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# A model of cooperation platform for entities involved in the agricultural market open to innovations in Poland

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**Abstract:** There are few publications on the subject of business models open to innovations in Poland, especially relating to cases of their practical application. The article analyses various types of open innovations and the possibility of using them in the conditions of the Polish agricultural market. After reviewing the literature, analysing cases of chemical companies, conducting interviews with members of the *Grupa Azoty Puławy* consortium, the author proposes a model of cooperation platform for entities from various sectors that systemically combines open inbound and outbound innovations with the requirements of the business model

**Keywords:** open innovation, cooperation model, business model, commercialization of innovations

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## 1. Introduction

Seeking the possibility of accelerating the current growth rate, Poland must make its economy more receptive to innovation. The issue concerns not only increasing expenditures on research and development, but also changing the attitudes and habits of knowledge providers interested in its commercialization as well as its potential recipients. Openness to various external partners is a great opportunity for both science and business in improving the efficiency and productivity of its resources. The formula of the business model open to innovation indicates the possible directions of building competitive advantages on the market.

The present publication is the result of a research process based on a literature review of management sciences dealing with the issues of open innovation, analysis of chemical

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companies, interviews with members of the consortium established by *Grupa Azoty Puławy* and participatory observation carried out by the author.[1]

The aim of the work is to propose the concept of a model of cooperation platform for entities from various sectors of the agricultural market, which systemically combines open inbound and outbound innovations with the requirements of the business model.

## 2. Open innovation and open business models

Open innovations and open business models have gained popularity recently thanks to the work of Henry Chesbrough (2003; 2006). However, many authors do not clearly distinguish between the two concepts and sometimes treat them interchangeably. The existing definitions of a business model vary. Some of them determine the interaction between companies, creating value and sources of revenue, others concern innovative ways of generating revenues, and yet others define a catalogue of the necessary elements that constitute the concept of a business model.

Regardless of the existing differences in definitions, it is possible to identify common areas that boil down to two key functions, namely creating value and capturing values. As Koźmiński points out, the basis for the success of any company is its idea for creating value and capturing values, i.e. obtaining the highest margins in the chain of companies that participate in production and delivery to the recipient (2004: 119). These two key functions form the essence of a business model (Piller and West, 2014: 52). In order for these functions to fulfil their task, Chesbrough incorporates open innovations into the company's business model, which he considers a useful tool for combining business ideas and using innovations to transform them into economic results.

Companies designing their business model should fit it to different innovation strategies. Open innovation is not just another management practice that can be implemented as an addition to the existing management model. Observation and interviews with managers and academics indicate that companies in Poland that want to engage in systemic knowledge acquisition from the outside are not prepared for that. Organizational structure, existing procedures, management culture, incentive systems are not ready to seek and transfer innovations to their organizations. Similarly, a reverse transfer is not popular outside. These general conclusions are confirmed in

[1] The author describes the case of a consortium of the Puławy Competence Center, from the perspective of a participating observer, as the vice-president of *Grupa Azoty Puławy* in the period 2009-2016.

the study by Chesbrough and Brunswicker (2013: 2-3), "which proves that open innovation is not yet formalized, and the existing cultural norms do not facilitate this process, despite the fact that as many as 78% of companies have confirmed the practices of open innovation. The biggest challenge for managers is to conduct a change process from a closed organization to the one open to innovation."

The development of cooperation with external knowledge partners is possible thanks to the development of information technologies (ICT industry), which have led to a reduction in communication costs, thus reducing the costs of access to knowledge and easier acquisition of scattered knowledge from around the world. Table 1 presents selected definitions of open innovations.

**Table 1. Selected definitions of open innovation**

| Study (Year) | Definition of open innovation |
|---|---|
| **Chesbrough (2006)** | "Open innovation is the use of purposive inflows and outflows of knowledge to accelerate internal innovation, and expand the markets for external use of innovation, respectively. [This paradigm] assumes that firms can and should use external ideas as well as internal ideas, and internal and external paths to market, as they look to advance their technology." |
| **Gassmann, Enkel (2004)** | "Open innovation means that the company needs to open up its solid boundaries to let valuable knowledge flow in from the outside in order to create opportunities for cooperative innovation processes with partners, customers and/or suppliers. It also includes the exploitation of ideas and IP in order to bring them to market faster than competitors can." |
| **Dittrich, Duysters (2007)** | "The system is referred to as open because the boundaries of the product development funnel are permeable. Some ideas from innovation projects are initiated by other parties before entering the internal funnel; other projects leave the funnel and are further developed by other parties." |
| **Perkmann, Walsh (2007)** | "This means that innovation can be regarded as resulting from distributed inter-organizational networks, rather than from single firms." |
| **West, Gallagher (2006)** | "We define open innovation as systematically encouraging and exploring a wide range of internal and external sources for innovation opportunities, consciously integrating that exploration with firm capabilities and resources, and broadly exploiting those opportunities through multiple channels." |
| **Terwiesch, Xu (2008)** | "There exist a rapidly growing number of innovation processes that rely on the outside world to create opportunities and then select the best from among these alternatives for further development. This approach is often referred to as open innovation." |

Source: Adapted from Gianiodis, Ellis and Secchi (2010, cited in Saebi and Foss, 2015: 9)

Chesbrough (2003: XXIV) formulated a paradigm of open innovations, assuming that "companies can and should use external and internal ideas, as well as external and internal

market paths in search of opportunities for their development. Open innovation requires the development of skills to manage various processes of knowledge development, such as the ability to acquire knowledge, its commercialization, development and protection of intellectual property, shaping the relationship between the company and its surroundings." Saebi and Foos (2015: 9) enumerate important issues which are essential to understanding open innovations:

- firstly, open innovations include the processes of acquiring from the outside knowledge and skills for the company (regarding the internal use of external knowledge) as well as its transfer to the outside (regarding the external use of internal knowledge);
- secondly, the ability to transfer knowledge and its use requires a certain degree of 'permeability'[2] of organization boundaries;
- thirdly, the company should provide a kind of umbrella protecting and integrating the existing activities in this area.

Therefore, it is necessary to adapt the existing procedures, management culture, incentive systems, organizational structure to openness to innovation, so that the organization absorbs / acquires knowledge from the outside and then uses it to build its value. The results of the research by Du, Leten, Vanhaverbeke (2014: 828) "indicate that the research and development projects carried out as a part of open innovation partnerships improve financial results provided that they are properly managed."

Opening the company to innovations is likely to affect the company's business model. Interference of external sources of knowledge can change, for example, relations between the company's organizational units. They may also require changes in the way of management, as cooperation with external knowledge partners may require a different type of cooperation relationship. Cooperation with partners may also generate new value in open innovation processes, which a company should be able to convert into profits.

## 3. A study in *Grupa Azoty Puławy*

The literature of the subject points out that little is still known about what is going on inside the company, what helps and what is detrimental to the implementation of innovative processes (Piller and West, 2014: 48). Chesbrough and Brunswicker (2013: 29) point out that the

[2] The authors have in mind the openness, especially the research and development areas of companies for operational cooperation with similar areas to other companies.

change in the management from innovations closed within the company's walls to open innovation must entail a number of organizational changes at various levels of the company. Making these changes is extremely difficult. As a rule, companies from traditional industries are closed to external innovations. However, there are various attempts to open to these processes, as evidenced, for example, by KGHM, Orlen, Azoty and CIECH.[3] Using the example of *Grupa Azoty Puławy* (GAP), the author confronts these dilemmas with practice.

Seeking a new formula to acquire ideas for the development of its research and development projects, the GAP invited several universities and institutes to cooperate in 2011, establishing a consortium called Puławy Competence Centre (PCC). It was decided to build a cooperation platform between the participants of the project in order to acquire and develop innovations to improve the efficiency of farming in agriculture, mainly by increasing the efficiency of fertilization. After five years of operation, the consortium consisted of 12 members. The project coordinator's office was located within the structures of the Technology and Development Division of the GAP. After several years of activity, it was recognized that the adopted formula had exhausted its possibilities of further development. The search for a new model of action, which would be more open to acquiring innovations from outside, was able to commercialize them at various stages of market readiness, and at the same time was subjected to the pressure of operational efficiency.

At the first stage, the experience of such structures as BASF, MONSANTO, SOLVAY and YARA was analysed, paying special attention to projects implemented on the basis of partnerships with public entities and the third sector, often called ecosystems (Moore, 1993: 75-86; Porter and Kramer, 2017: 24-45).[4] The analysis was based on the following criteria: the way of conducting research and development activities, the degree of openness to innovations, Think tank and educational activities as well as public relations in the field of innovation. The six priorities set for the EU's rural development policy for 2014-2020 (Ministry of Agriculture and Rural Development 2014) were also taken into account.

[3] Unpublished materials of PWC.

[4] Ecosystem is a concept taken from Earth sciences. In his article *Predators and Prey: A New Ecology of Competition*, J.F. Moore defined the business ecosystem as an economic community supported by the interactions of organizations and individuals. The company is perceived as part of a complex system that goes beyond the boundaries of the private sector (business). Competition ceases to be a game played by individual corporations and is transformed into competition between entire ecosystems.

The analyses carried out were used to prepare a questionnaire for interviews that were conducted in 2015 among consortium members and members of the consortium's Scientific Council[5]. The questionnaire was divided into two parts. In the first one, participants were asked to enter initiatives and activities, which according to them should be dealt with by the consortium according to the previously mentioned criteria. In the second part, consortium members were asked to indicate what resources they are able to engage in the implementation of projects.

The surveyed members of the consortium noted that free communication and knowledge transfer is limited due to the excessive focus on the role of initiator and communication animator, i.e. the Consortium Office located within the structures of the GAP. Such a strong role of the GAP resulted in a smaller than expected activity of other Consortium members. Especially in the first period, the reluctance of some CK members to share the developed know-how and results of R&D works that could improve the implementation of CK R&D initiatives, including increasing the supply of ideas to be implemented, was noticed. On the other hand, it was recognized that the strong role of the GAP as a recognized and important player on the agricultural market is also an asset of the Consortium. They also noticed that more entities representing agricultural entrepreneurs should be included in order to increase the effectiveness of their activities.

Projects are initiated *ad hoc*, reported by members of the Consortium or members of the Scientific Council. The submitted project had to meet the conditions described in the standards of the projects carried out for the GAP, as a result of which each project required the selection of a coordinator who updated the status of the project on the Project Portal on an on-going basis. In many cases, the selection and acceptance of initiatives required the approval of the management board of the GAP due to the financing of the project by the Group. For the purposes of issuing opinions on CK initiatives, the Consortium's office used the competences of the CC Scientific Council, as well as the help of internal departments of the Group from the area of market analysis, trade division or patent attorney.

The conducted research indicated that the organization developed two types of competencies during its activity: for the open innovation function and project management office (PMO). The first function should not come as a surprise, because the idea of creating a Consortium served this purpose. The project participants emphasized in the surveys that

[5] Internal materials of a joint team of employees of the Technology and Development Division of *Grupa Azoty Puławy* and the consulting company PWC, Puławy 2015.

cooperation and exchange of knowledge and ideas between representatives of business, science and agricultural companies was a basic factor in encouraging them to act within the CC. They pointed to the areas they were particularly interested in: joint research and development, educational activities, public relations and think tank.

In the second part of the questionnaire, seven examples of specific project activities in which CC could be involved were presented. The consortium members were to indicate which research topics they were interested in, the resources they were able to allocate and in which phase of the project's life they would like to participate. The respondents were primarily interested in research on new formulas of fertilizers, the subject of agricultural entrepreneurship (agriculture as a business) and biotechnology. The consortium members indicated primarily the engagement of human capital and access to their source data, know-how, reports, etc. They were not willing to participate in financing projects and providing their own infrastructure for their implementation. When asked about the life of projects, only two declared interest in active participation throughout the life cycle of the projects. The respondents were neither interested in the evaluation of the projects.

All the consortium members in the survey pointed out that while developing its activity the Consortium should get involved in the organization of educational, marketing and networking events and build a special internet platform for these purposes. All respondents were also interested in promoting the platform in their environments, leaving it to others. Subjects representing science declared support in the form of the involvement of their intellectual capital resources. Organizations representing the practice of economic life also indicate the possibility of sharing their market knowledge for the development of the platform. Respondents also expressed interest in creating an interactive multimedia facility demonstrating innovative activity and best practices in the field of agriculture, including fertilization and the creation of special training, courses for agricultural companies via the online platform. The consortium members representing the business offered to share the materials they had collected, based on their own research on farms and their own practices.

Concluding this part of the argument, it should be stated that the proposed Competence Center formula fulfilled its task, confirmed the assumption that the supply and demand side of innovation can jointly initiate and implement research and development projects accepted by the market. It must be admitted, however, that it was not able to utilize the resources and intellectual

potential of all participants in this project. Neither did it cause the boundaries of companies in the area of R&D processes to become more ‘permeable’.

For a more complete picture of the GAP’s openness to cooperation with external partners in the area of innovative projects, the map of processes of dealing with inventive projects was analysed, as well as a map of the processes of the initiation phase of R&D projects. The following analyses of the processes and roles performed as part of the R&D functions in the Group from the perspective of openness to external innovations were drawn as follows:

- procedures and processes concerning project implementation phase, especially as regards partners from outside the Group are not clearly defined,
- as part of the process of closing the project, the opinions and decisions of external project partners are not taken into account,
- there is no procedure for reporting R&D project initiatives by external partners,
- there is no information on the method of *incentivising* (awarding) entities for reporting innovative initiatives (Pokojski 2017: 57).

Therefore, the group was not open in the discussed process for external initiatives, it also reluctantly communicated information about its projects. The majority of participants in the agricultural market in Poland (research institutes, universities, producers of agricultural production resources, suppliers, agricultural companies) which work in a similar way, try to act independently of one another, thus the flow of information and knowledge is limited.

## 4. The concept of cooperation platform for entities from different sectors within the framework of open innovation scheme

Nowadays, large economic organizations are looking for new cooperation platforms that would ‘enforce’ mechanisms of efficiency and effectiveness in implementing innovative solutions in close cooperation with their partners (Mierzejewska 2008: 15). The dilemma how deeply and how wide one should be open to innovative processes remains to be solved. Too wide an opening could cause competitors to enter the project, and a too-deep one could pose a threat of some of the innovations being taken over by the cooperating partners. In turn, insufficient involvement in these processes can only serve to increase costs without any revenue effects, because weakly-advanced, underdeveloped innovations do not represent high market value.

Conducted interviews, analyses, observations and literature reviews were used to prepare the concept of a platform for cooperation between entities working for various sectors of the agricultural market open to innovation in Poland, which is most optimal from the organizational and legal points of view and the ability to source funding for knowledge exchange. It was assumed that the supply and demand side of innovation should jointly initiate and implement research and development projects reducing the risks and costs of knowledge transfer (Orłowski 2013: 10-31).

The following assumptions resulting from the observation of the consortium of the Puławy Competence Center and the results of surveys conducted in 2015 among the entities forming the consortium and its Scientific Council were adopted for building the model:

- The new model of cooperation platform for entities from various sectors of the agricultural market will be more open to external innovations; it will also be subjected to economic pressure;
- Under the model, a new entity should be established to coordinate, run and supervise projects under the *open innovation* formula;
- The company, the initiator and the basic beneficiary of the conducted research and development should work as the project leader and play a key role in project implementation;
- Relations between partners in the target organizational and legal structure should be implemented on the basis of economically justified projects;
- Decision-making processes within the structures of interested innovation partners should take into account the newly created entity;
- Within 3-5 years, the new model should result in self-financing ability; therefore, the pressure of efficiency and effectiveness must be built into the system - pressure on the result;
- The model should have a system protecting against leakage of intellectual property;
- The model should create greater opportunities for obtaining funds from external sources and encourage partners to engage their resources to implement joint innovative projects;
- The image-related aspect that serves to increase credibility is very important; it is created on the basis of a reliable communication message by an ‘independent’ expert addressed to various agricultural environments.

In constructing the open innovation platform model, it was assumed that the basis for its construction will be the establishment of a new entity, established by all interested members of the consortium. After analysing various organizational and legal forms, such as: association, foundation, commercial company law, chamber of commerce, research institute, scientific and industrial centre, employers' union, agricultural chamber, socio-professional organization of farmers, it was concluded that a foundation satisfied the expectations best.[6]

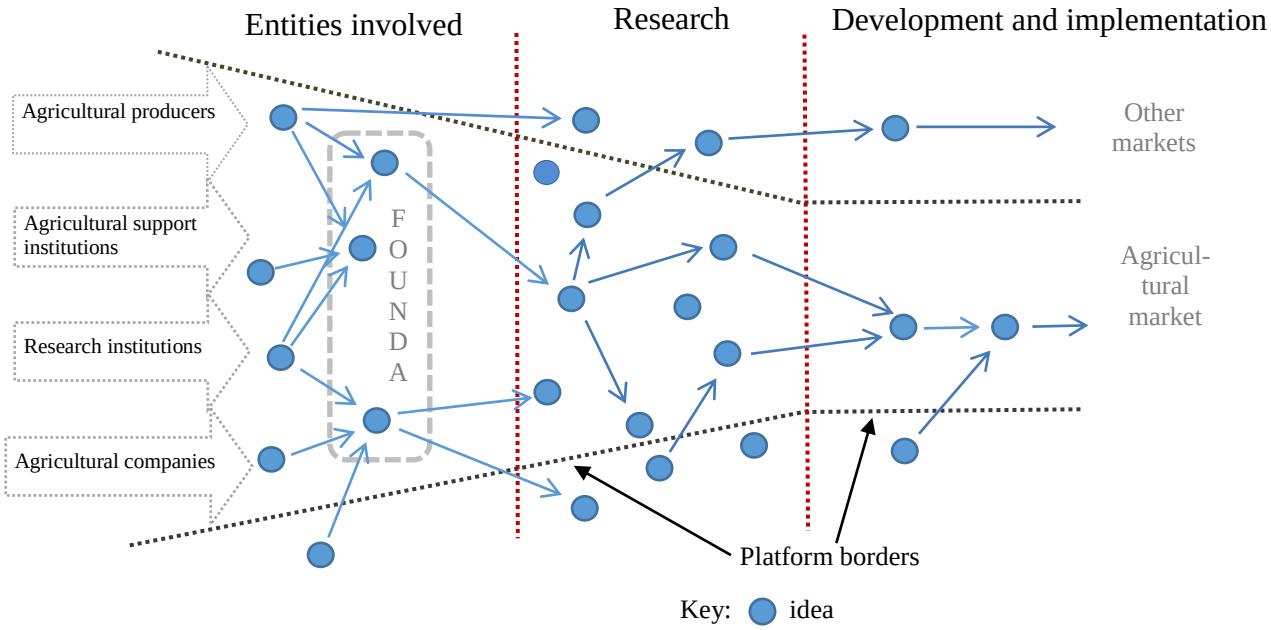
A foundation, having legal personality, may incur obligations and acquire rights on its own behalf, including conducting business activities. A foundation may also own proprietary copyrights and industrial property rights. One of the arguments for a foundation is also the exemption from taxation of some statutory goals. Appropriate shaping of the statute should secure the interests of all project participants.

For members of the consortium, an important aspect of its operation was also the use of expert competences in the think tank formula in order to build an appropriate reputation on the agricultural market. Many non-governmental organizations in Poland, having such a character, operate in the form of foundations. In the eyes of the public, foundation is better perceived as an independent expert. Advocacy of such an organization will certainly increase the reputation of the leader and partners.

Scheme 1 presents a model of cooperation platform for various entities open to innovations working for the benefit of the agricultural market. Of course, the model applies to other markets than the agricultural one. It is important to invite various entities which are interested in the same recipient market to cooperate.

[6] A foundation is a corporate income tax payer (this means that, as a rule, its income is taxed at the basic CIT rate of 19%); however, it may be exempt from taxation under certain conditions provided for in the Corporate Income Tax Act of 15 February 1992 (unified text: *Journal of Laws* of 2014, item 851) ("CIT Act"). The assets acquired by the foundation for the creation of its founding fund are exempt from CIT taxation irrespective of the purpose of their designation.

**Scheme 1. Model of cooperation platform for entities from different sectors in the framework of open innovation scheme**




Source: own elaboration based on Chesbrough, 2003: 183

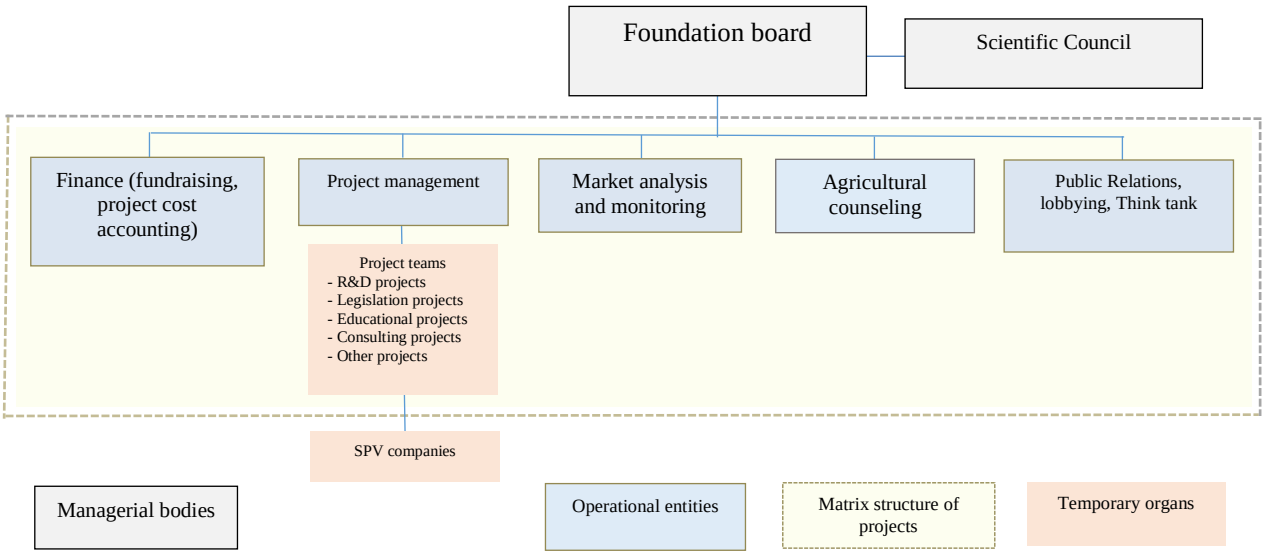
In the context of the assumptions made, it is also important that the foundation may run a business (with the caveat that this activity can be carried out in the scope to achieve its objectives), which gives the opportunity to participate in business endeavours, including the provision of various services to third parties. Nevertheless, in business-justifiable cases, a foundation could establish special purpose vehicles (SPVs) to manage the risk of running certain projects.

At the first phase of development, a foundation should perform the role of a ‘polygon’ to implement the policy of open innovation and to create the most effective mechanisms and tools for implementing innovative activities that are sources of growth for the leader and project members. This would be the period for refining and correcting processes regarding innovation in the foundation-partners relations.

The model is to ensure the construction of a new formula for the transfer of knowledge to business, freeing and creating the potential of R&D innovation, but it is not supposed to duplicate the functions and processes of research and development taking place in partner institutions. Foundation should make initiatives and undertake research and development projects, but with an application assumption, in which partners could participate if they consider it

economically/business-justified. Scheme 2 presents the basic structure and relations between the entities of the subject in the model.

**Scheme 2: Organizational structure of a foundation in the "open innovation" model**




Source: own elaboration

The proposed foundation would create much greater opportunities to obtain additional sources of financing for high-quality R&D projects, including the possibility of financing from external sources, primarily the EU. Such a support is addressed mainly to small and medium-sized companies, and such a condition would be satisfied by the foundation.

Projects carried out under the presented model should have more flexible financing schemes, as the remuneration for running the project should be significantly based on the results of the action, and thus its adjustable part should depend on project's success and should not be a permanent remuneration of full-time employees. The proposed model could also be used to support the ad hoc and flexible organization of external international expertise and technology for the implementation of on-going development activities and optimizing the costs of research projects.

Due to a large group of stakeholders with different goals of involvement in the open innovation project, the newly created organization should be characterized by a flat organizational structure combining many different competencies (matrix structure). The matrix structure should be built around project initiatives. Regardless, the foundation may establish and

participate in commercial companies, if it is justified by the implementation of statutory objectives. Therefore, the foundation may be the sole founder of a limited liability company that would pursue business objectives, such as project management or preparation of reports and market analyses. From the management point of view, it would be better to run some of the business-typical activities through the company. It seems that such a company, which would not have to focus on achieving the objectives of the foundation, could pursue only commercial, profit-oriented goals. This profit would be allocated to the implementation of statutory objectives of the foundation.

The proposed model of open innovations presupposes some changes in the management of the entities participating therein, for example regarding the permeability of the organization's boundaries for innovative processes or the ability to acquire additional resources. Lack of this openness of partners in the project makes the model ineffective. A company that is limited to its own research and development laboratory will not succeed in the world of open innovation. As one of the R&D managers pointed out: “Before open innovation, our laboratory was our world, now, the world has become our laboratory” (Chesbrough 2017: 38).

## 5. Conclusion

The process of making changes in the company at its various organizational levels to build an open-to-innovation business model is a very difficult process. One solution may be to build a model of a platform for cooperation between entities from various sectors which are jointly interested in acquiring or supplying innovations. The author recommends the establishment of a mixed legal and organizational structure that would combine the image benefits of running a business in the form of a foundation with the ease of managing a matrix design organizations as a part of business operations. This would allow the creation of special purpose vehicles (SPVs) to manage the risk of running certain projects. One can point out several advantages of such a solution for entities that are involved, such as more effective project management, greater absorption and openness to external ideas, greater pressure on efficiency and effectiveness of implemented activities – pressure on the result, greater ability to acquire additional resources, including EU funds, or objective scientific and business evaluation of submitted projects at various stages of their preparation. Regardless of the indicated benefits, the

entities participating in the platform gain a partner expert knowledge who supports the construction of their market value.

Further research should serve to explain the course of innovation processes within enterprises and the issues of carrying out changes that lead to an increase in the "permeability of the company's borders" to external innovations. Research and development cells alone will not implement open innovations without the support of other areas of the organizational structure. We also do not know if companies have formal procedures for the course of open innovation processes. We also lack knowledge about the effectiveness of openness to innovations in the market realities.

## Literature


Chesbrough, H. (2003). *Open innovation: The New Imperative for Creating and Profiting from Technology*, Harvard Business School Publishing Corporation, Boston.

Chesbrough, H. (2006). *Open business models: How to thrive in the new innovation landscape*. Harvard Business Press.

Chesbrough H., Brunswicker S. (2013). *Managing open innovation in large firms*, Survey report Executive Survey on Open Innovation, Fraunhofer Verlag.

Chesbrough, H. (2017). *The Future of Open Innovation: The future of open innovation is more extensive, more collaborative, and more engaged with a wider variety of participants*, Research-Technology Management, 60(1).

Du, J., Leten, B., Vanhaverbeke, W. (2014). *Managing open innovation projects with science-based and market-based partners*, Research Policy, 43(5).

Koźmiński A.K. (2004). *Zarządzanie w warunkach niepewności*, PWN, Warszawa.

Mierzejewska B. (2008). *Open Innovation – nowe podejście w procesach innowacji*, E-mentor nr 2 (24).

Moore J.F. (1993). *Predators and Prey: A New Ecology of Competition*, "Harvard Business Review".

Orłowski W. (2013). *Komercjalizacja badań naukowych w Polsce. Bariery i możliwości ich przełamania*, Report PWC Polska, Warszawa.

Piller F., West J. (2014), *Firms, Users, and Innovation*, [In:] Chesbrough, H., Vanhaverbeke, W., West, J. (eds), *New frontiers in open innovation*. Oxford University Press.

Pokojski Z., (2017). *W poszukiwaniu modelu organizacji zarządzającej innowacjami w formule „open innovation" – studium przypadku*, Zeszyty Naukowe Wyższej Szkoły Biznesu, Gdańsk, Tom 49.

Porter M.E., Kramer M.R., (2017). *Tworzenie wartości dla biznesu i społeczeństwa*, Harvard Business Review Polska, wydanie specjalne, Warszawa.

MRiRW (2014). *Program rozwoju obszarów wiejskich na lata 2014-2020* (Rural Development Programme 2014-2020). Warszawa: MRiRW.

Saebi T.; Foss N.J. (2015). *Business Models for Open Innovation: Matching Heterogenous Open Innovation Strategies with Business Model Dimensions*, European Management Journal Volume 33, Issue 3.

Ustawa z dnia 15.02.1992 o podatku dochodowym od osób prawnych, Dz.U. 2014, poz. 851.

Ustawa z dnia 6.04.1984 o fundacjach, Dz.U. 2016, poz. 40.

**Other:**

Internal materials of a joint team of R&D Department of Grupa Azoty Puławy and PWC (2016), Puławy.

***Model platformy współpracy różnych podmiotów pracujących na rzecz rynku rolnego otwartych na innowacje w Polsce***

***Streszczenie***

W Polsce niewiele jest literatury na temat modeli biznesowych otwartych na innowacje, szczególnie brakuje opisu przypadków ich praktycznego zastosowania. W artykule analizuję różne typy otwartych innowacji i możliwość ich wykorzystania w warunkach polskiego rynku rolnego. Po dokonaniu przeglądu literatury, analizie przypadków firm chemicznych, przeprowadzeniu wywiadów z członkami konsorcjum Grupy Azoty Puławy proponuję model platformy współpracy podmiotów różnych sektorów, który w sposób systemowy łączy otwarte innowacje przychodzące i wychodzące z wymogami modelu biznesowego.

***Słowa kluczowe***: otwarte innowacje, model współpracy, model biznesowy, komercjalizacja innowacji