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CREATIVE DESTRUCTION OF THE UNIVERSITY

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Abstract

Authors take the issue of change in the modern university. Assuming that the objective of the university is, in addition to the mass education, training the elite of intellectual entrepreneurs (Kwiatkowski, 2000; Kwiatkowski, Sadlak, 2003) - prospective leaders of the knowledge-based society, it is proposed the creative destruction of the university organization, the essence of which is to move the axis of the basic organizational units of the university, such as departments, into teams, and coordination axis of the university move into units. The proposal is embedded in the Schumpeter's idea of creative destruction (Schumpeter, 1960), and refers to the Burton Clark's concept of the entrepreneurial university (Clark, 1998, 2004), the concept of ambidextrous organization (March, 1991, Tushman, O'Reilly III, 1996; Birkinshaw, Gibson, 2004), third generation university by Johan Wissema (2009) and the concept of the knowledge-based university, using the paradigm of knowledge-based organization (Leja, 2011). Additionally, the paper presents the necessary conditions of the proposed change, and the risk associated with it. Authors try to prove, using Gareth Morgan's metaphors (2001, 2005), that the proposed change is the transition from mechanistic - organism university to the university described by metaphors of organisms and self-organization.

Keywords: creative destruction; ambidextrous organization; Schumpeter; university; Morgan

JEL: D23; D83; I23

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1. Introduction

The contemporary university, like other organizations, constantly changes. The sources of these changes can be traced both inside the institution and in its global environment. Clark Kerr, the former president of the University of California and a higher education researcher observes that the justification for the existence of contemporary universities – organizations both incoherent and creative – is not only history but also social environment (Kerr, 2001). Universities are also examples of organizations with well-defined norms regarding internal relations and the relations with the environment, as Burton Clark, a recognized authority on higher education research, observes (Clark, 1972; Kwiek, 2010).

Therefore, one should ask the question whether the observed and postulated changes at contemporary universities should be classified as belonging to the first type – morphostatic or to the second – morphogenetic (Levy 1986). Changes of the first type result in the conservation of status quo, changes of the latter kind encounter a resistance of the academic milieu. Discussing the future of the university and the direction of changes we may quote Jan Szczepański who argued twenty years ago that changes at universities usually regard minor problems, leaving the core of the academy intact (Szczepański, 1993). Szczepański also argues that external pressure usually leads to superficial changes that have no influence on the university's functioning (Szczepański, 1993). The opinion corresponds to an apt remark made by Guy Neave who believes that scholars guard their autonomy, just like hippopotami protect their territory (Neave, 2003), which certainly does not facilitate the implementation of changes.

When asking about what changes are indispensable and how they should be introduced in academic institutions one should refer to the opinion of José Ortega y Gasset, who believed that reforms in higher education should not be limited to the elimination of pathologies and mediocrity but instead they should create new, previously overlooked “use values” of the university. Ortega y Gasset writes that in order to implement changes at the university one should first specify their objective (Ortega y Gasset, 1944), a demand that seems obvious but is not always taken into consideration.

At the moment the traditional identification of the university as a sanctuary of knowledge or an ivory tower is being replaced by the notion of an entrepreneurial university

(Clark, 1998, 2004). There also appear notions of university stemming from the paradigms of knowledge-based organization and environment serving organization (Leja 2011) where the achievements of strategic management are used.

The challenges the contemporary university must face call for a discussion of the possibilities of implementing morphogenetic changes while maintaining the balance between evolutionary and revolutionary changes (cf. e.g. Greiner, 1972; Levinthal, March, 1993; Tushman, O'Reilly III, 1996; Bratnicki, 2009). Researchers agree that a balance between exploitation and exploration must be maintained; the problem is how the balance can be achieved (Gupta et al., 2006).

The present study aims at proposing a change in contemporary university's organizational structure in order to make it more flexible and to better use its resources, most of all – knowledge. The authors have been inspired by the following concepts: creative destruction (Schumpeter, 1960), ambidextrous organization (O'Reilly III, Tushman, 2004; Tushman, O'Reilly III, 1996) and third generation university (Wissema, 2009). Designing the structures for university organization the authors will also resort to metaphors for an organization proposed by Morgan (2005).

2. Creative Destruction

The notion of creative destruction proposed by Schumpeter is linked with his concept of economic development. Schumpeter claimed that capitalism is not a stationary process. Being grounded in social reality and reacting to fluctuations in natural environment capitalism is subject to constant changes that are evolutionary in nature. For Schumpeter, however, the phenomenon that was most fundamental for capitalism was the appearance of the new – new products, new phenomena on the market, new forms of organization – that, in a longer perspective, contributes to further economic development (Schumpeter, 1975).

According to Schumpeter economic development is the result of mutation processes resulting in constant changes, a revolution of sorts (Schumpeter, 1975). It is mainly about destroying the old order and recreating new forms, completely different in character. Examples include industrial revolutions or improvements connected with technological innovations that have happened throughout history. Schumpeter calls these mutation processes creative destruction and the result of these processes – innovation. Schumpeter

believed that economic development caused by creative destruction is inherently an uncertain and discontinuous process, mainly because of the unstable nature of the crucial moments in the destruction process (Schumpeter, 1975). Schumpeter argued that creative destruction does not happen of its own accord but is a result of entrepreneurial activity. Theorists often refer to the duality of entrepreneurship pointed out by Schumpeter. On the one hand entrepreneurship is understood as the courage to establish a new company. On the other – it is an element of corporate bureaucracy where innovations are worked on in research and development departments, which results in the routinization of the process (Ebner, 2003). According to Alexander Ebner such duality does not appear at all as the above mentioned distinction is the result of an adjustment to changes that took place in the economy (Ibidem).

What is important, however, is that Schumpeter believes that the entrepreneurial function can be fulfilled by almost everyone – on the condition that, while in the role of the leader in their environment, he or she will support changes and, in consequence, implement innovations (Ebner, 2009). Referring to “corporate identity” understood as an entrepreneurial community he concluded that even the government can perform the role of an entrepreneur as long as it will enrich the economy with new technologies and popularize knowledge as part of their activity (Schumpeter, 1951).

Today creating and popularizing knowledge is one of the factors leading to economic development. Our economic reality can be called – and this is a phenomenon widely discussed in literature – the knowledge economy. It is a form of capitalism (Burton-Jones, 2011) that simultaneously constitutes the driving force of Schumpeter’s creative destruction (Hargreaves, 2003). As a result it has a positive influence on economic growth and prosperity. The notion of the knowledge economy is linked to the notion of the knowledge society that is a learning society. Hargreaves argues that the knowledge society adjusts the information received and transforms it to knowledge in a way that leads to a growth in creativity and innovation thus initiating incessantly new changes and helping to cope with them. The author believes that educational institutions play a crucial role in educating the knowledge society.

A knowledge-based economy relies on people’s ability to compete and create innovations which result in the fulfillment of consumers’ needs. Applying Schumpeter’s terminology one can say that knowledge-based economy demonstrates entrepreneurial

features. It is important that the aforementioned features apply not only to society but also to organizations (Hargreaves, 2003). And one of the organizations in question is the university.

Referring to the notion of creative destruction Henry Etzkowitz – who was the first to use the term “entrepreneurial university” – points out two revolutions that have taken place at the university (Jain, Yusof, 2008 after: Etzkowitz, 2003). The first regarded the addition of research to the functions of university. The result of the second revolution was the university’s transformation into an organization that educates, offers research services and is partly responsible for its economic development (Jain, Yusof, 2007).

The question of entrepreneurial university has been increasingly present and discussed in greater detail in the literature of the last 30 years. There are several reasons for this growing interest. The main one is the growing commercialization of academic research results and technology transfer (Jain, Yusof, 2008). Entrepreneurial university has not been uniformly defined. Among formulations that have proposed we can count, among others, the following: Etzkowitz (1983), Clark (1998), Röpke(1998), Subotzky (1999), Kirby (2006), Etzkowitz (2003) and Jacob et al. (2003). One cannot offer one definition but the multiple views that have been presented possess some common traits. One should agree – and that would be in accordance with the spirit of Schumpeterian thought – that the crucial factor is the cooperation between university, government and industry (Röpke, 1998; Subotzky, 1999). The cooperation is directly linked to the following: carrying out new enterprises (Chrisman et al., 1995; Etzkowitz, 2003), gaining new sources of income (Etzkowitz, 1983) and the aforementioned technology transfer with its accompanying commercialization (Jacob et al., 2003).

Thus one should conclude that the process of creative destruction described by Schumpeter takes place also at universities, which is desirable. It is important for the research carried out in academic centres to be implemented in the market and become the foundation of sustained development. The question resulting from these analyses is the following: what changes should the university undergo in order to become an initiator of change in its environment and in order for the effects of the university’s activities to result in the development in economy and society?

3. Reformulating University. Towards the Ambidextrous Organization

Polish public universities are, on the one hand, firmly rooted in the tradition of the Humboldtian university, and, on the other, are facing growing pressure from stakeholders (both those directly linked to the university and those more removed, like the society as a whole) to improve their effectiveness. Analyzing the evolution of Polish technical universities' organizational structure (Leja, 2011) one can see that the metaphor that would best describe the universities is a mechanistic one – due to their exceptional inflexibility. Does the structure based on the division into faculties and departments favour universities' evolution towards a learning organization (see e.g. Bratnicki, 2000; Senge, 2003; Rokita, 2003)?

The authors propose changes towards transforming university into an ambidextrous organization. The common features of all the proposed changes are the emphasis on culture and organizational values as well as social responsibility (all these factors are crucial in the context of contemporary higher education institutions). In the notion of ambidextrous organization proposed by R.B. Duncan and developed by Ch. O'Reilly III and M. Tushman there are two separate spheres of an organization's functioning: the new sphere of research (i.e. discovering new knowledge), developed as a result of revolutionary changes, and the traditional sphere of exploitation (transmitting the accumulated knowledge), developed evolutionarily (Tushman, O'Reilly III, 1996; Birkinshaw, Gibson, 2004; March, 1991). The two spheres function "next to" each other but cooperate closely, and the joining element is an integration unit made up of experienced university employees.

The proposed change towards the ambidextrous organization would include two processes: 1/. A dispersion of university's objectives, activities and resources pertaining to education and research that were previously interconnected 2/. connecting these two fields of activity in a new way (Norman, 2012). In a university organized according to the ambidextrous model the exploratory part of the organization could define the direction of structural changes. The architecture of a university organized according to this model comprises small teams thanks to which their members partake in the team spirit and feel responsible for the result of their work. On the other hand many initiatives are taken on the central level in order to reduce costs and not duplicate the same actions on different levels.

In practice such organizational model means a coexistence of a strong centre (but ready to serve the organization) and decentralized, relatively independent organizational units. The university authorities are expected to play the role of an orchestra conductor. The conductor should remember that the organizational mechanisms of a learning ambidextrous organization (i.e. decentralization, elimination of bureaucracy, strengthening of individual autonomy, accountability and proneness to take risks) are similar in organizations that have succeeded and in those that have failed (Raynor, 2008).

The links between didactics and scientific research are self-evident but it is justified to restructure their interrelations. An example of such restructuring is creating didactic and research centres alongside peripheral segments.¹ We should consider changing the present university's organizational structure – with faculties forming the organizational axis with interdisciplinary, interfaculty teams playing a coordinating role (fig. 1) – into a structure with an organizational axis consisting of independent teams with faculties in the role of coordinators (fig. 2) (cf. Wissema, 2010)².

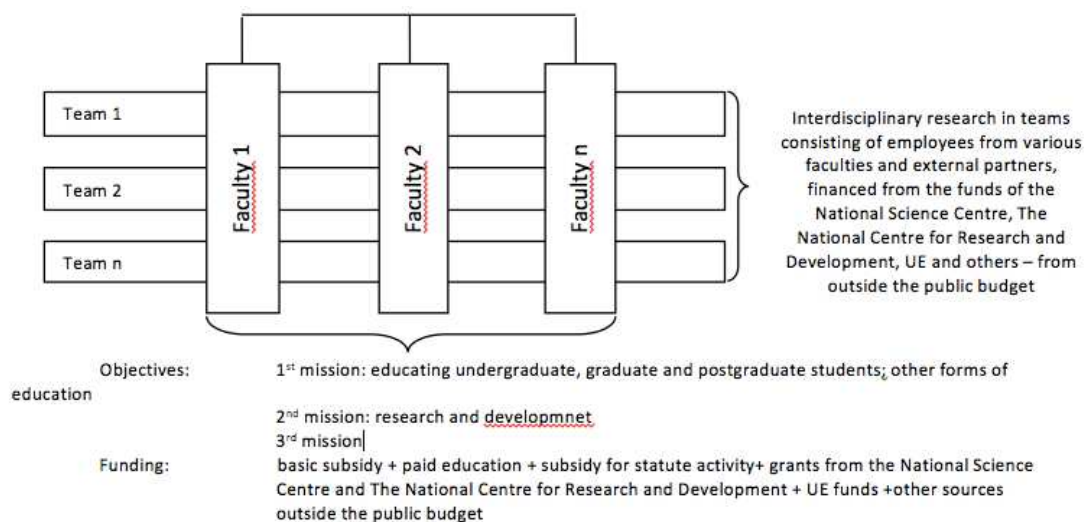


Fig. 1. Traditional university structure (the level of basic organizational units)
Source: authors' own study using J. Wissema (2010)

Such proposal demands faculties to concentrate on educating students on graduate level on a mass scale, whereas the research and didactics teams should focus on research activity

¹Peripheral segments are university organizational units that have direct contact with the environment and which role is the development of the cooperation with the environment. Examples of peripheral segments include: Career Office, Convention, University Social Council, Continuous Education Centre, business incubators, Market Cooperation Department, etc.

as well as educating those students who – as a result of a competence test – undertake graduate and postgraduate studies.

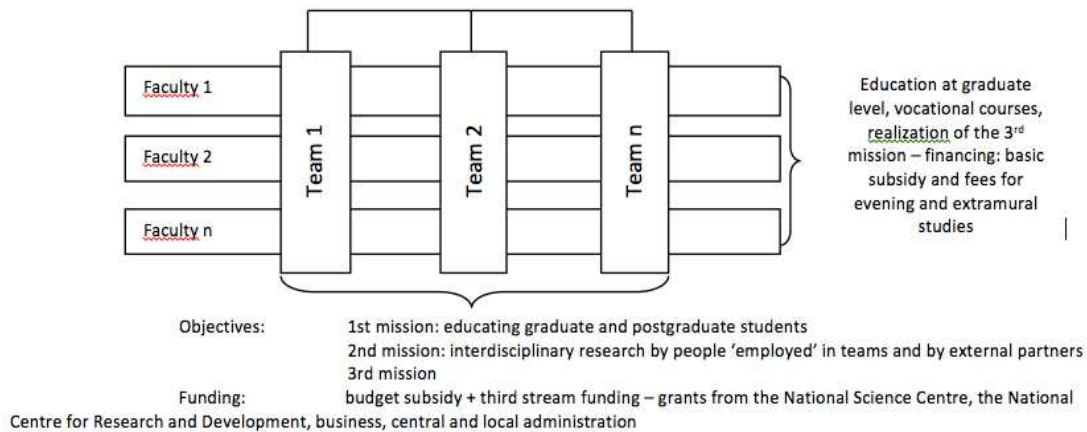


Fig. 2. Ambidextrous university structure (the level of basic organizational units)
Source: authors' own study using J. Wissema (2010)

The source for the Faculties' funding would be the basic subsidy and paid forms of education (or graduate studies fees, if they were introduced). Teams would be financed by the so-called third stream funding (mainly grants from the National Science Centre and the National Centre for Research and Development, business funds and UE funds). Teams would be responsible for building relations with partner and competing institutions. Co-competition would be inscribed into university mission. Faculties' main objective would be the exploitation of knowledge and transmitting it to students whereas the research and didactics teams would focus on exploration carrying out both basic and applied research.

Faculties would employ academic teachers (regardless of their academic degrees and titles) for teaching jobs, which would not, however, prevent inviting research and didactics employees working in teams for particular lectures. Teams would employ academic teachers for research and didactics posts, which would also not exclude inviting faculty employees for selected classes. The remuneration of faculty employees would be higher than the remuneration of team employees.

Faculties would be assessed mainly on the basis of educational effects whereas the basis for the assessment of teams would be, apart from educational effects in graduate and postgraduate studies, the creativity measured on the basis of: the funds gained for research and development activities, development of cooperation networks, the number of publications in JCR journals (together with citation number) and in the journals from the list of the Polish Ministry of Science and Higher Education, including collective publications, the effects of cooperation with business environment and with central and local governments,

project implementations as well as the effects of initiatives undertaken to popularize knowledge among young people.

In this way one can realize the idea of the ambidextrous organization and, what is more important, enhance the importance of university's didactic activity whose role cannot be overestimated. Today it is difficult to grant a prominent position to didactics as academic teachers are assessed mainly on the basis of their scientific and scholarly achievements, which has a negative impact on the teaching quality. The proposed new organizational structure gives research and didactics employees the opportunity to focus on their work in interdisciplinary teams while transferring their didactic activities to graduate and undergraduate studies.

The proposed approach agrees with the understanding of the university as a professional bureaucracy (Mintzberg, 1983) leaning towards adhocracy; it can also enable a creative combination of two tendencies: the organization's aiming at stability (while allowing for mistakes resulting from the resistance to change) and the organization's aiming for instability as the organization disintegrates (Rokita, 2009). The combination of the two states – beneficial for the organization – is a position on the brink of chaos (Krupski, 2010). This arrangement favours learning of a double loop as the boundaries between organizational structures blur, and the different identities of particular structures become advantages enhancing the acceptance of uncertainty as a constant element in the game. Morgan underscores the role of openness for justified mistakes resulting from uncertainty, tolerance for the variety of views and bending the structure to organizational arrangements (Morgan 2005). Such an approach together with the ambidextrous university's openness for scholars' self-organization can favour the creation of ad hoc structures disbanded after the project's accomplishment. Implementing the postulated university organization can be made easier thanks to Morgan's correlative rules for holographic design.

4. Getting There – the Real and the Symbolic Image

Perceiving and defining reality – including the organizational one – can also happen in various ways. One can describe the factual state of affairs, the given state of things, and it is impossible to capture all the components of a given situation – to create a complete image. One can never escape a subjective point of view. Another way to get to know the world of

organizations is using metaphors; it is a look from the perspective of organizational culture. In this case one cannot count on an objective perspective either, even though an organization's culture serves to define an organization's identity, and thus – to call things by their proper names.

Still, metaphors are the result of a partial view on an organization as they stem from our ways of thinking and our worldview (Morgan, 2005). On the other hand they have a creative power as they have an impact on science, our language and in general on our everyday behaviour (Ibidem). Attempts at understanding organizational reality through another reality (e.g. organic) demonstrate organizational reality's complexity and paradoxical nature. But this is what it is like. One can interpret it in numerous ways and metaphorical language proves helpful in this endeavour.

Schumpeter, mentioned earlier in the text, also resorted to metaphors. In reference to the process of creative destruction he used a biological term – mutation – treating creative destruction as a correlation of numerous factors (variables) of a given organism, provoking change (in the spirit of the organic metaphor) (Schumpeter, 1975).

The university, because of social conditions, has also developed its own language of metaphors. In the present text we have already referred to the university as a sanctuary of knowledge and scholars as hippopotami. Where do such images of university and its representatives come from? In the first case one can talk about an association with a holy place where people worship the deity: knowledge with autotelic value. As it turns out, it is an association closely reflecting the real state of affairs – until very recently universities, among few organizations, had monopolized the knowledge production. It resulted from cultural determinants, and a long academic tradition; therefore the monopolization was taken for granted. Neave's image of scholars in its turn results – as we have already said – from behaviours aiming at preserving or extending autonomy.

Scholars and researchers have a tendency to work on their own which probably is the consequence of their achievements being assessed individually. Joseph Raanan calls it the prima ballerina effect (table 1). Scholars' and researchers' individuality is accompanied by marking out new cognitive paths and an unwillingness to yield to standard solutions.

Feature	Ballet company	University
Number of principal dancers	2-4	Nearly all employees
Competition	Direct	Subtle, varied
Skills necessary for attaining desired status	Well-defined, usually identical	Loosely defined, varied according to faculty
Employment years	Relatively few	Very many
Retirement	After reaching the peak of professional abilities	65-70 and more
Dissolution	Possible	Nearly impossible

Table. 1. University vs. Ballet company

Source: Raanan J., 1998, TQM for universities: can we practice what we preach?, *Proceedings from TQM for Higher Education Institutions, Total Quality Management for University*, Toulon, 3-4 September, 2.

The above examples show how, using a particular image, one can describe the reality of a given organization; in this case – university. Thanks to this change of perspective, our gaze can reach deeper, which is undoubtedly an advantage.

In reference to the main topic of the present paper, i.e. change at the university, we offer some metaphors of change that can be related to the issues discussed above.

Gareth Morgan constructs his change metaphor in the context of “the logics of change,” a term he uses to refer to latent processes that happen according to their own logic and constitute the essence of a given world form at a particular point. The author also believes that the latent order is a creative process whose nature is indivisible and fluid and therefore it constitutes the source of change (Morgan, 2005). In this context one should realize that changes are not something external to the world, something that the world yields to – instead, the reality as such is constituted of changes (Ibidem). Undoubtedly one can see here an analogy with Schumpeter’s process of creative destruction.

Here, one should ask the following question: where in the context of the logics of change is the right place for organizational reality? Morgan lists three images of change. The authors have chosen one, the one that best correlates with the postulated changes at the university.

We mean the metaphor of autopoiesis (self-creation) of organizational activities. The metaphor refers to the three following issues (Ibidem):

Organizations always try to refer to themselves by closing themselves to the environment which for them constitutes the projections of their identity.

Organizations’ problems are caused by perceiving the environment from the perspective of the identity they want to preserve.

An organization's evolution, change and development are the results of specific factors creating its identity, i.e. they are the result of the organization's relation with the outside world.

Trying to position the above problems in the context of university we should replace the above statements with the following questions:

1. Does the university try to refer to itself by closing itself to the environment which for the university constitutes the projections of its identity?

2. Are the university's problems caused by perceiving the environment from the perspective of the university's identity it wants to preserve?

3. Are the university's evolution, change and development the results of specific factors creating its identity, i.e. are they the result of the university's relation with the outside world?

The answer to the above questions is affirmative. Following Morgan's diagnosis we should consider university an organization placing itself in the centre and referring to itself. This is reflected in the metaphor of the university as a sanctuary of knowledge. Sanctuaries show no interest in the outside world as they themselves serve the knowledge that is worshipped within their walls. That is what defines them. Problems arise when knowledge becomes outdated, which happens fast when the knowledge we have does not provoke new questions. Leaving these problems aside, one can conclude that knowledge is the sanctuary's point of focus, the core of its identity. This is also the case at university. Still, limiting ourselves to the sanctuary metaphor also has its shortcomings. As Jain and Yusof observe university is expected to perform didactic and research functions while also being partly responsible for its economic development (Jain, Yusof, 2007). University, in order to realize these functions while remaining faithful to its identity, should be given proper tools. The tools can be produced within organizational structures, a claim that corresponds with the changes the authors propose. All change at university happens through an exchange of knowledge – and since an exchange takes place, there must be a relation. One of the parties in this relation must be other academic centres or broadly understood economic subjects.

The above-mentioned material shows that organizations, including university, can actively participate in building their environment (Morgan, 2005). It will happen, if they start perceiving themselves as elements of a larger system that constitutes the context for their actions. Here one can refer to Schumpeter who said that "every piece of business strategy

acquires its true significance only against the background of that process and within the situation created by it. It must be seen in its role in the perennial gale of creative destruction; it cannot be understood irrespective of it or, in fact, on the hypothesis that there is a perennial lull" (Schumpeter, 1975, 83-84). In this sense one should state that the changes happening have a constant nature, i.e. they are evolutionary and unhindered (Morgan, 2005).

5. In Place of Conclusion

Does a creative destruction of university – an institution with nearly a thousand-year tradition – make any sense? The authors of the present study wish to give an affirmative answer to this question, proposing an adjustment of the notion of the ambidextrous organization and a major organizational change: instead of faculties playing the role of coordinating units we propose ad hoc teams consisting of representatives of various faculties, universities and the non-academic world that would constitute the university's organizational axis. The authors believe that a symbolic image of that transformation can be helpful in a fuller understanding of its essence.

References

- Birkinshaw, J., Gibson, C. (2004). Building ambidexterity into an organization. *MIT Sloan Management Review*, 45(4), summer, 47-55.
- Bratnicki, M. (2000). *Dylematy i pułapki współczesnego zarządzania*. Katowice: Wydawnictwo GNOME.
- Bratnicki, M. (2009). Kształtowanie przedsiębiorczego rozwoju organizacji w warunkach nieprzewidywalności zmian. In J. Rokita (Ed.), *Zarządzanie w warunkach nieprzewidywalności zmian* (28-41). Katowice: Górnośląska Wyższa Szkoła Handlowa.
- Burton-Jones, A. (2011). *Knowledge capitalism: Business, work, and learning in the new economy*. OUP Catalogue.
- Clark, B.R. (1972). The organizational saga in higher education, *Administrative Science Quarterly*, 17(2), 178-184.
- Clark, B.R. (1998). *Creating entrepreneurial universities: Organizational pathways of transformation*. New York: Pergamon.
- Clark, B.R. (2004). *Sustaining change in universities. Continuities in case studies and concepts*. New York: Society for Research into Higher education & Open University Press.
- Ebner, A. (2003). The Institutional Analysis of Entrepreneurship: Historical Aspects of Schumpeter's Development Theory. In J. Backhaus (Ed.), *Joseph Alois Schumpeter* (117-139). Dordrecht: Kluwer Academic Publishers.
- Ebner, A. (2009). Entrepreneurial state: The schumpeterian theory of industrial policy and the East Asian "Miracle". In U. Cantner (ed.), *Schumpeterian Perspectives on Innovation, Competition and Growth*, DOI 10.1007/978-3-540-93777-7_20. Berlin/Heidelberg: Springer-Verlag.
- Etzkowitz, H. (1983). Entrepreneurial scientists and entrepreneurial universities in American academic science. *Minerva*, 31 (3), 198-233.

- Etzkowitz, H. (2003). Research groups as 'quasi-firms': The invention of the entrepreneurial university. *Research Policy*, 32 (1), 109–121.
- Greiner, L.E. (1972). Evolution and revolution as organizations grow. *Harvard Business Review*, July August, 37-46.
- Gupta, A.K., Smith, K.G., Shalley, C.E. (2006). The interplay between exploration and exploitation. *Academy of Management Journal*, 49 (4), 693-706.
- Hargreaves, A. (2003). *Teaching in the knowledge society: education in the age of insecurity*. Teachers College Press.
- Jacob, M., Lundqvist, M., Hellsmark, H. (2003). Entrepreneurial transformations in Swedish university system: The case of Chalmers University of Technology. *Research Policy*, 32 (9), 1555–1568.
- Jain, K.K., Yusof, M. (2007). Leadership challenges in developing and entrepreneurial university. *Proceedings of the International Conference on Leadership in a Changing Landscape*, Tun Abdul Razak University, Hotel Holiday Villa, Subang, Malaysia, 7–8 August.
- Jain, K. K., Yusof M. (2008). Categories of university-level entrepreneurship: a literature survey, *International Entrepreneurship and Management Journal*, LLC.
- Kerr, C. (2001). *The uses of the university*, Cambridge, Harvard University Press.
- Kirby, D.A. (2006). Creating entrepreneurial universities in the UK: Applying entrepreneurship theory to practice. *Journal of Technology Transfer*, 31 (5), 599–603.
- Krupski, R. (2010). Krawędź chaosu jako stan organizacja. In J. Rokita (Ed.), *Problemy zarządzania organizacjami w warunkach nieprzewidywalności zmian* (21-37), Katowice: Górnośląska Wyższa Szkoła Handlowa.
- Kwiatkowski, S. (2000). *Przedsiębiorczość intelektualna*, Warszawa: Wydawnictwo Naukowe PWN.
- Kwiatkowski, S., Sadlak J. (eds.) (2003), *Knowledge cafe fro intellectual entrepreneurship through higher education*, Warsaw: Leon Koźmiński Academy of Entrepreneurship and Management.
- Kwiek, M. (2010). *Transformacje uniwersytetu. Zmiany instytucjonalne i ewolucje polityki edukacyjnej w Europie*. Poznań: Uniwersytet Adama Mickiewicza.

- Leja, K. (2011). *Koncepcje zarządzania współczesnym uniwersytetem*, Seria: Monografie 116, Gdańsk: Wydawnictwa Politechniki Gdańskiej
- Levinthal, A., March, J.G. (1993). The myopia of learning. *Strategic Management Journal*, Vol. 15 (Winter), 95-112
- Levy, A., (1986). Second-Order Planned Change: Definition and Conceptualization. *Organizational Dynamics*, 15 (1), 5-23.
- March, J. (1991). Exploration and exploitation in organizational learning, *Organization Science*, 2 (1), 71-87.
- Mintzberg, H. (1983). *Structure in fives. Designing effective organizations*. New Jersey: Prentice Hall, Englewood Cliffs.
- Morgan, G. (2001). *Wyobraźnia organizacyjna*. Warszawa: Wydawnictwo Naukowe PWN.
- Morgan, G. (2005). *Obrazy organizacji*. Warszawa: Wydawnictwo Naukowe PWN.
- Neave, G. (2003). On Scholars, Hippopotami and von Humboldt: Higher Education in Europe in Transition. *Higher Education Policy*, Vol. 16, 135-140. Retrieved from <http://www.palgrave-journals.com/hep/journal/v16/n2/full/8300012a.html>
- Norman, R. (2012). *Przeformułowanie w biznesie. Jak mapa zmienia krajobraz*, Gdańsk: Gdańskie Wydawnictwo Psychologiczne.
- O'Reilly, Ch. III, Tushman, M. (2004). The Ambidextrous Organization. *Harvard Business Review*, April
- Ortega y Gasset, J. (1944). *Mission of the University*. New York: Norton & Co Inc.
- Raanan, J. (1998). TQM for universities: can we practice what we preach?. *Proceedings from TQM for Higher Education Institutions, Total Quality Management for University*, Toulon, 3-4 September, 2.
- Raynor, M.E. (2008). *Paradoks strategii*, Warszawa: Wydawnictwo Studio Emka.

Rokita, J. (2003). *Organizacja ucząca się*. Katowice: Akademia Ekonomiczna.

Rokita, J. (2009). *Dynamika zarządzania organizacjami*. Katowice: Akademia Ekonomiczna.

Röpke, J. (1998). The entrepreneurial university, innovation, academic knowledge creation and regional development in a globalized economy. *Workingpaper Department of Economics, Philipps-Universität Marburg, Germany*. Retrieved from <http://www.staff.uni-marburg.de/~roepke/Documents/entreuni.pdf>

Schumpeter, J. (1975). *Capitalism, socialism and democracy*, New York: Harper.

Schumpeter, J. (1949/1951). *Economic theory and entrepreneurial history, Change and the Entrepreneur*. Reprint in Clemence R.V. (Ed.) *Essays of J. A. Schumpeter (248–266)*, Cambridge: Addison- Wesley.

Schumpeter, J. (1960). *Teorie rozwoju gospodarczego*. Warszawa: PWN.

Senge, P. (2003). *Piąta dyscyplina. Teoria i praktyka organizacji uczących się*. Kraków: Oficyna Ekonomiczna.

Subotzky, G. (1999). Alternatives to the entrepreneurial university: New modes of knowledge production in community service programs. *Higher Education*, 38(4), 401–440.

Szczepański, J. (1993). Granice reform szkolnictwa wyższego. *Nauka i szkolnictwo wyższe* 2/93, 5-10.

Tushman, M., O'Reilly, III Ch. (1996). Ambidextrous Organization: Managing Evolutionary and Revolutionary Change. *California Management Review*, 3 (4), 8-30.

Wissema, J.G. (2009). *Toward the Third Generation University: Managing Universities in Transitions*. Cheltenham: Edward Elgar Publishing.

Wissema, J.G. (2010). *Uniwersytet trzeciej generacji*. Święta Katarzyna: Wydawnictwo ZANTE.

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