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THE BUSINESS MODEL OF "INNOVATION BROKER" – THEORETICAL ASPECTS

MODEL BIZNESOWY „BROKERA INNOWACJI" – ZAŁOŻENIA TEORETYCZNE

Abstract: Technological development forces companies, economies, to actively participate in the process of creating and using knowledge. It results in continuous pursuit of new concepts, which allow better adjustment to new conditions. A growing role is played by

innovation centers and business incubators. Business environment institutions, which support companies and enhance the flow of knowledge and technology between companies, scientific units, scientific-research institutions, public administration. We will find numerous examples in the professional literature of the studies in the scope of the business model, assumtions of the system aspect, cooperation, networks, however, relatively little is devoted to this issue in relation to innovation brokers. In connection with the above, the purpose of this publication is to present theoretical indications regarding the business model of the "Innovation Broker" and to characterize the elements of this model.

Keywords: model, business model, innovation broker, business environment institutions, networks

Streszczenie: Rozwój technologiczny wymusza na przedsiębiorstwach i gospodarkach aktywny udział w procesie tworzenia wiedzy i jej wykorzystywaniu. Powoduje to ciągłe poszukiwanie nowych koncepcji, które pozwalają na lepsze dostosowanie się do nowych warunków. Coraz większą rolę odgrywają ośrodki innowacji i inkubatory przedsiębiorczości. Instytucje otoczenia biznesu wspierają firmy oraz wspomagają przepływ wiedzy i technologii pomiędzy przedsiębiorstwami, jednostkami naukowymi, instytucjami naukowo-badawczymi, administracją publiczną. W literaturze przedmiotu odnajdziemy liczne przykłady badań z zakresu modeli biznesu, aspektu systemowego, współdziałania w sieci, natomiast stosunkowo niewiele poświęconych jest tej problematyce w odniesieniu do brokerów innowacji. W związku z powyższym celem niniejszego opracowania jest zaprezentowanie wskazań teoretycznych w zakresie modelu biznesowego „Brokera Innowacji" oraz charakterystyka elementów tego modelu.

Słowa kluczowe: model, model biznesu, broker innowacji, instytucje otoczenia biznesu, sieci

Introduction

We notice that the functioning of businesses has become increasingly complex over the centuries. In the phase of the industrial era, companies predicted the future based mainly on their experience and intuition. This situation changed in the face of the Great Crisis in the 1930s, when the previous ways of conduct became useless. The subsequent years 1950s, 1970s forced companies to adapt to the growing complexity of the environment and think in terms of the future. On the other hand, the end of the 1990s marks the entry into the postindustrial era.

We can undoubtedly state that the change processes have become stronger over the most recent decades. As rightly pointed out by H. Ansoff, this is due to the factors related to the growing novelty of changes, the intensity of the environment's impact on the business, speed of changes in the environment as well as complexity of the environment[1]. An important role in this process is played by technological development, which forces companies, economies, to actively participate in the process of creating and using knowledge. It results in continuous pursuit of new concepts, which

[1] H. Ansoff, *Zarządzanie strategiczne,* PWE, Warszawa 1985, p. 58.

allow better adjustment to new conditions. An interesting proposal are innovation brokers, being business environment institutions, intermediaries within innovation networks, whose main task is to facilitate the flow of innovations between the source of creation and the user. A key function in innovation brokers' operations, apart from intermediation, is an independent assessment of new ideas, support for knowledge commercialization and dissemination, integration of the scientific and economic environment as well as popularization of scientific research results in the environment. These entities often operate as non-profit organizations or in the form of a public-private partnership. It can be noticed that their operation can be considered from the point of view of the assumptions of the so-called business models, describing the premises for creating value, relations and linkages with partners, areas of operations of the company and ways to earn the profit. Therefore, the purpose of the article is to present the theoretical indications in the scope of the term 'business model' and the characteristics of the "Innovation Broker" business model elements.

1. Assumptions of the business model

When analyzing the literature, it can be observed that so far there is no unambiguity in the way of defining the model[2]. It seems that this is due to diverse understanding of the term „model", e.g. as description, scheme, theory. As correctly pointed out by W. Sztoff, to understand a phenomenon, one has to build a model of it[3]. The main relationship between the original and the model is similarity, taking the form of homomorphism or isomorphism. The statement of J. Zieleniewski that a correctly constructed model allows not only for orientation in reality but also for predicting changes related to the impact on certain parts of it[4] is still valid[5]. On the other hand, if the state of our current knowledge does not allow strict quantification of all the variables, a model should consist of descriptively captured variables, so as one could order particular phenomena according to a specific criterion. This applies to e.g. the term 'business model' introduced in the late 1990s, which has inspired a lot of discussions. As rightly noticed by[6] the term 'business model' is commonly used in practice, research on business model is still at the initial stage. Without a uniform definition or a dominant theory, the majority of studies

[2] W. Sztoff, *Modelowanie i filozofia,* PWN, Warszawa 1971, p. 37.
[3] Ibidem, p. 5.
[4] J. Zieleniewski, *Organizacja i zarządzanie,* PWN, Warszawa 1981, p. 43.
[5] The positive outcomes of using models depend on whether the model is: a) accurately selected to study a given phenomenon b) reduces unnecessary information to the minimum, c) is characterized by accuracy within acceptable limits, d) is easy to read in clearly formulated, e) is presented in a convincing and understandable manner, f) reduces verbal description to the minimum necessary to understand the mere idea of the model. Z. Mikołajczyk, *Techniki organizatorskie w rozwiązywaniu problemów zarządzania,* PWN, Warszawa 1999, p. 116.
[6] J. Lee, Y.S. Hong, *Business Model Mining: Analyzing a Firm's Business Model with Text Mining of Annual Report,* „Industrial Engineering & Management Systems" 2014, vol. 13, No.4, p.432.

tries to identify business model characteristics. A business model is a logical description of all actions of the company within the offered products and services[7]. It consists of interrelated plans to capture potential values from the company's offer and transform them into economic values. As noticed by Ch. Zott, R. Amit and L. Massa, since 1995 the problem has been addressed in 1177 scientific journals. In spite of the above, it has not been possible to develop one single approach[8]. As correctly pointed out by D.J. Teece, a business model is not only about creating value and conquering the market, but it comes in many varieties and can serve many purposes[9]. It defines the method of creating and delivering an innovative product by the company, meeting customer needs, it is also the architecture of business processes, complex relations and achievement of competitive advantage and profit. It is important that the business model is diversified, innovative enough to be difficult for other companies to imitate. The professional literature provides a number of studies, definitions and approaches to the term 'business model'. The authors Ch. Zott, R. Amit, L. Massa making a literature review of 103 publications discussing the subject matter of business models, noticed that more than a third of them (37%) does not define the term at all, adopting its meaning more or less as an axiom. Less than a half (44%) explicitly defined or conceptualized the term 'business model', for example, by enumerating its major elements. The remaining publications (19%) refer to other researchers' works in defining this concept. Moreover, the existing definitions only partially overlap, giving rise to many interpretations[10]. We can indicate that business models operate as [11]a general statement[12], a description[13], imagination[14], architecture[15], a conceptual tool or model[16], a structural template[17], a method[18], a construct[19], a pattern[20], a plan[21].

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[7] J. Magretta, *Why business models matter,* „Harvard Business Review" 2002, vol.80 (5), p. 86-93.

[8] Ch. Zott., R. Amit, L. Massa, *The Business Model: Recent Developments And Future Research,* „Journal of Management" 2011.

[9] D.J. Teece, *Business models, business strategy and innovation*, „Long Range Planning" 2010, 43(2-3), p. 175.

[10] Ch. Zott., R. Amit, L. Massa, *The Business*…, p. 7.

[11] N.J. Foss,T. Saebi, *Business Model Innovation: The Organizational Dimension,* Oxford, Oxford University Press, 2015, p.6.

[12] W.D. Stewart, Z. Qin, *Internet Marketing, Business Models, and Public Policy,* „Journal of Public Policy & Marketing" 2000, 19 (2), p. 287-296.

[13] P. Weill, M.R. Vitale, *Place to Space: Migrating to E-Business Models*, Harvard Business School Press, Boston 2001.

[14] M. Morris, M. Schindehutte, J. Allen, *The Entrepreneur's Business Model: Toward a Unified Perspective,* „Journal of Business Research" 2005, 58, p.726-735; S.M. Shafera, H.J. Smitha, J.C. Linder, The power of business models, „Business Horizons"2005, 48, p.199-207.

[15] M. Dubosson-Torbay, A. Osterwalder, Y. Pigneur, *E-Business Model Design, Classification and Measurements*, „Thunderbird International Business Review" 2002, 44 (1), p. 5-23.

[16] A. Osterwalder, Y. Pigneur, *Business Model Generation: A Handbook for Visionaries, Game Changers, and Challengers,* John Wiley & Sons, Hoboken2010; A. Osterwalder, Y. Pigneur, C.L. Tucci, *Clarifying business models: origins, present and future of the concept. Communications of the Association for Information Systems,* „Long Range Planning" 2005, 15.

[17] E.g. Ch. Zott., R. Amit, L. Massa, *The Business*…

[18] A. Afuah, A. Christopher, L. Tucci, *Internet Business Models and Strategies,* Publisher: McGraw-Hill, January 2001.

[19] A. Afuah, *Business Models: A Strategic Management Approach*, Publisher: McGraw-Hill, January 2003.

[20] E. Brousseau, T. Pénard, *The Economics of Digital Business Models: A Framework for Analyzing the Economics of Platform,* „Review of Network Economics" 2007, 6 (2), p. 81-114.

[21] C. Seelos, J. Mair, *Profitable Business Models and Market Creation in the Context of Deep Poverty: A Strategic View,* „Academy of Management Perspectives" 2007, 21, p. 49-63.

On the other hand, P. Markiewicz, A. Żbikowska[22], proposes a broad (in the wider sense) and narrow (in the strict sense) look at a business model. The broad perspective refers to the organization as a whole, its goals, infrastructure, value offer for stakeholders, performed processes as well as relations with the environment. In the narrow perspective, a business model is considered in two ways: as a way to run the business or as a model perspective indicating elements and relations included in this model[23].

As rightly noticed by Ch. Zott, R. Amit, L. Massa the concept of the term 'business model' is used to answer different research questions in various contexts and different areas of management. Researchers, using the business model concept, try to explain various phenomena such as types of e-business, creation and acquisition of value by companies, or the way technological innovations work. The question arises as to how technology change affects the company's business model. Does and how the external situation and relations between the organization's partners shape and condition the business model. This undoubtedly important topic is addressed by authors such as A. Gambardella and A.M. McGahan, C. Baden-Fuller and S. Haefliger, or H. Chesbrough[24].

We can state that business models are strictly associated with technology and innovation of enterprises. Still, we should explicitly separate these entities, although they affect one another. On the one hand, the business model affects the type of the technology applied, on the other hand, the technological advancement level shapes the business model. However, it seems that the common feature of business models is to treat the organization in a holistic, systemic way, skillfully combining external conditions and internal capabilities of the organization, as well as creating and delivering values resulting from interdependencies between the elements of the model. It should also be remembered that model is usually a simplified representation of the given object, is a kind of methodological concept consisting of elements with which each organization may be characterized[25].

Therefore, the assumptions of the "Innovation Broker" business model and characteristics of its elements will be presented further.

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[22] P. Markiewicz, A. Żbikowska, *The Role Of Marketing In The Development Of Business Models - A Theoretical Approach, Contemporary Issues In Economics, Business And Management – EBM 2014,* Conference Proceedings, Faculty of Economics University of Kragujevac, 2015, p. 215.

[23] A. Osterwalder, Y. Pigneur, C.L. Tucci, *Clarifying…*

[24] A. Gambardella, A.M. McGahan, *Business-model innovation: General purpose technologies and their implications for industry structure,* „Long Range Planning" 2010, 43(2-3); C. Baden-Fuller, S. Haefliger, *Business Models and Technological Innovation,* „Long Range Planning" 2013, 46(6); H. Chesbrough, *Business model innovation: opportunities and barriers,* „Long Range Planning" 2010, 43(2-3); C. Abbott, S. Allen, *Facilitating Innowation: The Role Of The Centre For Construction Innovation,* „International Journal of Strategic Property Management" 2005 , 9.

[25] E.g. A. Osterwalder, Y. Pigneur, *Business…*

2. Assumptions of the "Innovation Broker" business model

As we have noticed above, business model is understood in a variety of ways, both in the subject literature and in practice. From the point of view of the assumptions of this study we will assume that the "Innovation Broker" business model is a set of correlated elements, offering certain values for stakeholders, performing processes and entering into interactions with the environment. Moreover, in order to develop a business model, it is necessary to adopt appropriate conceptual instrumentarium related to the "broker" and "innovation" concepts. The term "broker" has the dimension of an ambiguous conceptual category that can refer to different sectors of the economy. In our case, a "broker" will mean an institution (entity) acting as an intermediary in performing properly defined tasks. We can talk about different dimensions of brokerage activity, focused on the following aspects: agency, dealer, discount (discount broker), information (e.g. innovative solutions broker). The idea of an information broker involves the dynamic development of the world economy and the globalization process and refers particularly to changes in the field of modern technological solutions and the related exchange of information between the entities concerned.

We can assume that the model solution of "Innovation Broker" is a combination of the assumptions of an intelligent, fractal organization. It also means that consideration is given to the systemic and situational approaches as well as the assumptions regarding the use of the opportunities present in the clusters concept.

It is also worth emphasizing that the model concerned takes account of the network paradigm. As rightly noticed by W. Dyduch, M. Bartnicki, an organization cooperating with other entities in a network should be characterized, among others, by the fact that its resources are available to all participants in the network and are not in the possession of only the main network participant[26]. Actions should be continuously interwined with other network partners' activities, translating into success and synergic value creation.

In order to maintain the coherence of the research problem in question, systematization and analysis, the elements of its structure should be characterized. This issue is discussed in the following part of this publication.

3. Characteristics of the "Innovation Broker" business model elements

In the first part of this study, we indicated that the problem area of business models may be examined in a broad and narrow perspective. It seems appropriate to analyze this issue in a broad perspective (in the wider sense) and look at the "Innovation

[26] W. Dyduch, M. Bratnicki, *Tworzenie i przechwytywanie wartości w organizacjach współdziałających w sieci,* „Zarządzanie Strategiczne, Strategie Sieci i Przedsiębiorstw w Sieci.Prace Naukowe WWSZiP" 2015, No. 32(2), p. 77.

Broker" institution in a comprehensive manner. For this reason, it seems important to distinguish internal and external elements along with their characteristics. Internal factors will include strategy, organizational structure, skills (capabilities, competences), common values (organizational culture), personnel, systems, management styles, distortions. On the other hand, external factors include conditions of the immediate and further environment, stakeholders (science, administration, business, regulators). In this model, consideration should also be given to absorption of external knowledge, the flow of knowledge outside, feedbacks under the operation of the model, any kinds of disruptions and the social and economic subsystem. Figure 1 presents the proposed "Innovation Broker" model, taking account of the aforementioned elements. Taking account of the assumptions of the systemic approach, it is necessary to emphasize that all elements of the below presented model are equally important and there are mutual interactions between them. They are described as a combination of elements between themselves, having directly or indirectly the nature of relations: complementary, supplementary, competitive or coupled.

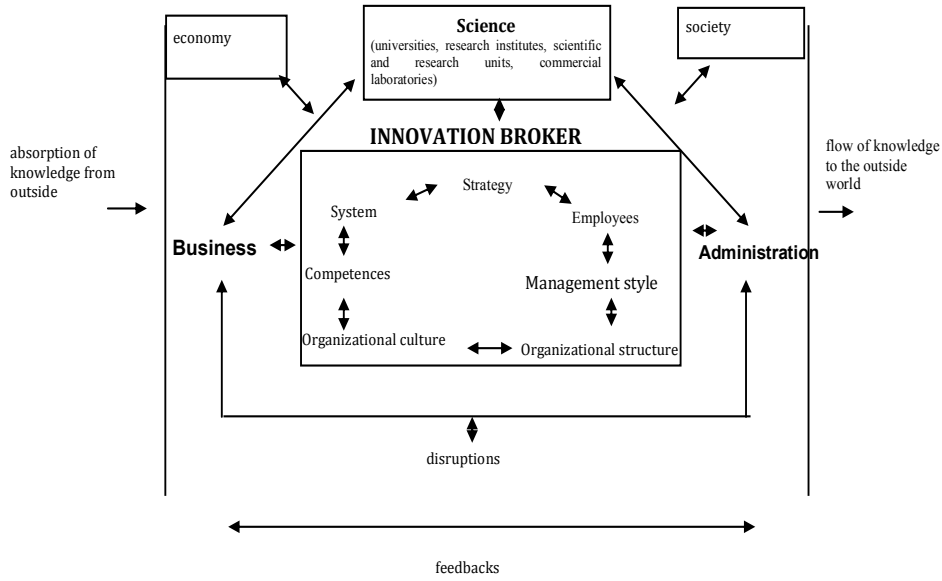

Figure 1. "Innovation Broker" business model
Rysunek 1. Model biznesowy „Broker innowacji"
Source: prepared by the author.

We will start the present description of the factors within the model from the notion of strategy, as it initiates the process of formulation of objectives, which are aggregated and realized on lower management levels. The condition necessary for the functioning of every organization is a defined objective or group of objectives

on the basis of the adopted vision and mission. Thus, a properly formulated and implemented strategy allows to direct the resources of the organization in a permanent arrangement based on the use of its own competencies in the paradigm of inter-organizational networks and the processes of cooperation implemented within them[27]. We define network as a pattern of interaction between separate businesses or a relatively permanent system of inter-organizational ties[28]. As correctly pointed out by W. Czakon, networks open up a completely new field of exploration, as the sources of advantage shift from the inside of the organization beyond its boundaries, focusing, among other things, on: individual ties, their arrangements as well as ways of organizing cooperation[29]. Cooperation under a network of relations, on the one hand, affects intentionally shaped relations with the environment, on the other hand is one of the options for development of the "Innovation Broker" with account taken of the turbulent nature of the environment and the assumptions of knowledge-based economy.

It should also be emphasized that this cooperation should be characterized by both formal and informal linkages as well as high strength and frequency of linkages with a high degree of trust. An extremely important task is to merge businesses, institutions in the scope of both technology transfer or cooperation opportunities as well as simplification of the complex conditions of functioning of single companies. On the other hand, strategy should be focused on the creation of platforms for mutual cooperation.

It is important to focus on the assumptions of knowledge organization and learning organization. In the proposed solution this source of knowledge are, among others, universities, research, scientific institutes as well as other organizations, developed knowledge of the society, and, first of all, a combination of these external elements with the internal potential of "Innovation Broker". It is also important for the network to include all sources and types of knowledge. In addition, special attention should be paid to intellectual assets and protection of intellectual property. It also seems that the "Innovation Broker" business model is compatible with the contemporary trend of formulating and implementing strategies, where a crucial role is played by unique competencies that are constantly on an ascending curve where subsequent new core competencies are added up. They form the basis for creating a platform for development of a strategy for the whole organization and often affect the formulation of the strategy of a region or country.

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[27] More information: L. Klerkx, C. Leeuwis, *Establishment and embedding of innovation brokers at different innovation system levels: Insights from the Dutch agricultural sector,* „Technological Forecasting & Social Change" 2009, 7, 849.

[28] W. Czakon, *Sieci w zarządzaniu strategicznym,* Oficyna a Wolters Kluwer Business, Warszawa 2012, p.48.

[29] W. Czakon, *Sieci międzyorganizacyjne w naukach o zarządzaniu – w kierunku sieciowych modeli biznesu,* „Studia Ekonomiczne. Zeszyty Naukowe Uniwersytetu Ekonomicznego w Katowicach" 2015, No. 217, p. 12.

Another element within the model being discussed is **organizational structure**[30] understood as the general bond between the components of an organization. In the institutional sense, the "Innovation Broker" business model can have the structure of a network organization with the use of selected aspects of the network, virtual and factal structures. These concepts allow modern organizations to make their internal organizational structure more flexible and increase their effectiveness.

However, it should be clearly emphasized that the adoption of a specific institutional solution should be adapted to the strategy being implemented. The type of the adopted strategy determines the shape of the subordination lines and the channels of communication between elements of the organizational structure, affecting the process of planning and decision making. In addition, the variability and complexity of the environment, feedbacks, owned resources and values will have an essential impact on the final shape of the adopted solution and its characteristics. We can indicate that this solution should be characterized by a wide management span and a flat and very flexible structure. The authority should be determined solely by the actual knowledge and culture of the participants in the organization, while the control function should be carried out mainly by self-control of highly specialized employees, with concurrent discreet supervision of the manager. In all institutions within the "Innovation Broker" business model, focus should be put on the use of different forms of team structures to implement projects. These factors will allow, within a longer period of time, to maintain the ability to change. It will also contribute to ensuring high flexibility and efficiency in action, implementation in faster methods for exchange of information, resources. Such a solution gives a high degree of independence to the partners in the network, which fosters innovation and learning and, above all, a multilateral cooperation effect.

Competences are one of the key elements in the model being discussed. We understand them as the capacity of transferring skills and knowledge to new situations in the professional field. They encompass planning and organization of work, innovation and dealing with non-typical activities as well as those personal characteristics that are associated with effective action, necessary at the workplace in contacts with co-workers, managers and clients[31]. Competences should cover the staff level (discussed below in item "personnel") and the organizational level. The second type of competences pertaining to the organization is part of the processes occurring in the company and is an immanent feature of the organizational system. Organizational competence is a component of employee competence. We can say that organizational competences is a combination of resources and opportunities. We are dealing with three competence levels: core (resulting from the company's

[30] Developed on the basis of A. Nalepka, *Koncepcja systemu oceny struktury organizacyjnej,* Wydawnictwo Akademii Ekonomicznej w Krakowie, Kraków 1993.

[31] M. Armstrong, *Zarządzanie zasobami ludzkimi*, Oficyna Ekonomiczna, Kraków 2000, p. 243.

mission, its culture and values); hierarchical (managerial characterizing the requirements of particular management levels) and functional (reflecting the specific nature of all functional areas).

An organization is presumed to have the ability to develop (learning to learn) if it has the ability to adapt quickly enough to changes in its environment and to influence the shape of the organization-environment relationship. Hence, a learning organization is a consistent system in which the synergy effect concerning organizational knowledge is realized. Organizational learning is a process of creation and continuous development of the knowledge base on the basis of which strategies of adaptation to the environment and organization development strategies can be generated. We can state that the organizational competence of an "Innovation Broker" should include, in particular: the ability to use their skills in particular areas of operations, integration and coordination of individual links in the chain and proper application of managerial knowledge in terms of cooperation, collaboration, attitudes and values. Continuous improvement skills, openness and permanent readiness for change as well as breaking fixed stereotypes are also important.

An important element of the "Innovation Broker" business model is the **organizational culture** and the related value system. The organizational culture should be classified as an intangible resource of the organization and can be regarded as a dependent variable (relationship of effectiveness and culture of the enterprise). Such approach indicates that the organization can shape, manage culture, or even produce it as a by-product. It is worth remembering that, on the one hand, organizational culture is the personality of a particular organization, but, on the other hand, affects it both in a positive and negative way. In the discussed model special emphasis should be put on the development of: a smooth communication network; fast decision making and implementation of plans and projects; inter-organizational cooperation ability; actions at the contact point of science, business and administration; stability and reliability in action and high flexibility and openness; large freedom of employees' actions and small control and low degree of formalization of procedures and processes. A developed organizational culture in the model should fulfill two basic functions: integration of members of the organization and adaptation of the model to changing environmental conditions. Management plays an important role, as it is responsible for development of standards and values, which it wants to create in the organization and for the adopted structural solution. It is also worth remembering that the organizational culture is a carrier of content that affects the possibility to pursue knowledge management. This results, among other things, from the flow of knowledge between employees, its codification and expression, the use of myths, rituals and other artifacts that express organizational values, beliefs and norms.

To sum up, from the point of view of the characteristics of the organizational culture the "Innovation Broker" business model should be characterized by among

others: ease of adaptation to changes, organizational openness, risk taking, focus on the future, focus on experimentation, promoting young people, who have abilities, are indomitable, task-oriented. A business model is focused on cooperation and friendship, openness to projects, fast action, efficiency of operation and problem solving. The development of employees and the acquisition of new competences and any skills, identification of employees with the organization, systematic learning, creativity and cultivation of passions should also be valued. It is also worth emphasizing that the adopted organizational culture is a condition of the business management process, determines its course and affects the effectiveness of actions.

Adopting the assumptions of the systemic approach, we cannot ignore to define the term system, which should include the following elements: management models, systems of planning, organizing, motivating, monitoring, controlling, assessing, numerous procedures, activities, processes and main systems operating in the proposed solution (e.g operational, communication systems). The "Innovation broker", as a knowledge-based organization, should refer to a comprehensive, adapting and intelligent system, which is characterized by[32]:

– complexity (is a dynamic and complex manner of cooperation between separate entities)

– daptability (the ability to diagnose the environment and skillfully take advantage of the opportunities, avoiding hazards and adapting to the surrounding conditions)

– intelligence (very good preparation for the implementation of the objectives that the organization gains through continuous learning and acquisition of knowledge from all sources).

In practice, the functioning of this system should put a particular emphasis on the analysis of comprehensive and integrating processes, disclose their feedbacks, examine the effects of impacts, and use the whole range of technology development forecasting methods. To sum up, we may state that this system should create a coherent, harmonized whole with other key elements: strategy, structure, management style, organizational culture, employee competences and potential.

In the context of aforementioned content, we cannot ignore another element of the model being the **employees**. It should be pointed out that the original element for all the concepts presented here are people, together with the work potential, understood as all the characteristics and properties, determining their current and future capabilities and readiness to implement tasks of the organization. The components of work potential include: qualitative and quantitative work potential. A key role will be played by the adopted strategy for the development of staff potential. It will include conduct of a special policy focused on creating an appropriate work potential resource in the organization, being a strategic development asset.

[32] D. Bennet, A. Bennet, *The Rise of the Knowledge Organization*, [in:] C.H. Holssapple, *Handbook on Knowledge Management: Knowledge matters,* Springer, Berlin – Heidelberg – New York 2004, p. 16.

The "Innovation Broker", as a contemporary solution, built on the assumptions of an intelligent, knowledge-based organization, operating in an inter-organizational network of cooperation, should take account of three groups of employees:

– knowledge employees (due to having key competences, allow the organization to continuously develop, are a key group of human resources)[33];

– personnel (pursue basic functions and not to significantly contribute to creating and sharing knowledge);

– partners, participating in the value creation process (are mainly experts, both internal and external)[34].

They should be characterized by competences, comprising: knowledge, general intelligence, special abilities, personality traits. Due to problems related to innovation and development as well as technology transfer, the characteristic of readiness for continuous learning will be significant in the competence profile. In addition, the life cycle of available knowledge in the era of IT solutions and globalization is extremely short and forces continuous improvement in the training level.

The importance of the problem area of knowledge transfer should also be emphasized. knowledge transfer can be implemented through different institutional and instrumental solutions. However, the following shall be deemed basic guidelines in this regard[35]: sharing experience, instruction, documents formal and informal network of linkages as well as training.

Management style, as another element of the model, shall be understood as a relatively permanent and repeatable way of the superior's influence on the subordinates' behavior or as a set of ways of conduct and the applied methods of action typical of the given leader. Effective management depends on: superior's characteristics, superior's behaviors and the situation determined by the tasks, which should be completed, subordinates' skills and expectations, organizational environment, leader's and subordinates' previous experience[36].

Analyzing the literature in terms of the discussed problem area, we can indicate two situational management style concepts that are important for us:

– situational management theory by P. Hersey, K. Blanchard (functioning and psychological maturity; ability, knowledge, skill, experience; only trust, only respect; signaling maturity to the achieved good results and greater responsibility)

– the model of situation-style relations of F. Fiedler (includes: the relations between the superior and subordinates - trust, recognition; structure of tasks and scope of authority).

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[33] This notion has introduced to management in the 1950 by P. Drucker.

[34] The division has been adopted after the proposal of B. Mikuła, *Nowy wymiar zachowań organizacyjnych,* [in:] *Zachowania organizacyjne w kontekście zarządzania wiedzą*, ed. B. Mikuła, Fundacja UE w Krakowie, Kraków 2012, p. 18.

[35] A. Pocztowski, *Zarządzanie zasobami ludzkimi,* PWE, Warszawa 2003, p. 105.

[36] Ibidem, p. 213.

In addition, leadership is particularly important in this model. D. Rojek emphasizes that the contemporary leadership should concentrate on conscious building of relations and trust and not structures. A leader's indispensable attributes should be: vision, competences and management skills, readiness and openness to changes, flexibility[37]. Therefore, this leadership should be based on the concept of transformational leadership. Characteristic features are, among others: superior's characteristics, effective image building, having and transferring vision, building a proper organizational culture, a climate of trust allowing implementation of categorized tasks. Effective manager - leader is in our case a charismatic person, particularly distinguished by managerial, substantive competences, creativity, active perception of reality, and skillful anticipation of the future.

The "Innovation Broker " business model described above, in addition to the elements mentioned above, should also bridge the gap between universities, research centers, business and administration. This will be caused by, among others, existence of a network of cooperation exactly between companies, universities, technology parks, technological centers as well as administration. As a result of this cooperation a kind of knowledge base should be created, which will make it easier to assess the development of technology, transfer of technology, support entrepreneurship development of scientific staff and students, by support for the creation of spin-off and spin-out companies as well as academic incubators. At this point it is worth emphasizing that the importance of universities and their responsibilities in the contemporary world should be modified. An interesting discussion on this topic is presented in their work by M. Soleimani, A.A. Tabriz, S.K. Shavarini. The authors believe that education and science at universities should aim at such a direction that they could support the new participative role in economic development. On the other hand, production and exchange of knowledge have become a global process and without creative interactions in the international scale there are no prospects for development of higher education[38]. Therefore, we believe that the proposed solution of "Innovation Broker" business model will play a key role in this whole process. It will be support for any innovative initiatives and will become a kind of "link" - support for business, science and administration entities. It will serve as an intermediary in such networks that make the process of innovation easier between the innovation sources and users. Its role will consist in an active assistance for initiating contacts and facilitating adjustment of specialist knowledge to the current needs. Finding experts with relevant knowledge from different scientific disciplines, help in building relationships and effective communication between specialists from different fields, disciplines, institutions. These

[37] D. Rojek, *Pracownik wiedzy i jego wydajność,* „Przedsiębiorstwo Przyszłości" 2011, No. 3, p.79.

[38] M. Soleimani, A.A. Tabriz, S.K. Shavarini, *Developing a Model to Explain the Process of Technology Transfer at Entrepreneurial University,* „Industrial Engineering & Management Systems" 2016, vol. 15, No. 4, p. 299.

responsibilities can be effectively fulfilled with the involvement of all the persons and the available resources. This will mean the actual participation in defining the shape and scope of the problem, understanding relations within the network, the importance of authority, or deepening the cooperation process. It also means development of adaptation capabilities by correct management of long-term relations, participation in creating knowledge and supporting organizational learning.

It can be observed that one of the key tasks is independent assessment of new ideas, technologies, contributing to their dissemination. Therefore, it seems appropriate to base its functioning on non-profit terms, for example in the form of a public-private partnership.

Summary

In developed countries, the concept of technology, innovation is still growing in importance. The role of business environment institutions (IOB) is also growing, in particular innovation centers and entrepreneurship incubators. One of them is "Innovation Broker". It may serve as a catalyst of innovation and entrepreneurship as well as contribute to effective technology transfer and knowledge commercialization. It can also constitute a source of competitive advantage, however, it should be remembered that an effective "Innovation Broker" business model is more than just a logical way of running operations and coupling the elements of the model concerned. It should be the answer to the constantly changing customer needs, difficult to be copied by competitors, having exceptional relations between partners of the organization. Due to the role it plays in the process of examining the degree of technology development, technology transfer, particularly important is the aspect of the proposed value for customer, held core employee competences as well as developed tools (method) of assessing the technology development.

The "Innovation Broker" business model is also achievement of the objectives, attained through continuous learning and acquisition of knowledge from all sources, making the right decisions, strong focus on the outcome as well as the ability to influence and shape the environment, find new strategic domains and build relationship strategies.

We can indicate that the theoretical assumptions of the "Innovation Broker" business model should include:

– system approach and holistic analysis of this issue,
– the above assumption implies links between internal and external factors and the occurrence of feedback, interference and the social and economic subsystem
– internal factors include: strategy, organizational structure, skills (capabilities, competences), common values (organizational culture), personnel, systems, management styles, distortions

– external factors include: conditions of the immediate and further environment, stakeholders (science, administration, business, regulators)
– absorption of external knowledge and the flow of knowledge outside
– paradigm of inter-organizational networks and cooperation processes implemented within them.

The above presented solutions of the "Innovation Broker" business model do not constitute a full and exhaustive characterization of the investigated problem, therefore it is important to conduct further research taking account of the multifaceted nature of the problem area under consideration. Particular attention should be paid to further research on the effectiveness of the proposed model resulting from the links between its elements. A hypothesis may be adopted that the more generally the assumptions of the model are pursued, the higher the value it will generate.

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