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THE INNOVATION AUDIT OF COMPANIES BASED IN THE KUYAVIAN-POMERANIAN PROVINCE

Z a r y s t r e ś c i: It seems that business management via focusing on a constant development is a feature of future companies. Effective business management is difficult and even impossible without commencing a business diagnosis. Only recognition and assessment of a business' and its environment's potential gives an opportunity to plan and implement company's targets. The point of innovation, which is a variable and demanding area (demanding attention, knowledge, time and determination), is creating new profitable solutions. The innovation audit is a research tool helpful in creating knowledge about a specific organization. It was used in an empirical research diagnosing the level of innovation among companies in the Kuyavian-Pomeranian province. Conclusions of the research specify which areas of the innovation have highest impact on business 'innovation and provide information on what range of activities to take to manage organization more effectively.

S ł o w a k l u c z o w e: innovation audit; innovativeness

INTRODUCTION

Constant development is an inseparable part of future businesses. The business innovation research can create a frame allowing review and evaluation

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of actions taken by companies. In this aspect it seems crucial to determine what innovation is, its components and how to stimulate its development.

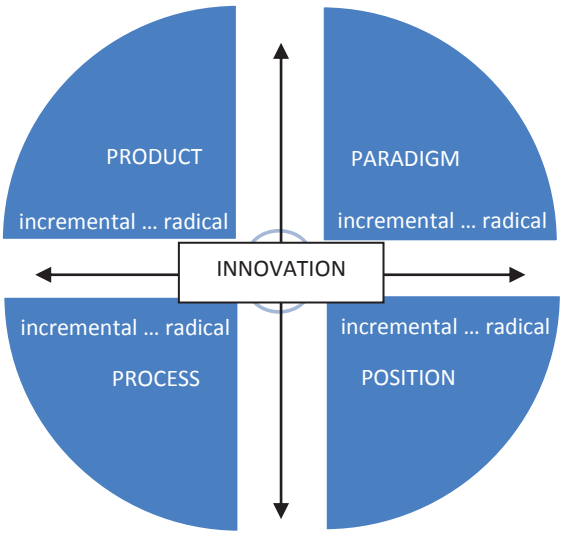
According to K. Poznanska innovation can be understood as a result of the innovation potential and resistance to changes which is a manifestation of the organization's internal and external attitudes [Poznanska, 1998, p. 40]. The innovation development consists of both human effort and capital necessary to develop and implement new processes or products. A better, quicker and cheaper manufacture of products or services is possible due to constant technological development, social, political and economic changes. As per Schumpeter entrepreneurs will have to be innovative in order to reach a strategic position [Schumpeter, 1995, p. 162]. The author compares innovation to a creative destruction that constantly seeks new things. As a consequence of this old rules are being abolished and replaced by new ones that are the source of generous profits. Innovation is understood a creation of new profitable solutions and driving force of development, intended to provide company high competitiveness on the market [Zastempowski, 2010, p. 56].

Innovation can be defined in many ways. Model 4Ps consisting of fours forms of changes being one of them:

- Innovation of a product (service),
- Innovation of a process (manufacturing changes),
- Innovation of positioning (changing circumstances of a new product or service introduction),
- Innovation of a paradigm (fundamental changes in of an organization's functioning rules) (Scheme 1).

Innovation management is a process with interactions between an organization and its environment. Globalization and social changes force entrepreneurs to a higher flexibility and openness against their environment where all borders disappear. An open innovation concept, whose main aim is a more effective usage of limited resources, minimizing risk and cost and a better adaptation to environment's changing condition can be an answer to above. The point in the open innovation concept is a widely understood cooperation that inclines entrepreneurs to a recognition of the role of its environment's potential [Bessant, Tidd, 2013, p. 353]. Entrepreneurs who want to operate effectively, quickly and at the same time deliver high quality products or services are forced to some extent to concentrate on organization's key competences. The aim of being open to an inter- organizational cooperation is to gain external capital that will fill the company's internal

resources; it is extremely important when operating in changing conditions [Downe, 2012, p. 147].



Scheme 1. Model 4 Ps

Source: Based on: J. Bessant, J. Tidd, *Innovation and entrepreneurship-second edition*, John Wiley & Sons Ltd, Chichester 2013, p. 49.

Modern companies should create a so called organizational innovative space that will allow a better reaction to environment's needs thanks to possessing resources allowing a quicker internal and external knowledge transfer. A progressive socialization of knowledge determines the necessity of acquiring knowledge via relations with those who have it [Jemielniak, Koźmiński, 2008, p. 12–21].

Innovation management is associated with a constant improvement of all organizational processes and actions aiming to fulfill the needs of all firm stakeholders. Acquisition and evaluation of information, using innovative solutions and correct internal and extrenal communication is a starting point for organizations that want to function on the market with a success. Meeting the challenges of reality determines organization has attributes related to each other such as innovation, flexibility, modernity and adaptability. All of those allow business' dynamic balance with environment [Abou-Zeid, Cheng, 2004, p. 14–17].

With all the information on innovation provided it is important to research what skills and activities are necessary in order to effectively manage innovation activities. The aim of the below article is to characterize the existing correlation between the scale and nature of implemented innovation and the organization, processes, strategy or links between Kuyavian-Pomeranian companies.

1. INNOVATION MEASUREMENT

„Without measurement, there can be no management (...) no improvement"
W. Edwards Deming

Information is the basis for making the right decisions and effective operation. It allows one to increase knowledge both about ourselves and the world around us. Knowledge management, which is associated both with the planning, organizing, motivating, coordinating and controlling, so actions that make up the implementation of management functions, is crucial for an organization.

Together with a rapid development of market economy, ubiquitous changes in the preferences of the companies or hyper competition the information needs started to increase. This involves considerable uncertainty on the part of a changing environment, and hence with the risk of making wrong management decisions. At a time when innovation has become one of the key areas of functioning of modern enterprises, it was also found that there is a need for special tools for proper measurement and coordination and strategic approach to innovation activity [Andruszkiewicz, 2012, p. 14].

The most innovative companies in the world, both contemporary as well as those of a decade ago struggled with the problem of maintaining a strong competitive position. If we compare the list of global leaders, we can see a significant reshuffle in the rankings. Most of these companies once had a very innovative product, a breakthrough business model or a strategy that made them the world's innovators. But they were not able to ensure that their leadership and innovation is maintained and is growing to sustain over time [Trias De Bes, Kotler, 2013, p. 237].

Managing a business, as stressed by N. Goldman and W. Edwards Deming requires innovation, which in turn is the driving force for development, which will not be properly implemented without prior measurement and

analysis [Goldman, 2010, p. 8]. They will ensure the effective creation, implementation and investment in innovation.

Innovation activity is extremely variable management area, and thus its measurement is a huge challenge for both researchers and entrepreneurs. The very concept of the innovation is defined in many different ways. The common denominator is certainly "the successful exploitation of new ideas" [Dewangan, Godse, 2014, p. 536].

The literature emphasizes the need for strategic management of innovation through the creation of Innovation Performance Measurement (IPM). The new system consists of both aspects of the material and immaterial shape at different scales performance of the company in terms of its innovation. Only appropriate identification of the key determinants of optimal use of resources will enable the company and its development. IPM should first and foremost:

- take into account the multidimensional aspect of the results of R & D,
- focus on measuring the results of a process-oriented performance-which is at various stages of the "life cycle",
- take account of the objectives of all stakeholders enterprises (both internal and external),
- emphasize the relationship between the causes and effects of the implemented actions,
- be understandable and easy to apply [Dewangan, Godse, pp. 539].

Conducted empirical studies, which fragment has been analyzed in this article were carried out in late November and December 2014 and January 2015 the research project No. 2014 / umk / KZP-1, Fri. "Innovation Kuyavian-Pomeranian companies" realized in the Faculty of Economic Sciences and Management, Nicolaus Copernicus University in Torun[1].

The study sample was composed of companies of the Kujawsko-Pomorskie in the number of 212, including:

–56 micro-enterprises, employing from 1 to 9 employees,
- 94 small businesses, employing between 10 and 49 employees,
- 49 medium-sized enterprises, employing between 50 and 249 employees,
- 13 large companies employing over 250 employees.

[1] The project was carried out at the Department of Enterprise Management under the leadership of Assoc. M. Zastempowski, prof. Nicolaus Copernicus University, the author of the article was the main contractor.

The survey was conducted in the form of a direct questionnaire. Respondents were those responsible in the enterprise for R & D activities.

The obtained data allow an initial assessment of innovation of Kuyavian-Pomeranian enterprises, which was analyzed based on innovations implemented within the framework of distinguished categories:

a) Numbers:
- new or significantly improved products, broken down by products and services,
- new or significantly improved processes.

Taking into account the distinction between new and significantly improved and their range – innovation across the enterprise, or market, country, Europe or the world. Among the innovation process were taken into account: the method of manufacture (production) of goods and services, logistics method or methods for delivering and distributing supplies and methods (systems) to support processes within the company.

b) The nature of the present innovation
- product
- process
- position
- paradigm

Taking into account their impact on a business by five-point scale – from small, refining to radical, groundbreaking.

The research tool survey questions from innovation audit developed by J. Tidd and J. Bessant were used in the next part of the questionnaire. Using the survey questions examined is the level of knowledge about innovation, and conditions favorable to them or not. The purpose of the audit is to support organizational learning by citing reflection in a methodical way. This tool should be treated as an incentive to improve innovation management organization. It shows in what respect should knowledge be complemented and is an inspiration to try new solutions.

Developed checklist consists of 40 statements (Table 1), to which the respondents provided answers on a scale of 1 (completely disagree) to 7 (totally agree). Then, the results were applied to the table (Table 2), through which it is possible to assess its activities in the areas of: strategy, processes, organization, relationships, learning.

Table 1. Checklist of statements

The statement: (scale from 1 – completely disagree to 7 – totally agree)
1. Employees are fully aware of how innovation can help us in becoming competitive. 2. The relevant processes are functioning, effectively supporting the development of new products from concept to market. 3. Our organizational structure does not stifle innovation – on the contrary, favor her. 4. Attaches great importance to training and personal development of employees. 5. We have a good, mutually beneficial relationship with our suppliers. 6. The message of our innovation strategy is clear and everyone knows its goals and objectives. 7. Our innovative projects are typically carried out in accordance with a time schedule and financial plan. 8. Cooperation between cells and divisions within the company to work well. 9. Devote due attention to analysis of completed projects to be the benefits for the future. 10. We can handle identifying the needs of our customers and end users. 11. Employees know what competence sets us apart from others and gives us a competitive advantage. 12. We have effective mechanisms that make everyone (not just marketers) understand customer needs 13. Employees have a commitment to the prompting of ideas to improve products and processes. 14. cooperate with universities and other research centers in order to deepen our knowledge. 15. We learn from our mistakes. 16. The prediction and assessment of future threats and opportunities methodical approach (using the tools and techniques prognostic). 17. We have effective mechanisms for managing change processes, from concept to implementation. 18. Our structures are conducive to rapid decision-making. 19. We work closely with clients to discover and develop new concepts. 20. We regularly compare our products and processes with others. 21. Our management on a shared vision of what the company can make progress through innovation. 22 Regularly looking for new ideas for new products. 23. Channels of communication working smoothly up and down and between cells and divisions. 24. Cooperate with other companies in the development of new products and processes. 25. Deliberated and let us share our experience with other companies in order to enrich their knowledge. 26. The Board is committed to and supports innovation. 27. Our mechanisms operate smoothly and provide quick integration of all departments in the development of new products and processes.

Cd. tab. 1

The statement: (scale from 1 – completely disagree to 7 – totally agree)
28. Our remuneration and incentive system supports innovation. 29. We are committed to the development of external networks, specific specialists in their field.
30. We can handle receiving what they have learned, which serves many others in our workplace.
31. We have developed adequate procedures to ensure that we have the opportunity to review technological and market developments and to understand their significance for our company's strategy.
32. We have an effective system of selection of innovative projects.
33. We have created an atmosphere conducive to new ideas and initiatives – employees do not have to walk away from the company to fulfill their needs.
34. We are in constant contact with the education system and universities, qualifying them our demand for skilled workers.
35. We can handle with the absorption of knowledge of other traders.
36. It is clear links between projects implemented by us and the overall business strategy.
37. Our system development work on new products is flexible enough to carry him small projects.
38. Well goes on teamwork
39. We work closely with leading users to create new, innovative products and services.
40. We develop evaluation indicators to identify where and when to improve our innovation management.

Source: Based on: J. Bessant, J. Tidd, *Managing innovation*: *integrating technological, market and organizational change*, John Wiley & Sons Ltd, Chichester 2005, p. 816–819.

Table 2. Checklist of results

State-ment	Result	State-ment	Result	State-ment	Result	State-ment	Result	State-ment	Result
1		2		3		5		4	
6		7		8		10		9	
11		12		13		14		15	
16		17		18		19		20	
21		22		23		24		25	
26		27		28		29		30	
31		32		33		34		35	
36		37		38		39		40	
sum		sum		sum		sum		sum	
Total									
Divided by 8									
Outcome		strategy		process		organization		relation-ships	learning

Source: Based on: Bessant J., Tidd J., *Managing innovation*: *integrating technological, market and organizational change,* John Wiley & Sons Ltd, Chichester 2005, p. 819.

2. INNOVATION AUDIT – EMPIRICAL APPROACH

Subsystems characterized during the test: strategy, processes, organization, relationships and learning are shown in the graphs below.

The first chart shows average values for individual areas (Diagram 1). Top scored aspect turned out to be the organization (score 4.76 standard 7.0). Thus, we can draw the general conclusion that the organizational structure, analysis of ongoing projects, employee involvement, communication channels, remuneration and incentive system and atmosphere and teamwork rather favor the formation of innovation at Kuyavian-Pomeranian enterprises. Teamwork proved to have highest compliance within this area (5.28), and the smallest compliance had incentive-motivational system

(4.36). Entrepreneurs gave lowest score to the relations issues (4,04), where the highest grade was given to identification of the needs of customers and end-users (5.38) and good relationships with suppliers and customers (5.32; 5.01).

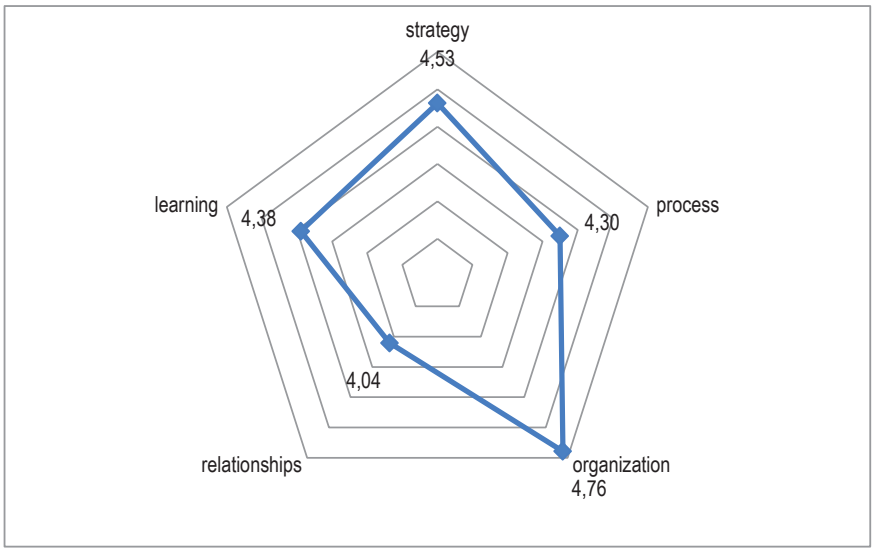


Diagram 1. Average values

Source: elaborated by the author.

Cooperation with universities and other research centers in order to deepen knowledge and reporting demand for skilled workers was given lowest score(2.52; 2.86). The trends described are reflected also in terms of sources of innovation, where they are usually just customers and suppliers, and least likely to be universities and R & D centers. Investigations of the frequency and the evaluation of the cooperation with the environment have the same relationship. Most entrepreneurs collaborate with customers and suppliers and evaluate the cooperation at most.

Companies that have achieved the best results (expected value above 6.0), have given the highest ratings to aspect associated with the strategy, and the lowest to the link (Diagram 2). In terms of the strategy employees' knowledge regarding the Competence of affecting the competitive position and attitude of the board towards the development of innovation (7.0) and relationship of strategies with development projects (6.9) was rated highest.

The lowest value was again given to a constant contact with the education system and universities (4.5).

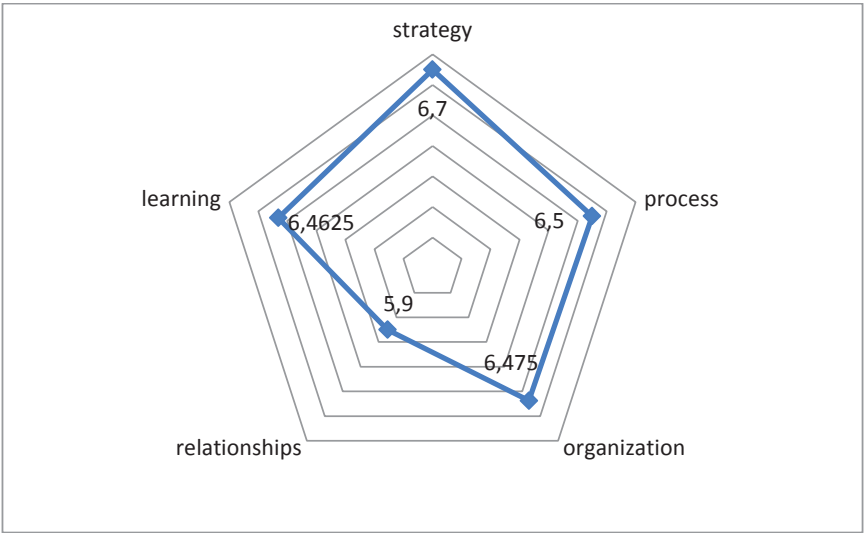


Diagram 2. Value with the best results

Source: elaborated by the author.

Analyzing the scale of the changes to the results of the audit there is a certain relationship. Companies that pursue innovation only in scale of enterprises have weaker results in all the surveyed areas than those applying changes in the scale of the market, country, Europe or the world.

The next graph (Diagram 3) shows existing correlation between the nature of innovation (on a scale of 1 – fine, refining, up to 5 – radical, breakthrough) and average results of the audit. It can be noticed that companies implementing changes with an improvement character have lower scores than those implementing innovations with a stronger character.

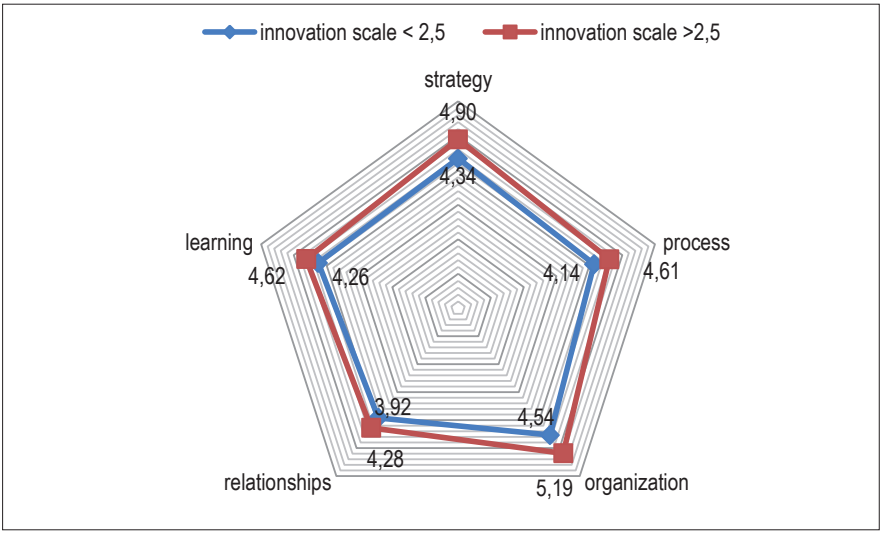


Diagram 3. Innovation scale and innovation audit result

Source: elaborated by the author.

CONCLUSIONS

Both presented results of the empirical researches and characteristic of the diagnosing tool- innovation audit- allow review and assessment of the activities carried out by entrepreneurs in innovative activities. Key findings of this study show:

- the validity of research management areas affecting its continued development,
- the need to develop research tools enabling review and evaluation of innovative activity of modern business,
- the role it plays in a strategic approach to an innovation process- the highest audit results were reached by small enterprises leading in strategy area,
- a problem that affects most businesses – poor cooperation with both domestic and foreign scientific and research institutions. This is disturbing news, as these institutions have enormous innovative potential, which unfortunately is not fully exploited in practice. Entrepreneurs assess with lowest score cooperation with foreign research institutes with which businesses cooperate extremely rarely;

it is probably caused by a difficult access to this type of institutions. It should be noted that as the frequency increases cooperation with these entities is assessed as improving. In order to improve the cooperation in the field of business- learning there are created programs and projects supporting knowledge and experience transfer which should facilitate undertaking joint innovation initiatives.

– A significant role of customers and suppliers who are the most common source of innovation, and cooperation with them is also best assessed.

Innovation audit should be treated as a guide for a continuous improvement of innovation management. It should be stressed that it can and even should be modified depending on the information needs of the company. Every trader is unique because of its innovation potential both on an internal and inherent in this environment field. Analysis of innovation should provide data thanks to which organizational knowledge will be developed further and it will be a driving force to a permanent future development of organizations.

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AUDYT INNOWACYJNOŚCI KUJAWSKO-POMORSKICH PRZEDSIĘBIORSTW

A b s t r a k t: Zarządzanie przedsiębiorstwem poprzez ukierunkowanie na ciągły rozwój zdaje się cechą przedsiębiorstw przyszłości. Bez przeprowadzenia diagnozy działalności gospodarczej – trudne, a nawet niemożliwe jest skuteczne zarządzanie organizacją. Dopiero właściwe poznanie i ocena potencjału przedsiębiorstwa oraz jego otoczenia umożliwia zaplanowanie i realizację celów danego podmiotu. Tworzenie nowych dochodowych rozwiązań stanowi sedno innowacyjności, która w swej istocie jest obszarem zmiennym i bardzo wymagającym – zarówno uwagi, wiedzy, czasu i determinacji. Pomocne w kształtowaniu wiedzy o danej organizacji jest narzędzie badawcze – audyt innowacyjności. Został on wykorzystany w badaniu empirycznym diagnozującym poziom innowacyjności kujawsko-pomorskich przedsiębiorstw. Wnioski z badania dostarczają danych o tym, które obszary działalności mają największy wpływ na innowacyjność przedsiębiorstw oraz jakie działania w tym zakresie można podejmować, aby skuteczniej zarządzać organizacją.

K e y w o r d s: audyt innowacyjności; innowacyjność