinition of existing standards, especially in two aspects:

- It resulted in the formation of a new view on the world, in which individual phenomena are considered together and interrelated, not isolated from each other. The subject of research has therefore become the complexity of the system. It must be also noted that the effects of systemic activities will reveal repeatedly in a distant, in relation to their causes, time – therefore, sensitivity of being able to see the relationships between them must be shown.
- It revealed that some concepts, principles and methods do not depend on the specific character of given phenomena. The same concepts, methods, principles can be used in various fields of science, technology and art. Therefore, a holistic and interdisciplinary approach to learning was introduced.

Thanks to the assumptions defined in that manner, modern science and practice have many possibilities and challenges. The dynamic development and adaptation of the systemic approach to various fields of science and practice are a kind of answer and acceptation of the world for the relevance and correctness of the developed assumptions; they also indicate their usefulness and determine further directions of development.

References

[1] Ackoff R.L., *The advent of systems thinking*, [in:] *Updated Program Announcement 4/14/99*, Nicholson M.M., Myers K. (eds.), 2009, accessed October 30, 2014.

[2] Ackoff R.L., *Science in the Systems Age: beyond IE, OR and MS*, "Operations Research" 1973, 21, pp. 661–671.

[3] *Alexander Bogdanov and the origins of systems thinking in Russia*, Biggart J., Dudley P., King F. (eds.), Ashgate, Aldershot 1998

[4] Aleksander I., *The World in My Mind, My Mind In The World: Key Mechanisms of Consciousness in Humans*, Animals and Machines published by Imprint Academic, 2005.

[5] *Analiza Systemowa – Podstawy Metodologiczne*, Findeisen W. (ed.), Wydawnictwo Naukowe PWN, Warszawa 1985.

[6] Asaro P., *From Mechanisms of Adaptation to Intelligence Amplifiers: The Philosophy of W. Ross Ashby*, [in:] *The Mechanical Mind in History*, Wheeler M., Husbands F., Holland O. (eds.), MIT Press, Cambridge, MA 2008.

[7] Ashby W.R., *An Introduction to Cyber-netics*, Methuen, London 1956.

[8] Ashby W.R., *General Systems Theory as a New Discipline*, "General Systems, Yearbook of the Society for the Advancement of General Systems Theory" 1958, p. 1–6.

[9] Arystoteles, *Ekonomika. Dzieła wszystkie*, t. VI, Wydawnictwo Naukowe PWN, Warszawa 2001.

[10] Arystoteles, *Metafizyka*, Wydawnictwo Naukowe PWN, Warszawa 1990.

[11] Bahm A.J., *Systems theory: Hocus Pocus or Holistic Science?*, "General Systems, Yearbook of the Society for the Advancement of General Systems Theory" 1969, Vol. XIV, pp. 175–177.

[12] Banathy B.H., *Systems Design of Education: A Journey to Create the Future*, Educational Technology Publications, Englewood Cliffs, New York 1991.

[13] Beer S.S., *Forty Years of Cybernetics*, Gordon Hyde Memorial Lecture at the Cybernetics Society in London, 1990, audio file.

[14] Bertalanffy L. von., *An Outline of General System Theory*, "The British Journal for the Philosophy of Science" 1950, Vol. 1, No. 2.

[15] Bertalanffy, L. von., *General System Theory*, "General Systems, Yearbook of the Society for General Systems Research" 1956, Vol. 1, pp. 1–10.

[16] *Biographical Dictionary of Twentieth Century Philosophers*, Routledge, London 2011.

[17] Blanchard B.S., Fabrycky W.J., *Systems Engineering and Analysis*, Prentice Hall, New York 1990.

[18] Box F.J., Fisher R.A., *The Life of a Scientist*, Wiley, New York 1978.

[19] Brauckmann S., *Ludwig von Bertalanffy (1901–1972)*, ISSS Luminaries of the Systemic Movement, January 1999.

[20] Brown S., Collinson D., Wilkinson R., *Biographical Dictionary of philosophers of the twentieth century*, Routledge Chapman & Hall, London 2002.

[21] Brückner A., *Słownik etymologiczny języka polskiego*, Wydawnictwo Wiedza Powszechna, Warszawa 1993.

[22] Bubnicki Z., *Podstawy informatycznych systemów zarządzania*, Wydawnictwo Politechniki Wrocławskiej, Wrocław 1993, p. 38.

[23] Capra F., *The Turning Point – Science*, Society and the Rising Culture, 1982.

[24] Capra F., *Należeć do Wszechświata – poszukiwania na pograniczu nauki i duchowości*, Wydawnictwo Znak, Kraków 1995.

[25] Cempel C., *Teoria i Inżynieria Systemów – zasady i zastosowania myślenia systemowego*, Wydawnictwo Instytutu Technologii Eksploatacji PIB, Radom 2008.

[26] Checkland P.B., *Systems Thinking, Systems Practice*, John Wiley, Chichester, UK, 1981, p. 330.

[27] Churchman C.W., *The Systems Approach*, New York 1968, p. 48.

[28] Churchman C.W., *The Design of Inquiring Systems, Basic Concepts of Systems and Organizations*, Basic Books, New York 1971.

[29] *Darwin Karol – O powstawaniu gatunków drogą doboru naturalnego, czyli o utrzymaniu się doskonalszych ras w walce o byt*, Dickstein S., Nusbaum J. (eds.), Wydawnictwo PWRiL, Warszawa 1959.

[30] Drożdżowicz L., *Wprowadzenie do systemowego rozumienia rodziny*, Wydawnictwo Uniwersytetu Jagiellońskiego, Kraków 1999.

[31] Flood R.L., Carson E.R., *Dealing With Complexity: An Introduction to the Theory and Practice of Systems Science*, Plenum, New York 1989.

[32] Foschi R., Lombardo G.P., *Lewinian contribution to the study of personality as the alternative to the mainstream of personality psychology in the 20th century*, [in:] *Lewinian Psychology*, Trempala J., Pepitone A., Raven B. (eds.), Wydawnictwo Naukowe WSP, Bygdoszcz 2004, Vol. 1, pp. 86–98.

[33] Gomółka Z., *Elementy ogólnej teorii systemów*, Wydawnictwo Naukowe Uniwersytetu Szczecińskiego, Szczecin 1994.

[34] Gościński J., *Sterowanie i planowanie. Ujęcie systemowe*, Wydawnictwo PWE, Warszawa 1982, p. 44.

[35] Hall A.D., Fagen R.E., *Definition of System*, "General Systems, Yearbook of the Society for the Advancement of General Systems Theory 1956, Vol. 1, pp. 18–28.

[36] Heller R., *Dyskusja*, "Scientific & Medical Network Newsletter" 1993, No. 53.

[37] Jaczynowska M., *Historia Starożytnego Rzymu*, Wydawnictwo Naukowe PWN, Warszawa 1984.

[38] Jajuga T., Jajuga K., Wrzosek S., *Elementy teorii systemów i analizy systemowej*, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław 1993.

[39] Janowski P., Krasiński J., *Kreacjonizm w teologii*, [in:] *Encyklopedia Katolicka*, Lublin 2002, t. IX, kol. 1245–1249.

[40] Kaposi A., Myers M., *Systems for All*, Imperial College Press, London 2001.

[41] Kay J., *Podstawy sukcesu firmy*, Wydawnictwo PWE, Warszawa 2006.

[42] Klonowski Z.J., *Systemy informatyczne zarządzania przedsiębiorstwem. Modele rozwoju i właściwości funkcjonalne*, Oficyna Wydawnicza Politechniki Wrocławskiej, Wrocław 2004, p. 176.

[43] Langefors B., *Theoretical Analysis of Information systems*, I & II, Lund, Studentlitteratur 1966.

[44] Laszlo E., *The systems view of the world. The natural philosophy of the new developments in the sciences*, George Brazillier, New York 1972a.

[45] Laszlo E., *Introduction to systems philosophy. Toward a new paradigm of contemporary thought*, Harper, San Francisco 1972b.

[46] *Mała encyklopedia kultury antycznej*, Piszczek Z. (ed.), Państwowe Wydawnictwo Naukowe, Warszawa 1966.

[47] Manuel F.E., *The Prophets of Paris*, Harvard University Press, Cambridge, Massachusetts 1962.

[48] Mesarović M.D., *System theory and biology – view of a theoretician*. *In System Theory and Biology*, Springer, New York 1968, pp. 59–87.

[49] Mynarski S., *Elementy teorii systemów i cybernetyki*, Wydawnictwo Naukowe PWN, Warszawa 1979, p. 12.

[50] Newman M., *Socjalizm: A Very Short Introduction*, Oxford University Press, Oxford 2005.

[51] Nowakowska E., *Geneza polskiej szkoły cybernetyki społecznej*, [in:] *The Peculiarity of Man*, Vol. 7, Wydawnictwo Wydziału Zarządzania i Administracji Akademii Świętokrzyskiej w Kielcach, Warszawa–Kielce 2002.

[52] *Od prehistorii do cywilizacji na kontynentach pozaeuropejskich*, seria: Historia powszechna, praca zbiorowa, tom 2, Wydawnictwo Mediaset Group S.A., Biblioteka „Gazety Wyborczej", 2007, pp. 534–535 and 629.

[53] Odum E.P., *Ecology and our endangered life-support systems*, Sinauer, Stanford, CT 1989.

[54] Odum H.T., *Systems Ecology: An Introduction*, Wiley-Interscience, New York 1983.

[55] *Ogólna Teoria Systemów*, Klir G.J. (ed.), Wydawnictwo Naukowe PWN, Warszawa 1976.

[56] Olszewski H., *Historia doktryn politycznych i prawnych: doktryny epoki feudalizmu i kapitalizmu*, Wydawnictwo Uniwersytetu im. Adama Mickiewicza, Poznań 1967.

[57] *O wychowaniu umysłowym moralnym i fizycznym*, Peretiatkowicz A. (ed.), wstęp i komentarz R. Wroczyński, wydanie I, Zakład Narodowy imienia Ossolińskich – Wydawnictwo Polskiej Akademii Nauk, Wrocław 1960.

[58] Penc J., *Sztuka skutecznego zarządzania*, Wydawnictwo Oficyna Ekonomiczna, Kraków 2005.

[59] *Pismo Święte Starego i Nowego Testamentu* w przekładzie z języków oryginalnych, Biblia Tysiąclecia. ks. K. Dynarski (ed.), wydanie III, Wydawnictwo Pallottinum, Poznań–Warszawa 1990.

[60] *Plato, Popper, and Politics: Some Contributions to a Modern Controversy*, Bambrough R. (ed.), Barnes and Noble, New York 1967.

[61] PN-EN ISO 9000:2001, *Quality management systems – Fundamentals and vocabulary*, PKN, 2001, point 3.2.1., p. 27.

[62] EN ISO 9001:2008, *Quality management systems – Requirements*.

[63] Popper K.R., *Mit Schematu Pojęciowego – w obronie nauki i racjonalności*, Wydawnictwo Książka i Wiedza, Warszawa 1995.

[64] Rappaport A., *General Systems Theory*, Abacus Press, Cambridge 1986.

[65] Roberts J.M., *Ilustrowana historia świata. Pierwsi ludzie. Pierwsze cywilizacje*, Wydawnictwo Łódzkie, Łódź 1986.

[66] Schein E.H., *Organizational Psychology*, 3rd edition, Prentice-Hall, New Jersey1980.

[67] Selye H., *Stres życia*, Wydawnictwo Naukowe PWN, Warszawa 1969.

[68] Sage A.P., *Systems Management – for information technology and software engineering*, John Wiley & Sons, New York 1995.

[69] Shearmur J., *The Political Thought of Karl Popper*, Routledge, London and New York 1996.

[70] *Słownik Wyrazów Obcych*, E. Sobol (ed.), Wydawnictwo Naukowe PWN, Warszawa 2003.

[71] Senge P.M., *Piąta dyscyplina – teoria i praktyka organizacji uczących się*, Oficyna Ekonomiczna, Kraków 2002.

[72] Stefanowicz B., *Informacyjne systemy zarządzania. Przewodnik*, Oficyna Wydawnicza SGH, Warszawa 2007.

[73] Stoner J.A.F., Freeman R.E., Gilbert D.R. Jr., *Kierowanie*, wydanie IV, Wydawnictwo PWE, Warszawa 2001.

[74] Swanson G.A., Marsh H.L., *Internal auditing theory: a systems view.* Quorum Books, New York 1991.

[75] Szymański J.M., *Nadzieja Nowoczesny Światopogląd i Metapolityka w Zarysie*, Wydawnictwo Jan Maria Szymański and Agnieszka Łuczak, Łódź 2002.

[76] Tatarkiewicz W., *Historia filozofii*, t. I, II, III, Wydawnictwo Naukowe PWN, Warszawa 1978.

[77] *Think Before you Think: Social Complexity and Knowledge of Knowing*, Whittaker D. (ed.), Wavestone Press, Charlbury 2009.

[78] Toffler A., Toffler H., *Budowa nowej cywilizacji. Polityka trzeciej fali*, Wydawnictwo Zysk i S-ka, Poznań 1996.

[79] Tomaszewski, T., *Główne idee współczesnej psychologii*, wydanie III, Wydawnictwo Akademickie Żak, Warszawa 1998.

[80] Vallée R.A., *Week in New Hampshire with Norbert Wiener*, [in:] *Cybernetics and Systems '90*, Trappl R. (ed.), World Scientific, Singapore 1990.

[81] Weckowicz T.E., *Ludwig von Bertalanffy (1901–1972): A Pioneer of General Systems Theory*, Center for Systems Research, Edmonton AB, University of Alberta, February 1989, Working Paper No. 89-2.

[82] Weinberg G.W., *Myślenie systemowe*, Wydawnictwo WNT, Warszawa 1979, p. 8.

[83] Ziółkowski A., *Historia powszechna. Starożytność*, Wydawnictwo Naukowe PWN, Warszawa 2009.

[84] Zymonik Z., *Wkład starożytności do problematyki jakości i jej kosztów*, „Problemy Jakości" 2004, nr 8, pp. 36–38.

Internet sources:

[1] http://akson.sgh.waw.pl, [2011-09-21].

[2] http://sjp.pwn.pl, [2011-09-18].

[3] http://swo.pwn.pl, [2011-09-18].

[4] http://www.systems-thinking.org, [2011-08-24]

[5] http://plato.stanford.edu, [2011-10-08].

[6] http://www.tkpw.net, [2011-10-07].

[7] http://mfiles.pl/pl, [2011-10-01].

[8] http://www.nap.edu, [2011-10-11].

[9] http://www.naukowy.pl, [2011-10-05].

[10] http://wulrich.com, [2011-10-01].

[11] http://www.economictheories.org, [2011-10-08].

[12] http://www.sonoma.edu, [2011-10-09].

[13] http://www.isss.org, [2011-10-01].

[14] http://www.panarchy.org, [2011-09-02].

[15] http://www.luhmann.pl, [2011-10-04].

[16] http://www.britannica.com, [2011-10.02].

SYSTEM – INTERDISCIPLINARY UNDERSTANDING

Abstract

The creation and scientific considerations on the nature of systems are attributed to Ludwig von Bertalanffy but it can be proven that this issue had been raised repeatedly in the world literature much earlier. However it took many years and generations for the public to become mature enough to accept a holistic conception of the world, to be able to see, define and try to influence it.
This study presents the way of evolution of the *system* concept, many of its definitions, application and development areas, originators and the conclusions resulting from their use.

Key words: system, the system as a paradigm, systemic rights, the coupling, originators of the system

SYSTEM – ROZUMIENIE INTERDYSCYPLINARNE

Streszczenie

Powstanie i naukowe rozważania dotyczące istoty systemów przypisuje się Ludwikowi von Bertalanffy. Można wykazać jednak, że zagadnienie to niejednokrotnie było poruszane w literaturze światowej dużo wcześniej. Potrzeba było jednak wielu lat i pokoleń, aby społeczeństwo dojrzało do holistycznej koncepcji świata, potrafiło ją zauważyć, zdefiniować i starać się nań wpływać.
W niniejszej pracy została przedstawiona droga ewolucji pojęcia „system", liczne jej definicje, obszary stosowania i rozwoju, twórcy oraz konkluzje wynikające z ich stosowania.

Słowa kluczowe: system, system jako paradygmat, prawa systemowe, sprzężenie, twórcy systemu

KATARZYNA BRATNICKA*

REFINING THE MULTIDIMENSIONAL CONCEPT OF ORGANIZATIONAL CREATIVITY[1]

Introduction

In recent economic trends, organizations have been encouraged to focus on how to use effectively the creative potential of their employees to meet market demands. At the accelerating pace of business, creativity – the production of new and useful ideas – is increasingly becoming a necessity for many organizations. Indeed, the outcomes of creativity are now considered to be a core competence for organizations [11]. Organizations rely on creative ideas from their members to generate new approaches to solutions, and opportunities that aid in organizational growth and survival. Not surprisingly creativity has burgeoned as one of the hottest topic in organizations with its crucial role in competitive advantage [32]. I believe creativity researchers and educators as well as managers, entrepreneurs and other stakeholders would be well served by having a set of clearly defined organizational creativity dimensions and sub-dimensions (with known general effects) to support their design, analysis, interpretations and decisions. Thus, I hope for this paper to facilitate contributions towards operationalizations and further refinements of conceptualizations of the organizational creativity construct.

In addition to a discovery scholarship that studies a wider range of things, it implies an equal need for an integration scholarship that synthesizes, reviews, and classifies phenomena and theories [6]. Drawing on studies investigating the characteristics

* **Katarzyna Bratnicka, Ph.D.** – University of Economics in Katowice.

[1] I gratefully acknowledge the research support from the National Science Centre (grant number 2013/09/B/HS4/00473). The manuscript also benefited from valuable comments of participants of Cultural and Creative Industries Track at the British Academy of Management 2014 Conference in Belfast.

of new venture ideas I use the "model theoretic" perspective to integrate different streams of findings in management research. I propose an organizational creativity framework characterised by six measures – originality, compatibility, malleability as sub-dimensions of creative novelty, competitive advantage, internal fit, and creative usefulness. Overall, the implication from this body of work is that, to encourage organizational creativity managers need to recognize the factors that foster or hinder different aspects of creativity in organizations, especially the multidimensionality of organizational creativity.

By examining organizational creativity as a higher order latent variable model, this study makes a number of contributions to literature. First, I theoretically expand the understanding of organizational creativity and six sub-dimensions of this construct. A second contribution is a better insight in creative dynamics and a demonstration of the coexistence of multiple – and not necessary coherent – logics that are manifested in the organizational forces embedded in configurations of sub-dimensions. Finally, my findings will also remind managers that managing creativity in an organization requires a fine-grained view of this complex organizational phenomenon.

The remainder of this paper is organized as follows. The next section develops a definition of organizational creativity that incorporates both creative novelty as well as creative usefulness. Next, I present organizational creativity sub-dimensions linked with creative novelty and creative usefulness and describe organizational creativity as a hierarchical latent variable model. The paper concludes with a discussion of the main ideas, limitations, and opportunities for future research.

1. Organizational creativity defined

I extend previous works on venture ideas and their characteristics [12] of creativity in organization research. Creativity in organizations is usually defined as an outcome – that is products, services, business models, work methods, or management processes that are novel and useful [37]. In field studies, creativity is usually measured in scales that asses both novelty and usefulness [3]. Drawing on the past research on creativity in organizations and dynamic capabilities, I suggest the following definition: organizational creativity is an organization's ability to generate new and useful ideas to address rapidly changing opportunities and threats by making timely and market-oriented decisions, and to frame breaking changes in its resource base [7].

Hence, I consider the novelty and usefulness as two distinct dimensions of organizational creativity. In sum, if an organization lacks the resources to implement the idea, its performance would be unaffected by novelty. In a somewhat different tone,

an organization may be highly skilled at implementing novel ideas, but if it has nothing to implement, its performance would be unaffected positively.

I think the time has come for creativity research to develop powerful abstractions that allow the transfer of insights from one context to another and common knowledge to describe the salient and potentially measurable sub-dimensions of organizational creativity. Most attempts to conceptualize and measure of what I label organizational creativity have described two main characteristics or dimensions – novelty and usefulness. It is a meaningful starting point from which to continue to distil the key dimensions of organizational creativity, realizing that it is possible that the sub-dimensions I suggest maybe in part conceptually overlapping.

2. Organizational creativity sub-dimensions linked to novelty

A good starting point for building a more fine-grained understanding of organizational creativity is originality. Amabile [2] describes creativity along the dimensions of expertise, motivation, and originality. Creativity involves originality – originality is necessary buy not sufficient for creativity. In lying the foundation for understanding creative originality one should distinguish the magnitude of novelty that refers to the extent to which a new entrepreneurial venture (in my words – a new idea) is new to the market in terms of new and existing knowledge [8]. Originality is thus related to the external world and not in relation to an organization, such as new, more efficient processes or a new bundle in market offering.

The second generic attribute of organizational creativity is compatibility. Compatibility represents "the degree of consistency with existing socio-cultural values and beliefs, previously introduced ideas, and client needs" [31, p. 240]. From the strategic cognition perspective, a new idea as a salient issue which should be related to organizational identity and strategic frames [9]. Organizational identity refers to deeper meanings (organization's core values and beliefs) of what defines the organization and makes it unique. Strategic frames reflect cause-and-effect beliefs for effective strategic action to achieve organizational goals. They serve as filters, paths, or reference points, providing a focus on information and actions that conform to what is necessary. Van den Ven and Lifschitz [36] recommend the reintroduction of the reasonable model of administrative behavior to the mainstream studies of organizations. Reasonable behavior represents a collectively defined appropriate behavior (norms, values, logics, and rules that society views as fair and legitimate behavior of a person) for a given role and circumstance. Borrowing such logic, I propose that a new idea is compatible when the behavior that follows is reasonable. In summary, I suggest that expressive

and instrumental cognitive structures of organizational identity and strategic frames, respectively, drive the compatibility of new ideas.

The final sub-dimension of creative novelty is the malleability of ideas. This sub-dimension means the extent to which important elements of creative ideas have undergone a substantive change since first formulated [14]. Creativity is the first phase of organizational change [4]. Creative ideas have a potential to bring about organizational changes which increase the performance of an organization. Organizations that will sustain the flux of changes will be the ones that foster creativity. Research on discontinuous innovation provides a valuable insight on this organizational creativity sub-dimension. Kőnig, Kammerlander and Enders [21] noted that incumbents vary in their ability and willingness to allocate resources to the development and commercialization of a discontinuous technology. McKinley, Latham and Braun [24] distinguish between flexible and inflexible innovations as factors in turnaround success or failure. Innovation flexibility refers to the degree of malleability of the innovation after it has been introduced to the market which is dependent on the range as well as the speed of transition between the possible post-introduction configurations. Following these ideas I suggest that malleability shapes the organizational creativity potential consisting of two elements: (a) the range of configurations of new ideas during implementation, (b) the speed of transition between the possible post-introduction configurations.

3. Organizational creativity sub-dimensions linked to creative usefulness

Development of new ideas does not necessarily imply their implementation. The ideas are evaluated in respect to their perceived desirability and feasibility [34]. A prerequisite for appropriating the gains from creative activities is that organizations are able not only to generate new ideas, but also to evaluate and select the right ideas for exploitation. Thus, organizations may have to abandon those ideas that have limited prospects for organization effectiveness. Indeed, scholars argued that there is typically no shortage of ideas; the difficulty is choosing the right ones that support the goals of organizations [13], and direct attention to superior ideas and the resources is needed for their exploitation.

In this vein Rafferty, Jimmieson and Armenakis [27] identify two beliefs as key components of organizational readiness for change including the belief that change is needed and the belief that individuals and organizations have the capacity to undertake change. Expanding this discussion to the organizational level, I propose that new ideas have benefits when members of organizations will have positive evaluations

of these ideas in terms of competitive advantage and appropriability. In addition, organizational members must believe that a proposed new idea is an appropriate response to a situation as indicated by internal fit. In other words, I identified three factors, that influence the likelihood of positive evaluations of new ideas in terms of their utility – relative competitive advantage, appropriability, and internal fit.

Competitive advantage is an advantage over competitors gained by offering consumers greater value; it is the position of an organization in the competitive landscape that allows the organization to operate in more effective ways than organizations it competes with [28]. Such competitive actions, I argue, are facilitated by organizational creativity. A recent study suggests that ability of an organization ability to manage teams dynamics toward creativity constitutes a dynamic capability that provides a competitive advantage over its competition [18]. Creativity is intertwined with corporate strategy development by which organizations attain competitive advantage. Moreover, creativity as a source of competitive advantage has been developed in contemporary strategic management [16]. Hence, from the competitiveness standpoint, one would expect organizations to focus on solving a problem that can best contribute to effectiveness. Creativeness of solution – and even the problem in many cases – provides the organization with a stronger potential advantage over its rivals.

Having organizational creativity instills inimitability in any competitive advantage. Pitellis & Teece [26] suggest that the nature and objective of the organization in economy of innovation is to capture value from its advantages and actions – the appropriability of returns from creative and innovative activity. Appropriability refers to the possibility of capturing the returns from the exploitation of creative ideas and preventing others from doing so. Ahuja, Lampert and Novelli [1] distinguish between forms of appropriability: primary ability – effectiveness in exploiting inventions as profits – and generative appropriability – effectiveness in exploiting inventions as concepts and capturing a share of the future inventions they spawn. Therefore, I argue that primary appropriability refers to the effectiveness of an organization in exploiting a given idea by translating it into a product or licensable solution for users. Generally, appropriability refers to a the effectiveness of an organization in capturing the greatest share of future creative ideas spawned by its existing ideas. The issue of appropriability represents a fundamental strategy problem in organizational creativity research [30]. It is a fundamental factor that organizations should consider first and foremost when engaging in organizational creativity.

Haynie, Shepherd and McMullen [17] argue that the match between an organization's evaluation endowment and a given idea shapes the assessment of the attractiveness of a new idea. I suggest that moderating in the association between organizational creativity and performance is indicative of a larger question: the degree to which

organizational creativity achieves internal fit with the given organization. Lyngsie, Linder, Foss and Zahra [22] argue that the intensity with which organizations evaluate new ideas (in their words, new business opportunities) is associated with the combined presence of an organic structure, objective performance appraisals and the presence of rewards for teamwork, knowledge sharing and innovativeness. In a similar vein, Burton, O'Reilly and Bidwell [10] found that a separation of exploratory and exploitative projects was associated with improved project performance and that the misalignment of management systems degraded the performance of exploratory efforts. I propose then, that positive performance attends organizational creativity when the managerial infrastructure – strategy, organizational culture, leadership, organization design, and people, provides a context in which organizational creativity achieves internal fit and sustainable competitive advantage can accrue to the organization. In sum, organizations considering creative usefulness of strategic choices may adapt a deliberate and purposeful policy toward capturing the value associated with the realistic probability of a higher financial performance relative to their industries.

Competitive advantage, appropriability, internal fit as evaluation criteria determine which aspects of a proposed idea will receive attention and scrutiny. They direct the attention of organizational members to those new idea sub-dimensions that a given organization considers most relevant and important. The extent to which these three criteria are applied reflects a relative strategic focus of an organization. In other words, the rigor with which evaluation is performed by organizations may provide ex ante signals at to what are the most important characteristics of useful ideas.

4. Organizational creativity as a hierarchical latent variable model

A key factor contributing to misspecification of measurement models in behavioral research is the weakness of explicit specifying the higher-order dimension reality of the focal construct [23]. The higher order construct is an explicit representation of the multidimensional construct consisting of a number of interrelated dimensions and it can be conceptualized under the overall abstraction. It is related to other constructs at a similar level of abstraction. It should be noted that the key requirements for defining and operationalizing the multidimensional construct is that it should be derived from a theory and the theory should indicate the number of dimensions and their relationship to the higher order construct [19].

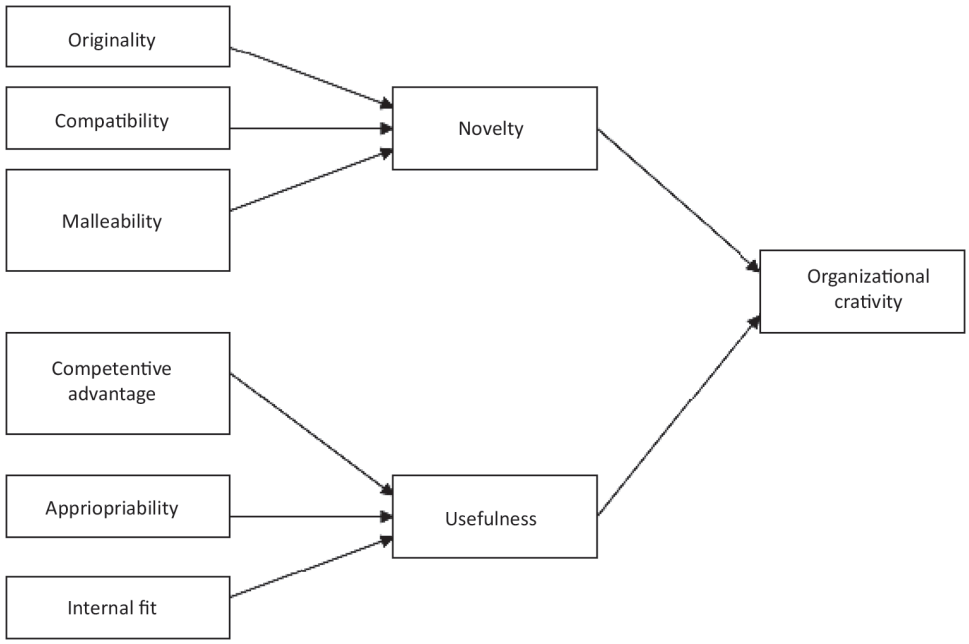
I will focus on the reflective-formative hierarchical latent variable model in my research. Typically, hierarchical latent variable models are characterized by (1) the number of levels in a model (in my research restricted to a second-order model)

and (2) the relationship (formative versus reflective) between the constructs in the model [5]. If the higher level construct is reflective, the general concept is manifested by several specific dimensions themselves being latent (unobserved). If the higher--order construct is formative, it is a combination of several specific (latent) dimensions into a general concept. On the basis of the second-order hierarchical latent variable model, Ringle, Sarstedt and Straub [29] distinguish four types of models contingent on the relationship among (1) first-order latent variables and their manifest variables, and (2) second-order latent variable(s) and first-order latent variables. I suggest that the construct of organizational creativity be best represented in the second order model. In this type of model, the lower-order constructs are formatively measured constructs that do not share a common cause but rather form a general concept that fully mediates the influence of subsequent endogenous variables. Accordingly, organizational creativity is the multidimensional construct which consists of first order sub-dimensions of novelty and usefulness measured formatively with several indicators.

There is often a mismatch between a construct definition and the measurement of creativity [33]. Even though most researchers define creativity with two unique dimensions (novelty and usefulness), general indicators are often used [25]. Novelty and usefulness are conceptually and empirically distinct formative dimensions of the construct labeled organizational creativity as opposed to these dimensions working as potential overlapping indicators (as in the reflective model). Clearly then, novelty and usefulness are not interchangeable dimensions, and organizational creativity is not reflective but it is a formative construct. In sum, novelty and usefulness may be caused by different mechanisms and need to be treated separately in models and empirical studies. Special measures of organizational creativity should include separate indicators for novelty and usefulness as well as appropriate sub-dimensions.

Following the recommendations for improving the higher-order, multidimensional construct [19], I conceptualize organizational creativity as type IV second-order hierarchical latent variable model [5]. In formative type IV model the lower-order constructs are formatively measured constructs that form a more abstract general concept. As shown in Figure 1, novelty and usefulness are subsumed under the organizational creativity as a general concept. The model also comprises different aspects of novelty as well as usefulness in order to structure these two constructs into several sub-constructs that refer to organizational creativity sub-dimensions. Thus, organizational creativity is a multidimensional concept which consists of two dimensions and exists in six sub-dimensional domains.

Figure 1. Organizational creativity as a hierarchical latent variable model



Source: Own work.

Discussion

Currently, no comprehensive, validated measure to assess organizational creativity seems to be available. Such a measure could be subdivided further into dimensions and sub-dimensions discussed above. As regards operationalization of the overall generation of new and useful ideas, I suspect there have been attempts of conceptualization of and operationalizing the mix of substantive sub-dimensions in their own right. In this early delineation of salient sub-dimensions of organizational creativity their list may not be exhaustive or may not represent the best possible way of categorizing all specific elements or organizational creativity configuration and it is doubtful whether any such classification could be possible. Specifically, I have put originality, compatibility, malleability, competitive advantage, appropriability, and internal fit (relatedness to the strategic potential of an organization), on the table as a starting point for future conversations. Moreover, given the imminent complexities involved in organizational creativity, as well as the rare empirical results, I leave it to subsequent research to fully explore the implications of varying levels of different mediators and moderators in the context of the subject of my study.

I believe that the results of this study provide insights for managers by highlighting the elements that are available to encourage organizational creativity. This research has helped to lay a foundation for greater understanding, but more research is still required. My principle is to use depicted organizational creativity latent variable model as "a stage setting" for further work and to open fresh new areas of inquiry for creativity research. This may relate to obtaining research results which provide the effects of the same characteristic across levels of analysis for comparison. Unfortunately, the multilevel models of creativity in organizations are rare and they are mainly focused on an individual and team level [38]. Yet while studying the impact of organizational creativity sub-dimensions, the organization level might prove particularly interesting. By doing so with the multilevel focus, future studies will testify to the premise of my approach, which has been highlighted as one of the most important avenues for future creativity research. More specifically, future research should examine an alternative way of reconciling creative novelty and creative usefulness. Organizations should, for example, balance the two forces by maintaining stability in one organization layer (e.g., organizational creativity) and introducing change in another level (e.g. team creativity).

Next, new insights could emerge from researching the best order (and through what structures) to pursue different forms of organizational creativity to maximize synergies while minimizing costs and risks. Are there better structures to manage this in a simultaneous, ambidextrous manner? Theorizing on the effect of complex forms of organizational ambidexterity and resulting organizational creativity patterns seems particularly promising. Ultimately, studies could help to develop customized variations of ambidexterity – for instance, based on the notions of structural [35], or contextual [15] ambidexterity. Additionally, identifying the conditions under which a particular sub-dimensions of organizational creativity is favored over the other would indeed be an exciting and useful research direction.

Evaluating organizational creativity sub-dimensions give organizations a chance to draw managerial attention to a set of counterfactuals that are not commonly focused on in performance reviews. Much performance measurement in organizations focuses on evaluations of managers and organizations through their realized outcomes on certain milestones, such as profits. However, a case could be made that optimizing performance may entail not just how well an organization has performed but also how much better it could have performed. Some organizational creativity sub-dimensions – such as originality, appropriability, competitive advantage – provide an outcome that draws attention to this aspect of performance. I have emphasized that the organizational creativity sub-dimensions I have put forward cannot be considered as examples of evidence-based management [20]. Rather, I have derived these primarily from conceptual developments by organizational theorists and from the available empirical evidence to the best of my current knowledge. The discussion

suggests that identifying potential measures of organizational creativity dimensions and sub-dimensions would help to push the creativity research agenda as well as its usage in practice. This may imply a need for a more nuanced theoretical and methodological approach in studying creativity in organizations.

References

[1] Ahuja G., Lampert C.M., Novelli E., *The second face of appropriability: Generative appropriability and its determinants*, "Academy of Management Review" 2013, No. 38, pp. 248–269.

[2] Amabile T.M., *Motivating creativity in organizations: On doing what you love and loving what you do*, "California Management Review" 1997, No. 40, pp. 39–58.

[3] Amabile T.M., Pillemer J.J., *Perspectives on the social psychology of creativity*, "The Journal of Creative Behavior" 2012, No. 46, pp. 3–15.

[4] Augsdorfer P., Bessant J., Möslein K.M., *Discontinuous innovation*, Imperial College Press, London 2012.

[5] Becker J.-M., Klein K., Wetzels M., *Hierarchical latent variables models in PLS-SEM: Guidelines for using reflective-formative type models*, "Long Range Planning" 2012, No. 45, pp. 559–594.

[6] Birkinshaw J., Healey M.P., Suddabay R., Weber K., *Debating the future of management research*, "Journal of Management Studies" 2014, No. 51, pp. 38–55.

[7] Bratnicka K., *Organizational creativity and firm performance in small and medium-sized enterprises: theory and measures*, [in:] *Management Research Revisited: Prospects for Theory and Practice*: 1–8, Cardiff Business School/British Academy of Management, Cardiff 2012.

[8] Bruton G.D., Filatotchew I., Si S., Wright M., *Entrepreneurship and strategy in emerging economies*, "Strategic Entrepreneurship Journal" 2013, No. 7, pp. 169–180.

[9] Bundy J., Shropshire C., Bucholtz A.K., *Strategic cognition and issue salience: Toward an explanation of organization responsiveness to stakeholders concern*, "Academy of Management Review" 2013, No. 38, pp. 352–376.

[10] Burton M.D., O'Reilly C.A., Bidwell M., *Management systems for exploration and exploitation: The micro-foundations of organizational ambidexterity*, Paper presented at the annual meetings of the Academy of Management, Boston 2012.

[11] Choi J.N., Anderson T.A., Veillette A., *Conceptual inhibitors of employee creativity in organizations: The insulating role of creative ability*, "Group and Organization Management" 2009, No. 34, pp. 330–357.

[12] Davidsson P., Tonelli M., *Towards an operable entrepreneurship nexus: Conceptualizing venture ideas and their characteristics*, Paper presented at the annual meeting of the Academy of Management, Orlando 2013.

[13] Foss N.J., Klein P.G., *Organizing entrepreneurial judgment: A new approach to the organization*, Cambridge University Press, Cambridge 2012.

[14] Furr N.R., Cavarretta F., Garg S., *Who changes course? The role of domain knowledge and novel framing in making technology changes*, "Strategic Entrepreneurship Journal" 2012, No. 6, pp. 236–256.

[15] Gibson C.B., Birkinshaw J., *The antecedents, consequences and mediating role of organizational ambidexterity*, "Academy of Management Journal" 2004, No. 47, pp. 209–226.

[16] Goodman M., Dingli S.M., *Creativity and strategic innovation management*, Routledge, Oxon/New York 2013.

[17] Haynie J.M., Shepherd D.A., McMullen J.S., *An opportunity for me? The role of resources in opportunity evaluation decisions*, "Journal of Management Studies" 2009, No. 46, pp. 337–361.

[18] Im S., Montoya M.M., Workman J.P., *Antecedents and consequences of creativity in product innovation teams*, "The Journal of Product Innovation Management" 2013, No. 30, pp. 170–185.

[19] Johnson R.E., Rosen C.C., Chang C.-H., Djurdevic E., Taing M.U., *Recommendations for improving the construct clarity of higher-order multidimensional constructs*, "Human Resource Management Review" 2012, No. 22, pp. 62–72.

[20] Kepes S., Bennett A.A., McDaniel M.A., *Evidence-based management and the trustworthiness of our cumulative scientific knowledge: Implications for teaching, research, and practice*, "Academy of Management Learning and Education" 2014, Vol. 13, pp. 446–466.

[21] Kőnig A., Kammerlander N., Enders A., *The family innovator's dilemma: How family influence affects of the adoption of discontinuous technology by incumbent organizations*, "Academy of Management Review" 2013, No. 38, pp. 418–441.

[22] Lyngsie N.J., Linder S., Foss N.J., Zahra S.A., *Free to choose? Organizational context and evaluation of opportunities*, Paper presented at 7th Conference on Performance Measurement and Management Control, Barcelona 2013.

[23] MacKenzie S.B., Podsakoff P.M., Podsakoff N.P., *Construct measurement and validation procedures in MIS and behavioral research: Integrating new and existing techniques*, "MIS Quarterly" 2011, No. 35, pp. 293–334.

[24] McKinley W., Latham S., Braun M., *Organizational decline and innovation: Turnarounds and downloads and downward spirals*, "Academy of Management Review" 2014, No. 1, pp. 88–110.

[25] Montag T., Maertz C.P., Baer M., *A critical analyses of workplace creativity criterion space*, "Journal of Management" 2012, No. 38, pp. 1362–1386.

[26] Pitellis C.N., Teece D.J., *The (new) nature and essence of the organization*, "European Management Review" 2009, No. 6, pp. 5–15.

[27] Rafferty A.E., Jimmieson N.L., Armenakis A.A., *Change readiness: A multilevel review*, "Journal of Management" 2013, No. 39, pp. 110–135.

[28] Rindova V., Ferrier W.J., Wiltbank R., *Value from gestalt: How sequences of competitive actions create advantage for organizations in nascent markets*, "Strategic Management Journal" 2010, No. 31, pp. 1474–1497.

[29] Ringle C.M., Sarstedt M., Straub D.W., Editor's comment: *A critical look at the use of PLS-SEM in MIS quarterly*, "MIS Quarterly" 2012, No. 36, pp. III–XIV.

[30] Ritala P., Hurmelina-Laukkanen P., *Incremental and radical innovation in coopetition – The role of absorptive capacity and appropriability*, "The Journal of Product Innovation Management" 2013, No. 30, pp. 154–169.

[31] Rogers R.M., *Diffusion of innovation*, Free Press, New York 1995.

[32] Shin S.J., Kim T., Lee J., Bian L., *Cognitive team diversity and individual team member creativity: A cross-level interaction*, "Academy of Management Journal" 2012, No. 55, pp. 197–212.

[33] Sullivan D.M., Ford C.M., *The alignment of measures and constructs in organizational research: The case of testing measurement models of creativity*, "Journal of Business and Psychology" 2010, No. 25, pp. 505–521.

[34] Tarabishy A., Solomon G.T., Fernald L.W., *Measuring entrepreneurial leadership and its impact on the performance of companies in dynamic market*, Paper presented at the Babson College Entrepreneurial Research Conference, Wellesley 2003.

[35] Tushman M.L., O'Reilly Ch.A., *The ambidextrous organization: managing evolutionary and revolutionary change*, "California Management Review" 1996, No. 38, pp. 1–23.

[36] Van den Ven A.H., Lifschitz A., *Rationale and reasonable microfundations of markets and institutions*, "Academy of Management Perspectives" 2013, No. 27, pp. 156–172.

[37] Zhou J., Hoever I.J., *Research on workplace creativity: A review and redirection*, "Annual Review of Organization Psychology and Organizational Behavior" 2014, No. 1, pp. 333–339.

[38] Zhou J., Shalley C.E., *Expanding the scope and impact of organizational creativity research*, [in:] *Handbook of organizational creativity*, Zhou J., Shalley C.E. (eds.), Elbaum, Makwach 2008, pp. 347–368.

REFINING THE MULTIDIMENSIONAL CONCEPT OF ORGANIZATIONAL CREATIVITY

Abstract

Creativity is the single important attribute to business success. It is not surprising that, then, that scholars and practitioners share a common interest in elucidating the creative process. I integrate the creativity theory, the entrepreneurship theory, and the strategic management theory for refining the organizational creativity construct. On the basis of this literature review, I present organizational creativity sub-dimensions linked with creative novelty and creative usefulness. Next, I describe organizational creativity as a hierarchical latent variable model. Consequently conclusions and limitations of this paper are discussed.

Key words: organizational creativity, multidimensionality, hierarchical latent variable model

W KIERUNKI WIELOWYMIAROWEGO SPOJRZENIA NA TWÓRCZOŚĆ ORGANIZACYJNĄ

Streszczenie

Twórczość jest kluczową przesłanką powodzenia współczesnego biznesu. Nie dziwi zatem fakt, że teoretycy i praktycy zarządzania są zainteresowani dogłębnym zrozumieniem twórczości w organizacjach. Dążąc do bardziej szczegółowego wyjaśnienia twórczości organizacyjnej, zintegrowano elementy teorii twórczości, teorii przedsiębiorczości oraz teorii zarzadzania strategicznego. Opierając się na tym przeglądzie literatury przedmiotu, zaprezentowano podwymiary twórczości organizacyjnej, zarówno te powiązane z twórczą nowością, jak i te, które odnoszą się do twórczej użyteczności. Następnie przedstawiono twórczość organizacyjną w kategoriach utajonej zmiennej hierarchicznej. W konsekwencji wskazano na główne rezultaty teoretyczne i ograniczenia rozważań zawartych w tym studium.

Słowa kluczowe: twórczość organizacyjna, wielowymiarowość, utajona zmienna hierarchiczna

THE COMMITTEE ON ORGANIZATIONAL AND MANAGEMENT SCIENCES POLISH ACADEMY OF SCIENCE

The Committee mission

To stimulate growth of the organizational and management sciences in Poland and to promote accomplishments of organizational and management sciences and their authors in other academic circles and among practitioners.

The Committee aim:

- to represent the scientific community of organizational and management sciences, to interact with other sciences, boards and other bodies of Polish Academy of Science, government bodies and international organizations dealing with the problems of organization and management;
- to stimulate the quality of scientific institutions and members of the community forming the society of management sciences;
- to actively influence young researchers, local scientific communities and practitioners;
- to integrate the community of organizational and management sciences;
- to involve the Committee in cooperation with international community.

WARSAW SCHOOL OF ECONOMICS

The Warsaw School of Economics (SGH) was founded in 1906 by August Zieliński, being Polish first university of economics. Currently the SGH is a internationally renowned institution, which played important role during economic transformation of Poland in 1990 s. SGH graduates are members of Polish, European and global most influential institutions such as the Polish Parliament and Government, the National Bank of Poland and the European Commission. They also hold top managerial posts in numerous Polish and international companies.

Over 15 000 students is currently enrolled for studies at the SGH. It consists of 6500 full-time students and about 5400 part-time students. Additional 2700 students participate in postgraduate courses and 1200 are candidates to doctoral degree. The SGH offers three degrees of undergraduate/postgraduate studies as well as a variety of postgraduate courses including 2 MBA programmes.

Research, along with education, is crucial activity of the SGH. Research topics are selected to support the teaching process and enhance educational standards of the academic staff. Research projects are conducted by Collegia, institutes and departments and cover a wide range of current issues of a significant impact on theory and practice.

The international co-operation plays significant role in enhancing research activities and development of educational methods. The School is traditionally open to exchange of knowledge, educational and research practices with abroad partners. The international character of the School increases as various organisational units of the SGH and its employees now maintain international contacts and co-operate with more than 150 foreign universities. The School's academic teachers participate in international academic conferences. The School takes part in almost a hundred research projects conducted in co-operation with foreign centres. The SGH is a member of CEMS, the Global Alliance in Management Education and Partnership in International Management consortium.

Seat:
Division I Polish Academy of Science
The Committee on Organizational
and Management Sciences
Wydział I PAN
PKiN, Plac Defilad 1
00-901 Warszawa
www.pan.pl

Address:
Warsaw School of Economics
Collegium of Management and Finance
al. Niepodległości 162
02-554 Warszawa
e-mail: oik@sgh.waw.pl
www.sgh.waw.pl/oik/

ISSN 0137-5466