

Seria Innowacje

2010

Benchmarking of technological parks in Poland Report for 2010



Bronisława Kowalak



KAPITAŁ LUDZKI
NARODOWA STRATEGIA SPÓJNOŚCI



UNIA EUROPEJSKA
EUROPEJSKI
FUNDUSZ SPOŁECZNY



**Benchmarking
of technological parks in Poland**
Report for 2010

AUTHOR:

Bronisława Kowalak

Prepared on the basis of research studies and dedicated reports by a team of benchmarking experts, including:

Jan Brzóska

Robert Gadowski

Joanna Hołub-Iwan

Bronisława Kowalak

Jakub Rakoczy

Reviewers:

Adam Jabłoński

Marek Jabłoński

The publication partly sponsored by the European Union from the resources of the European Social Fund within the framework of the system project „The Development of Human Resources through the Promotion of Knowledge, Transfer and Dissemination of Innovations” (Operational Program „Human Capital”, activity 2.1.3)

Publication free-of-charge

© Copyright by Polish Agency for Enterprise Development, Warszawa 2010

Publication available also in the internet version on the Innovation Portal

Views and arguments presented in the publication do not have to reflect the attitude of the Polish Agency for Enterprise Development, but only the attitudes of the authors.

ISBN: 978-83-7633-093-8

Circulation 500 copies

Spis treści

INTRODUCTION	5
I. APPROACH FOUNDATION FOR BENCHMARK RESEARCH OF TECHNOLOGICAL PARKS IN POLAND	7
1. Benchmark research goal	7
2. Basic notions and definitions	7
II. RESEARCH METHODOLOGY	9
1. Identification and verification of park initiatives located in Poland	9
2. Benchmark research scope	10
3. Advantages for the entities involved in the research	11
III. BENCHMARKING – RESULTS	13
1. Life cycle definition of chosen initiatives	13
2. Technological parks' localization evaluation	18
3. Internet web sites evaluation	20
4. Park tenants' evaluation	22
5. Evaluation of park specialization	25
6. Park characteristics in 8 areas of benchmark research	25
7. Park's strengths and weaknesses evaluation	29
8. Strategic group analysis	30
IV. SETTING BEST PRACTICES	39
1. Setting best working procedures	39
2. Best practices in 4 areas of BSC	40
V. CONCLUSIONS AND RECOMMENDATIONS	43
ANNEX. ANALYSIS OF 56 INDICATORS IN 8 AREAS OF BENCHMARK RESEARCH	45

INTRODUCTION

Economic innovations depend not only from the way in which certain institutions function but, above all, from their collaboration and mutual influences, as a part of joint creation system and knowledge usage, and also from the way they interact with environment.

The majority of the companies in Poland are small companies that do not have enough potential for effective implementation of new technological solutions. The access to adequate technical and consulting infrastructure and possibility to benefit from seed capital is an important value for their development and for creation of new innovative companies. Small companies do need support from the business environment institutions, support in a figure of agents in providing information, technology transfer and network creation with science institutions. And those are exactly technological parks.

Technological Parks are the most organized and conceptually developed type of innovation and entrepreneurship centres in Poland, combining frequently in one structure the function of all other entities¹. The main essence of each technological park is to stimulate innovative companies development by making available:

- the infrastructure with a packages of specialized consulting services for companies that begin their activity,
- the service and office surface and production surface for companies in growth phase,
- prepared investment terrains for companies in expansion phase and external investors.

The comprehensive character of offered services is unique in regional scale and creates strong influence potential of the initiative on the local economy².

Parks are important elements of regional innovation system. Evaluation of effectiveness and influence of each technological park on the region's economy is related to completion of three functions³:

- incubating, which is supposed to lead to a growth of number of modern technological companies in the region and by that to improvement of local economic structure. The idea of most of world wild parks is that in their structures, the technological incubator, in which comfortable environment to start a company is created, is based on new knowledge, mainly by students and graduates of universities and science employees,
- integration, which enables development and intensification of network relations between all participants of innovation system in the city and region: companies, science-research institutions, business support area, regional and local authorities and region's society. Collaboration aimed at park's goal should result in creation of innovative environment and concentration of resources around innovative initiatives,
- promotional, within a framework of which park is perceived as an effective instrument of territorial marketing. Park creation is a sign for habitants and external investor that local environment is open to innovations and has a modern approach towards economic development stimulation.

This approach causes that small entrepreneur who acts in technological parks benefit at the same time from⁴:

- strong global integration (access to internet and different type of networks, easier access to financing and consulting management institutions) what enables internalization of their activity,
- strong local adaptation (closeness of other companies, possibility of using consulting services, or delegating some authorities to park management institutions or using others companies' services, foundations etc, that act in the park or its environment) this accelerates learning process and shortens projects completion.

¹ *Ośrodki innowacji i przedsiębiorczości w Polsce – Raport 2009* [Polish centres for innovation and entrepreneurship] , edited by Krzysztof B. Matusiak, Warsaw 2009r., s.29.

² *Wybrane aspekty funkcjonowania parków technologicznych w Polsce i na świecie* [Some aspects of technological park operations, in Poland and in the World] , edited by Krzysztof B. Matusiak, Aleksander Bąkowski, page. 28, Warsaw 2008r.

³ K.B. Matusiak, *Wpływ parków technologicznych na rozwój ekonomiczno-społeczny* [technological park influence on social-economic development] [in:] K.B. Matusiak, A. Bąkowski (editor), *Wybrane aspekty funkcjonowania parków technologicznych w Polsce i na świecie*, [Some aspects of technological park operations, in Poland and in the World] PARP, Warszawa 2008.

⁴ B. Kowalak, *Konkurencyjna gospodarka. Innowacje – infrastruktura – mechanizmy rozwoju*, Instytut Technologii Eksploatacji PIB [Competitive economy. Innovations – infrastructure – development mechanisms, Institute of organization and management in industry NRI – national research institute], Warsaw - Radom, 2006, pages. 63-64.

In the years 2004-2010 we experienced a dynamic development of technological parks in Poland, mostly because of the possibility of obtaining support from European Union structural funds, within operational programs. Nevertheless, the development level of parks is diversified in many ways. To measure those differences and to choose best practices we realized technological park benchmarking.

Presented research was realized accordingly to the documents of Polish Agency for Enterprise Development entitled: *Opis Przedmiotu Zamówienia [Description of the subject-matter of the contract (OPZ)] "Organizacja i Przeprowadzenie Benchmarkingu Parków Technologicznych w Polsce"* [Organization and realization of technological park benchmarking in Poland] (OPZ) oraz „*Metodologia benchmarkingu technological parks w Polsce* [Technological park benchmarking methodology in Poland]⁵.

Technological parks' benchmarking was ordered by Polish Agency for Enterprise Development and realized by Consortium F5 Konsulting Sp. z o.o. and Polish Chamber of Commerce for High Technologies. In name of Consortium the research was realized by a group of experts composed by: Jan Brzóska, Robert Gadowski, Joanna Hołub-Iwan, Bronisława Kowalak and Jakub Rakoczy

⁵ A. Jabłoński, M. Jabłoński, T. Marona, A. Szwej, M. Musztyga-Dawidowska, A. Lech *Metodologia benchmarkingu parków technologicznych w Polsce* [Technological park benchmarking methodology in Poland], elaborated for PARP 10.06.2009 r.

I. APPROACH FOUNDATION FOR BENCHMARK RESEARCH OF TECHNOLOGICAL PARKS IN POLAND

The object of the research was a group of 24 technological parks, which after verification was delimited to 17 parks. The subject of the research was benchmarking - a tool⁶ presently used in modern management process, allowing for systemized comparison of organization with leaders in certain branch or in other branches. Benchmark analysis has the impersonal character of comparison in all organization's functioning areas, financial and not financial.

A very important thing for obtaining comparable results was to collect in one base, all equally prepared data, and indicators enumeration, to obtain a benchmarking profile that would allow for uniform interpretation of achieved values in relation to parks acting in the same area.

Benchmarking enables creation of own business solutions using already existing solutions used by market leaders.

In comparison to other evaluation⁷ tools, benchmarking is distinguishes itself because it uses only model data of market competitors. It is a search for best practices, enabling better results and achieving competitive supremacy as well as improving business through learning from others.

Benchmarking is a especially useful and justified method to apply in case of technological park analysis, as it is a modern method of activity and functioning improving evaluation of different organization types.

Benchmarking⁸ as the tool of improving effectiveness of institutions form business area is used among other, by international organizations. The example of this kind of project can be benchmark project of incubators carried out by European Commission (2002) or Entrepreneurship Research and Education Network of Central European Universities (2006).

1. Benchmark research goal

The goal of the research is a support of technological parks management and other employees in the modern process of strategic and operational management through defining best practices and shearing this knowledge with parks.

Because of the systemized comparison of parks with similar institutions from all over the country⁹, benchmarking will enable creation of business solutions taking advantage of existing best practices utilized by Polish parks. Benchmarking also allows defining strengths and weaknesses of these institutions in comparison to the rest of Polish parks, as well as finding new opportunities and threats. Indirectly, it should influence the environment of those institutions, in the national level (mainly government administration), as well as in regional level (municipal administration, universities and other institutions).

Benchmarking should also give support to parks properties and to employees of institutions that supervise properties' activity – benchmark will allow to take decisions, regarding technological parks development strategies, by the properties, based on the larger knowledge concerning practices and development of similar entities in Poland.

2. Basic notions and definitions

For the purpose of this analysis we used the following notions and definitions quoted in "Metodologia benchmarkingu parków technologicznych w Polsce" [*Technological park benchmarking methodology in Poland*]:

Technological park (definition from the act of 20th of March of 2002 about financial support of investment, Dz. U. [tran. comments.: *Journal of Laws of the Republic of Poland*] from 2001, no. 41, paragraph 363, no. 141, art. 2, point. 15, paragraph 1177 and DZ. U. from 2003, no. 159, paragraph 1537) – shall be considered as a group of separate real estate's with technical infrastructure, created in order to convey the flow of knowledge and technology between science units, accordingly to the definition in art. 2, paragraph 9 of the act of 8th of

⁶ A. Jabłoński, M. Jabłoński, T. Marona, A. Szwej, M. Muszytyga-Dawidowska, A. Lech *Metodologia benchmarkingu parków technologicznych w Polsce* [Technological park benchmarking methodology in Poland], elaboratem for PARP 10.06.2009 r., s. 3-4.

⁷ As above,

⁸ PARP, Opis Przedmiotu Zamówienia *Organizacja i Przeprowadzenie Benchmarkingu Parków Technologicznych w Polsce* [Description of the subject-matter of the contract (OPZ)] and [Technological park benchmarking methodology in Poland]: , page.2.

⁹ OPZ [Description of the subject-matter of the contract] op.cit

November of 2004 about principles of science funding (Dz. U., no. 238, paragraph 2390 and no. 273, paragraph 2703 and from 2005 no. 85, paragraph 727), and entrepreneurs, in which there are offered to entrepreneurs, who uses modern technologies, consulting services concerning creation and development of company, technology transfer and transformation of research results and development labours into technological innovations, as well as creating for those entrepreneurs the possibility or realization of business activity through usage of real estate and technical infrastructure in line with contract conditions.

Benchmarking (definition proposed by A.S. Carrie, P. Higgins, P. Falster) is a process of continuous comparison and processes measurement that form business activity, taking as a point of reference business leaders from all over the world. This comparison and measurement serves to gain information that will be helpful for the organization to take actions aimed at improvement of their activity.

Spin-off Company is a new company which was founded by employee/s separation from parent company or other organization (for example, research laboratories, universities) using for that purpose intellectual resources of parent organization.

Start-up Company is a company newly created or in phase of development, characterized by dynamic growth, created with the objective of knowledge and experience exploitation. It is a form of academic initiative – created by students or graduates.

Technology start-up is a company created by an employee or employees of academic environments using innovative solutions, of which they are proprietors. These people are commonly bounded with technical universities, research departments and medical academies. Technology start-up can be financially or operationally related to the parent entity (spin-out) or not (spin-off).

Venture capital (definition formed by European Venture Capital Association) is a middle or long term capital, invested in securities, with the intention of their later resale in order to withdraw invested capital and profit realization, gained from growth of company value.

Park tenant is a company localized in the territory of technological park, which uses infrastructure, consulting services concerning creation and development of company or technology transfer offered by technological park.

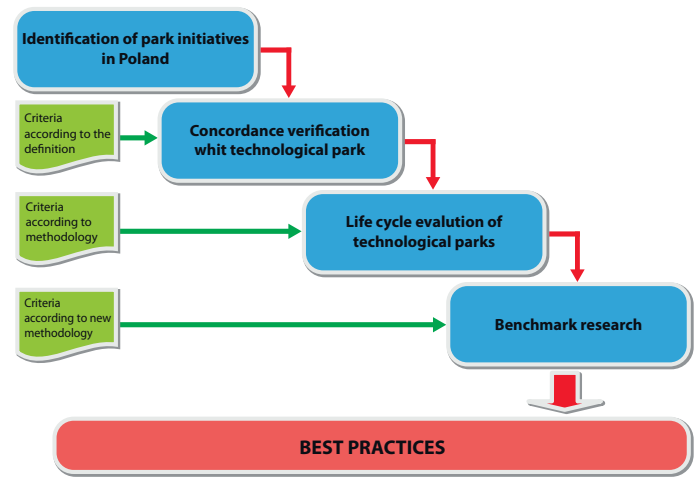
Strategic tenant is an entity renting from park a considerable usable space in commercial prices, which activity profile is concurrent with technological park specialization.

Business model is a method of developing and using resources accepted by an organization in order to present to clients products and services offer, which value exceeds competitors offer, but which at the same time assures organization profitability.

II. RESEARCH METHODOLOGY

According to applied method the process of conveying this research was divided into four phases: parks' initiative identification, verification of their compliance with technological park definition, life cycle evaluation and adequate marketing researches.

Picture 1. Subsequent phases of technological park benchmarking



Source: A. Jabłoński, M. Jabłoński, T. Marona, A. Szwej, M. Musztyga-Dawidowska, A. Lech, *Technological parks benchmark methodology in Poland*, elaborated for PARP 10.06.2009 r., p.10.

1. Identification and verification of park initiatives located in Poland

In the first phase Polish Agency for Enterprise Development identified 24 initiatives in the country that needed further verification.

Taking into considerations diversified character of existing parks initiatives in Poland, before the research itself we realized their verification from the point of view of requirements fulfilment resulting from the technological parks definition, accordingly to the act of 20th of March of 2002 about financial support of investment.

According to "Technological parks benchmark methodology in Poland", in compliance with the definition from the act from 20th of March of 2002 about financial support of investment, park initiative should meet the following criteria to be considered as technological park, quotation:

- 1) Should be based on legally regulated and separated, autonomously managed real estate occupying a specific area and/or buildings with technical infrastructure,
- 2) Should posses a concept of site planning of the terrain belonging to the park and development plan concerning science-research activity and production related to the creation of new knowledge and technology,
- 3) Should be legally bounded with science-research and educational institutions, local and regional public administration, institutions that support entrepreneurship and technological transfer in the region, as well as risk financing (venture capital),
- 4) Should create for the entrepreneurs the possibility to make use of real estate and the technical infrastructure in line with contract conditions,
- 5) Should offer consulting services related to technology transfer and companies development creation that are located within the real estate.

The verification was realized by benchmark experts during specially organized visits to the institutions managing indicated park initiatives. One of the institutions denied taking part in the research, motivating its decision with changes in the management area, which is why 23 parks were verified.

At least two persons from analyzed institution were taking part in the verification meetings: a person authorized to take decisions on behalf of the institution and a person responsible for accountancy/financial matters.

On the basis on obtained information, as well as the disclosure documents, benchmark experts stated that technological park definition criteria were met by 18 institutions, which were given numbers to assure full confidentiality of data and not to use names or contact data.

Benchmark experts obtained a written consent from 18 management representatives from visited institutions, to technological parks participation in benchmarking. Nevertheless, after getting acquainted with the scope of information requires for further benchmark investigation one of verified institutions resign from participating in the research. Finally, 17 technological parks were identified for taking part in benchmark.

They were subjected to life cycle analysis detailed in the paragraph 1 in the Section III. Life cycle analysis is a very important element of the research, because the knowledge about the phase, in which a park presently is, makes the evaluation easier in the main benchmark research.

2. Benchmark research scope

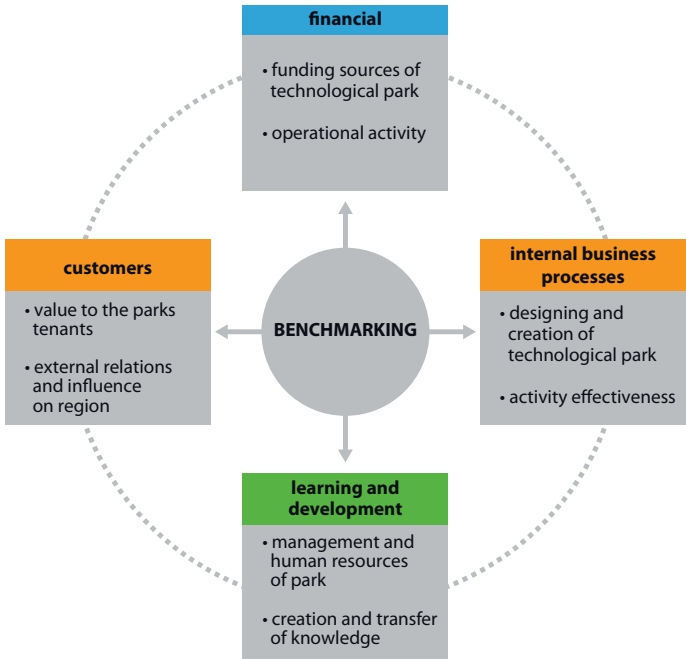
The most effective tool nowadays that allows determining business and strategic position of the organization is a Balanced Scorecard, the tool of strategic management, elaborated in the beginnings of 1990 by Robert Kaplan (Harvard Business School) and David Norton (Balanced Scorecard Collaborative).

Strategic balanced scorecard enables to precise the vision and strategy to the organization, as well as, translate them into actions. It assures flow of feedback information concerning internal economic processes and external results, for constant improvement of activity and results in strategic sense. There are four key card perspectives:

- financial perspective,
- client perspective,
- internal business processes perspective,
- learning and development perspective.

Because of the specific character of technological parks that show the features of network organizations – client perspective was substituted for customers’ perspective, especially focusing on the wide variety of subjects interested in the functioning of technological parks. Each perspective was, additionally, divided into two research areas. This gave us eight areas with 56 identified indicators, evaluated during benchmark research.

Picture 2. Perspectives and areas of benchmark research



Source: A. Jabłoński, M. Jabłoński, T. Marona, A. Szwej, M. Musztyga-Dawidowska, A. Lech, *Technological parks benchmark methodology in Poland*, elaborate for PARP 10.06.2009 r., p.10.

The application of modified technological parks model of balanced scorecard in benchmark research guarantees that defined areas will include all functional aspects of network organization, such as technological parks. The collection of data obtained from different indicators used in eight areas (with the division into four

key business perspectives) allows for defining best business practices applied by market leaders and for transferring them into effective recommendation.

We cannot improve¹⁰ something that was not measures, therefore, is of great importance to create a framework for collecting data for all identified indicators in all eight parks' activity areas. Completion of this phase creates the possibility for complete and objective evaluation of organization's achievement. The evaluation, in turn, allows not only determining areas in which the organization is relatively strong or weak, but also connecting "causes" with "effects".

Technological parks' benchmark research includes eight areas:

- **Technological park funding sources** – this area describes investment and financing sources of technological park activity. We focused, especially, at help obtained from public means and grants from international organizations.
- **Operational activity** – the analysis of this area focuses on key financial ratios. It allows defining effectiveness of operational activity.
- **Value to the park's tenants** – this area will allow to define to what extend a technological park meets tenants' expectations and to answer to the question if park strategy is correct. Marketing activity will be evaluated, as well as its effects, which are: acquiring of new customers to the park, but also new tenants. In important aspect of management evaluation will be the information relating to number of tenants, who, recently, resigned from collaboration with park.
- **External relations and influence on region** – those areas evaluates the relation between business entities, such as science entities, independent experts and consulting companies, Venture Capital financial institutions, collaborating with park. It evaluates also the influence of technological park on the region, in which it operates.
- **Designing and creation of technological park** – many factors determine the success, yet at the beginning of technological park planning and building. The analysis of this area will allow to investigate and to define the role of such factors as stockholders, localization and region attractiveness, legal form, organizational structure, planned activity area (economic sector) and legal conditions.
- **Activity effectiveness** – the aim of this area is to evaluate effectiveness of actions realized by technological park management. The subjects of analysis are the effectiveness indicators, such as park surface percentage that is used or the number of sold services. The key aspect will be the external evaluation (park tenants' opinion) and the evaluation of internet strategy.
- **Creation and transfer of knowledge** – the aim of this area is to evaluate park innovativeness and to define if and to what extend the process of transfer and commercialization of technologies is conveyed. This area is of great importance because it is a fundamental function and task of technological park.
- **Competence and experience** – this area evaluates the intellectual capital possessed by a park. It takes into consideration the employees' rotation in the park, as well as the management personnel.

According to "Technological parks benchmark methodology in Poland" after collecting necessary data we distinguished 56 indicators, which were used to investigate 17 technological parks and to define their position in the research group, formulating best practices and recommendations referring to indicators levels (indicators analysis - paragraph 6 Section III).

In compliance with accepted methodology benchmark experts prepared 17 dedicated reports, and later presented them to Parks' Management.

3. Advantages for the entities involved in the research

Identifying best business practices used by market leaders and comparison of competitors is just a beginning of a long term and continuous benchmark process. It is vital that originations taking part in the research use the knowledge coming from conveyed analysis, in an effective way.

Identifying best practices and sharing the knowledge about other applied business solution should help in verifying previous strategies and enhancing technological parks' activity effectiveness, as well as their innovations.

¹⁰ Jabłoński, M. Jabłoński, T. Marona, A. Szwej, M. Musztyga-Dawidowska, A. Lech *Metodologia benchmarkingu parków technologicznych w Polsce*, op.cit.

Examples of effective knowledge usage, present in benchmark analysis, on the part of technological parks:

- foreseeing other parks' initiative activates in Poland,
- evaluation of effectiveness and accuracy of long term technological parks' goals or tasks,
- determining external or internal resource potential and its employment for creation of the offer for parks' tenants,
- taking advantage of the effectiveness indicators in the sales, costs and market share planning process, etc.
- overcoming the reluctance for changes and implementation of new solutions,
- possibility of evaluation of own structures and operational systems, their adjustment to effective strategy realization,
- business development, enhancement and adjustment, due to competitive concepts observation,
- defining own feasible goals and plans for realization.

Benchmarking, indirectly, should influence parks' environment: institutions, in the national level (mainly government administration) as well as in regional level (municipal administration, universities and other institutions).

III. BENCHMARKING – RESULTS

1. Life cycle definition of chosen initiatives

According to “*Technological parks benchmark methodology in Poland*” defining a development phase of parks selected for the research is the most important and most difficult aspect of benchmark research. An error in this phase would cause an erroneous analysis in further phase of the research.

In compliance with “Technological parks ...” the evaluation of technological parks life cycle was realized according to model which considers four phases: embryonic, growth, maturity and downturn. We investigated 8 aspects of technological parks’ activity determining phase, according to the state at the end of 2009:

- 1) park organizational structure – level of organizational structure development, decision making structure, functional relationships, authorities and duties division;
- 2) park functioning period – number of months/years of park functioning in the market (time counted from the moment when first tenant moved in);
- 3) percentage of the park’s surface that is used for its business activity and serving for realization of activities, in compliance with park profile (used by park and its tenants);
- 4) number of service types offered by technological park (chosen from proposed list of 19 services);
- 5) contacts/relations network – national, international contacts and membership to affiliate networks;
- 6) number of realized international projects by technological park in the last 3 years (including projects realized with the participation of foreign partner, on the basis of formal agreement. The project must have clearly defined objective and scope)
- 7) income dynamics; income dynamics level compared to assets possessed by a park;
- 8) park tenants rotation – understood as a difference between number of tenants joining the park and number of tenants leaving the park in relation to total number of tenants expressed in %.

The evaluation was accomplished by benchmark experts during visits to the park management institutions; in which at least two persons from analyzed institution were taking: a person authorized to take decisions on behalf of the institution and a person responsible for accountancy/financial matters. In each area 0 to 10 points were awarded. The number of point decides about park’s development phase:

- embryonic phase: - from 0 to 11 points,
- growth phase: - from 12 to 34 points,
- maturity phase: - from 35 to 68 points,
- downturn phase: - from 69 to 80 points.

If the investigated institution functions in the market for a shorter period than one year or it does not have any tenants (the percentage of used space is 0%), this initiative is qualified to embryonic phase and this would be the end of life cycle analysis.

On the basis of obtained information and disclosed documents we can present the evaluation of development phases of investigated parks presented in table no.1.

From a table no. 1 we can conclude that: one park (no.9) operates less than a year (according to the state at the end of 2009), which is why it was qualified to the embryonic phase. Three parks (no. 5, 10, 12) are in growth phase. They obtained from 25 to 32 points. The rest 13 parks were qualified to maturity phase. The largest number of points in this group was achieved by park no. 11 - 68 points, the smallest number by park no. 8 - 38 points.

None of the investigated parks was qualified to downtown phase.

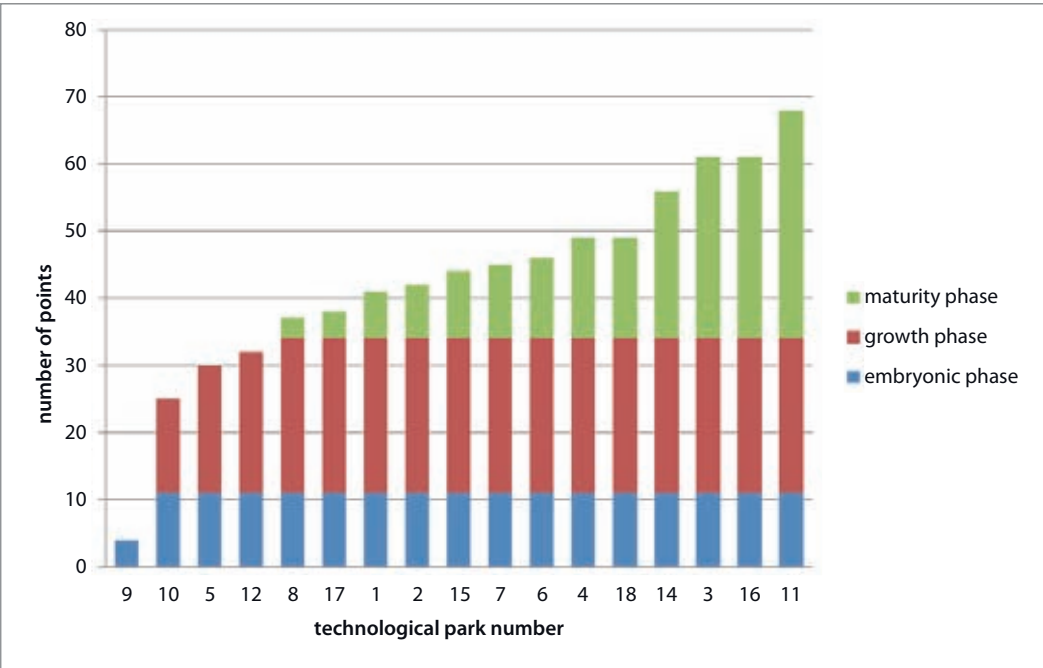
Table 1. Technological parks classification according to development chase (life cycle chase).

No.	Technological park name	Number of points	Life cycle phase
1.	Technological Park no.1	41	Maturity phase
2.	Technological Park no.2	42	Maturity phase
3.	Technological Park no.3	61	Maturity phase
4.	Technological Park no.4	49	Maturity phase
5.	Technological Park no.5	30	Growth phase
6.	Technological Park no.6	46	Maturity phase
7.	Technological Park no.7	45	Maturity phase
8.	Technological Park no.8	37	Maturity phase
9.	Technological Park no.9	4*	*Park functions less than a year, initiative is qualified to embryonic phase and this is the end of life cycle analysis.
10.	Technological Park no.10	25	Growth phase
11.	Technological Park no.11	68	Maturity phase
12.	Technological Park no.12	32	Growth phase
13.	Technological Park no.14	56	Maturity phase
14.	Technological Park no.15	44	Maturity phase
15.	Technological Park no.16	61	Maturity phase
16.	Technological Park no.17	38	Maturity phase
17.	Technological Park no.18	49	Maturity phase

the source:the author’s own

The punctuation achieved by each park with division into phases was presented in the diagram 1.

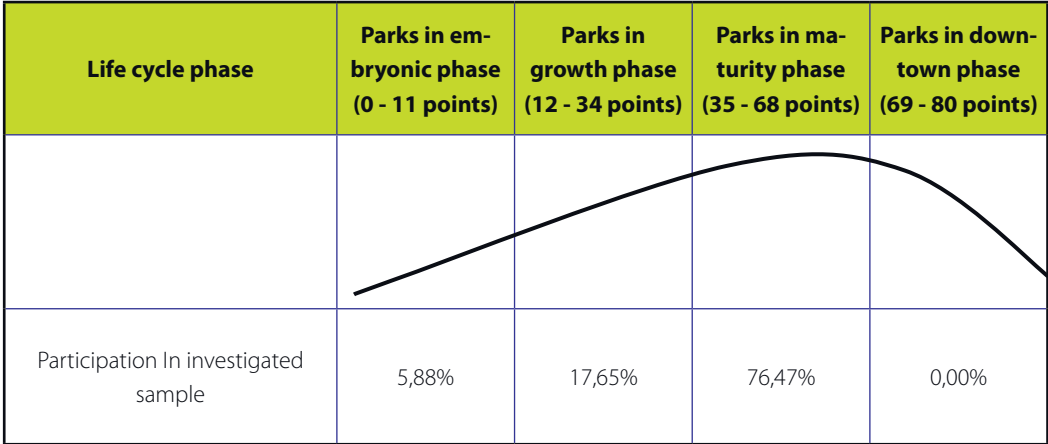
Diagram 1. Number of points achieved by each park with division into development phases



the source:the author’s own

From the table no.2 we can see that, according to the state at the end of 2009 76.47% of investigated technological parks sample were parks in maturity phase, only 17.65% in growth phase and 5.88% in embryonic phase. As it was stated, no park was qualified to downtown phase.

Table 2. The participation of technological parks in each life phases.



The results of technological parks' life cycle evaluation, with results structure presentation, used for criteria enumerated in section 2 of present report, are presented in table no. 3 and diagram no. 2.

Table 3. Investigated technological parks' life cycle evaluation structure

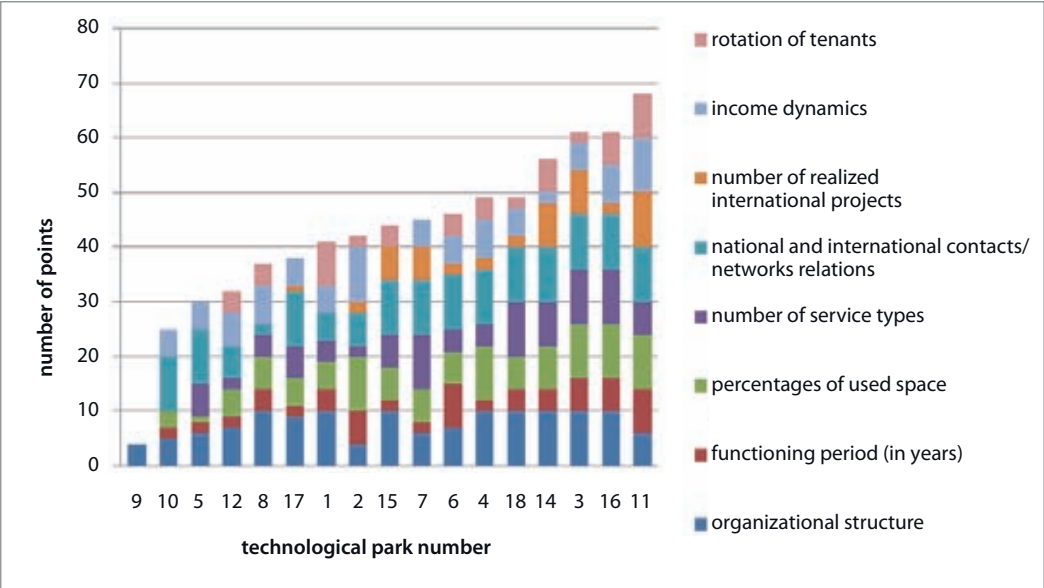
		Number of points achieved by the park no.:																	Number of points in cat.
L.p.	Criteria	11	3	16	14	18	4	6	7	15	2	1	17	8	12	5	10	9	
1.	Park organizational structure	6	10	10	10	10	10	7	6	10	4	10	9	10	7	6	5	4	134
2.	Park functioning period	8	6	6	4	4	2	8	2	2	6	4	2	4	2	2	2	x)	64
3.	Percentage of park's used surface	10	10	10	8	6	10	6	6	6	10	5	5	6	5	1	3		107
4.	Number of service types	6	10	10	8	10	4	4	10	6	2	4	6	4	2	6	0		92
5.	National contacts and international networks	10	10	10	10	10	10	10	10	10	6	5	10	2	6	10	10		139
6.	Number of realized international projects	10	8	2	8	2	2	2	6	6	2	0	1	0	0	0	0		49
7.	Income Dynamics	10	5	7	2	5	7	5	5	0	10	5	5	7	6	5	5		89
8.	Park tenants rotation	8	2	6	6	2	4	4	0	4	2	8	0	4	4	0	0		54
9.	Number of points achieved by a park	68	61	61	56	49	49	46	45	44	42	41	38	37	32	30	25		
10.	Order according to punctuation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

x) Park functions less than a year – end of analysis – in embryonic chase

the source:the author's own

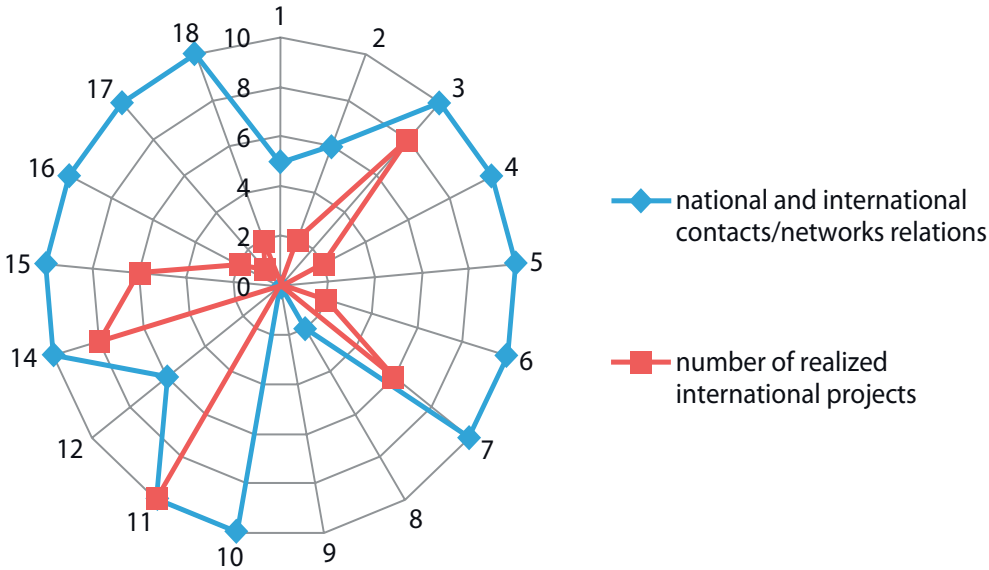
When analysing points achieved by 16 parks (without the park in embryonic phase) for each criteria, we can conclude that parks received the largest amount of numbers for national and international contacts and networks relations, as well as for organizational structure, the smallest amount for realized international projects and park's tenants rotation.

Diagram 2. Number of points achieved by each park according to 8 criteria of life cycle evaluation



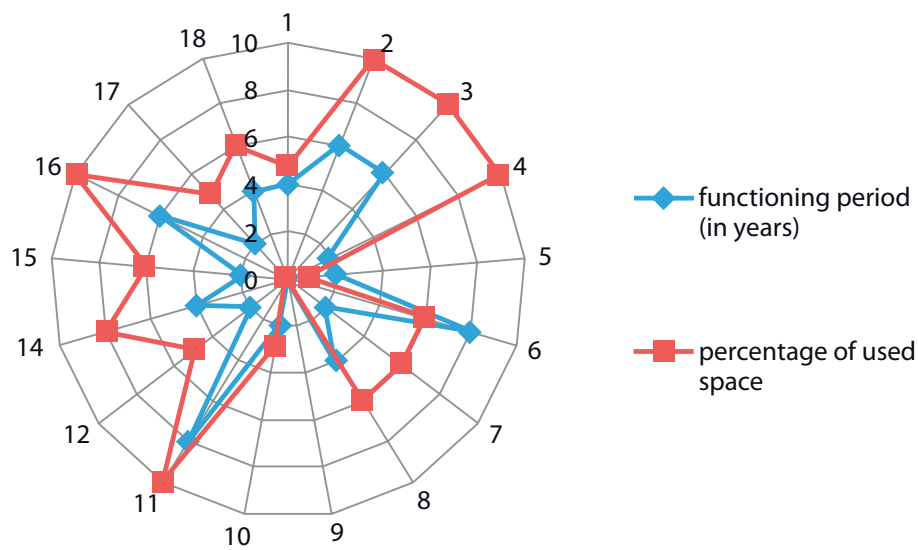
Correlations that can take place between each aspect of evaluation, coming from above criteria, were presented as an example in the diagram 3-7.

Diagram 3. Correlation between national and international contacts and relation networks, and a number of realized international project



From the diagram 3 we can see that only in case of a few Parks (no. 11, 3, 14, 15 and 7) there is relatively high number of realized international projects in relation to national and international contacts and participation in networks relations. In the case of the rest of parks, international cooperation is either marginal or not effective and does not result, till now, in participation in international projects.

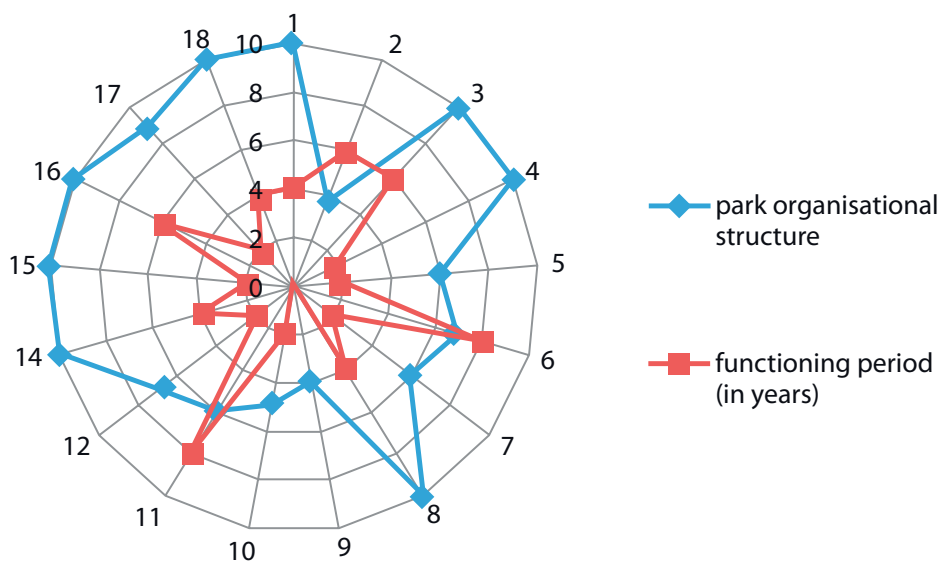
Diagram 4. Correlation between park’s functioning period and percentage of used space



the source:the author's own

In the majority of parks we can see a correlation between functioning period and used surface, which is correct. The exception being park no. 4 which, despite of short time of functioning period, managed to use all surface. Presented relation, even though at lower level, is present in Park no. 7.

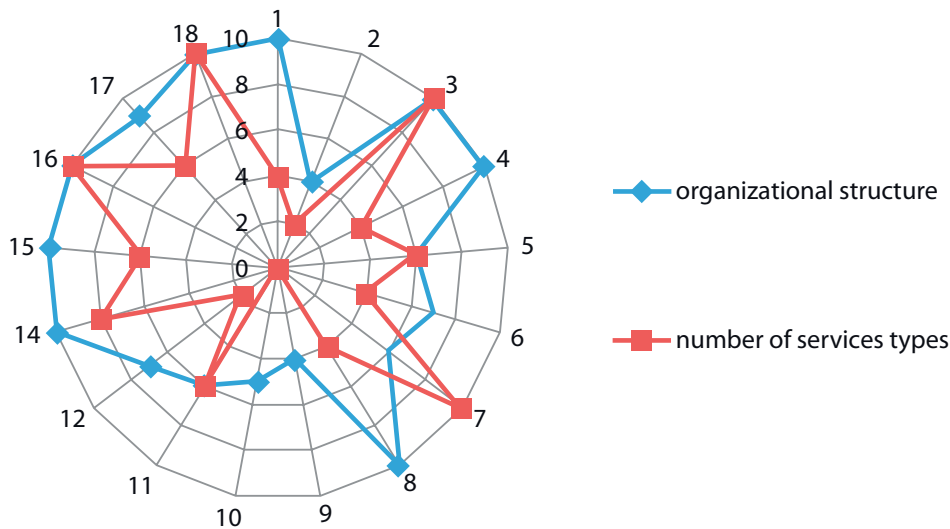
Diagram 5. Correlation between organizational structure and park functioning period



the source:the author's own

From the diagram 5 we can notice that Parks no. 1, 3, 4, 8, 14, 15, 16, 18 and 17, despite of short time of functioning, have built mature organizational structure. In the rest of parks, correlation between functioning period and level of organizational structure is not explicit.

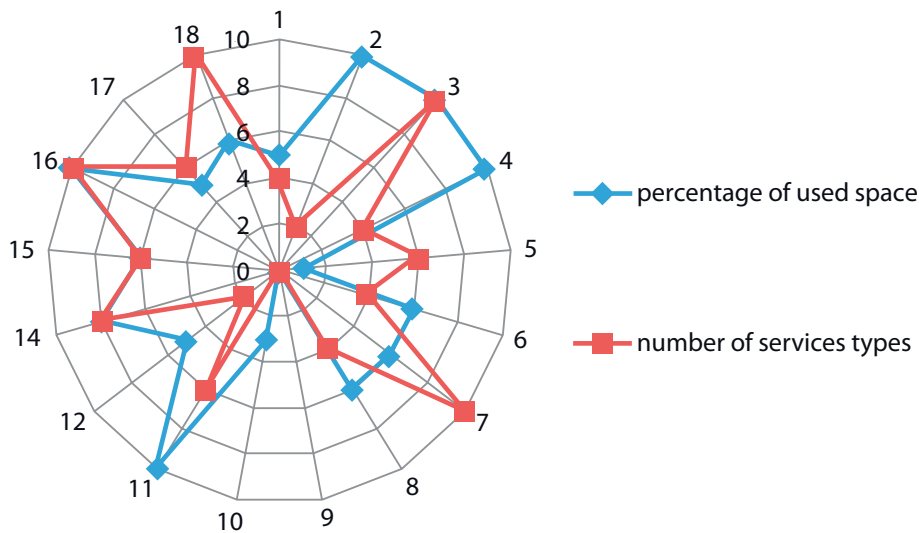
Diagram 6. Correlation between organizational structure and number of service types



the source:the author's own

From the diagram 6 we can see that the correlation between organizational structure and the number of service types is present in the case of Parks no. 3, 5, 11, 16 and 18. For the rest of parks this relation does not exist.

Diagram 7. Correlation between percentage of used space and number of services types



the source:the author's own

From the diagram no. 7 results that the relation between the percentage of used space and the number of service types exists only in Parks no. 3, 14, 15 and 16.

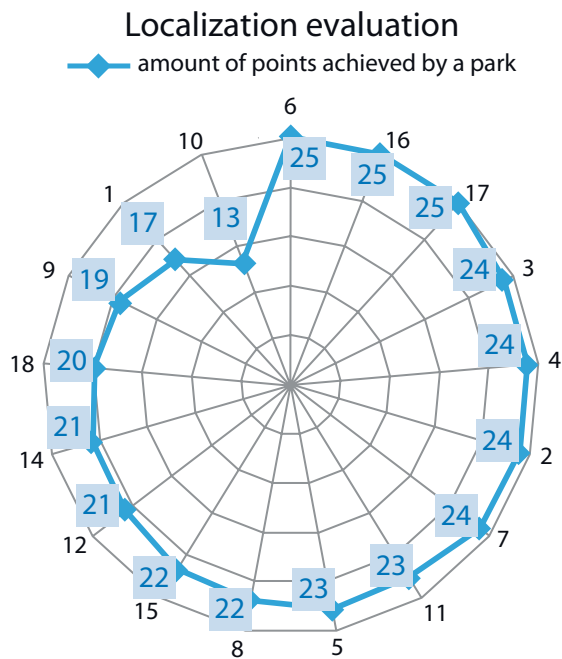
2. Technological parks’ localization evaluation

Not only the distance from main roads, railroads and airports is decisive for park’s position in respect to localization, but also distance from big production plants (or clusters) and, above all, proximity of university, which is so important to technological park.

The evaluation results of localization of 17 investigated parks (scale 1 - 5) are presented in diagram no. 8 and table no. 4 and diagram no. 9. The majority of technological parks have good localization. Three parks (no. 6, 16 and 17) received the maximum amount of points - 25 and only three less than 20.

The total amount of points awarded to each park is presented in diagram no.8.

Diagram 8. The amount of points achieved by individual parks for localization



the source:the author's own

A structure of parks' localization evaluation according to 5 criteria is presented in the table no. 4 and diagram no. 9.

From this table we can see that the majority of parks are localized nearby main roads, railroads and universities, as well as big production plants.

The most frequent difference in the localization evaluation is the distance from the airports.

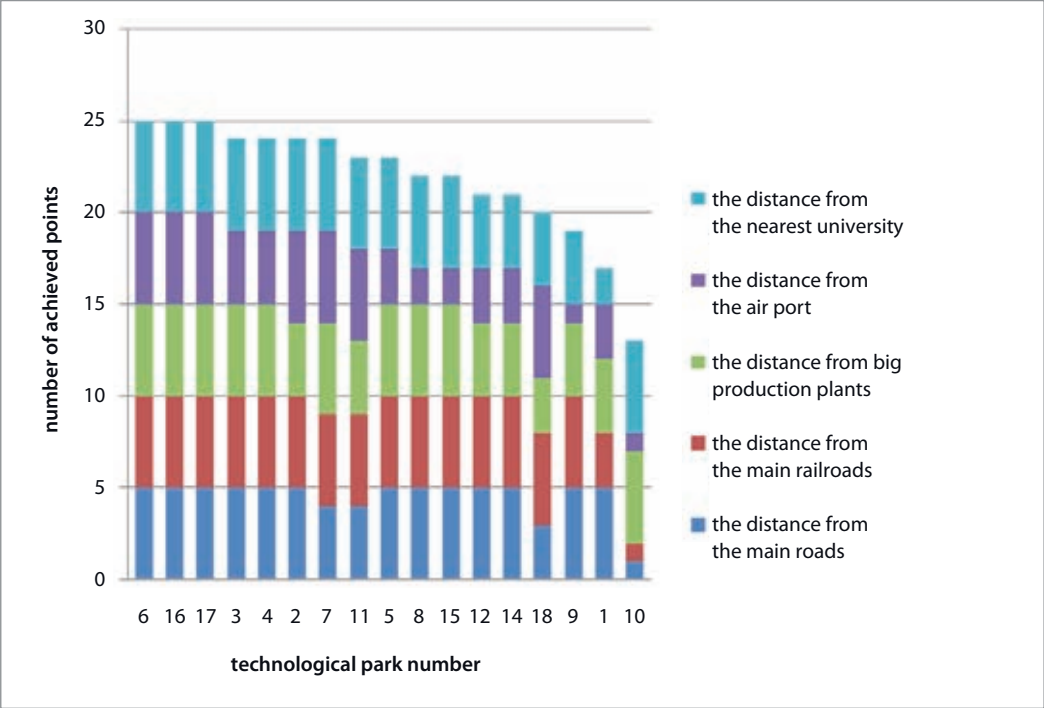
Table 4. Localization evaluation structure

		The quantity of points achieved by the park No.:																	Number of points in cat.
No.	Criterion*	6	16	17	3	4	2	7	11	5	8	15	12	14	18	9	1	10	
1.	Distance from main railroad	5	5	5	5	5	5	4	4	5	5	5	5	5	3	5	5	1	77
2.	Distance from main roads	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	1	79
3.	Distance from big production plants	5	5	5	5	5	4	5	4	5	5	5	4	4	3	4	4	5	77
4.	Distance from airports	5	5	5	4	4	5	5	5	3	2	2	3	3	5	1	3	1	61
5.	Distance from the nearest university	5	5	5	5	5	5	5	5	5	5	5	4	4	4	4	2	5	78
6.	Number of points achieved by a park	25	25	25	24	24	24	24	23	23	22	22	21	21	20	19	17	13	
7.	Medium score:	5,0	5,0	5,0	4,8	4,8	4,8	4,8	4,6	4,6	4,4	4,4	4,2	4,2	4,0	3,8	3,4	2,6	
8.	Order according to punctuation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

*1-5 point scale.

the source:the author's own

Diagram 9. Quantity of points achieved by each technological park for localization, division into criteria 1-5

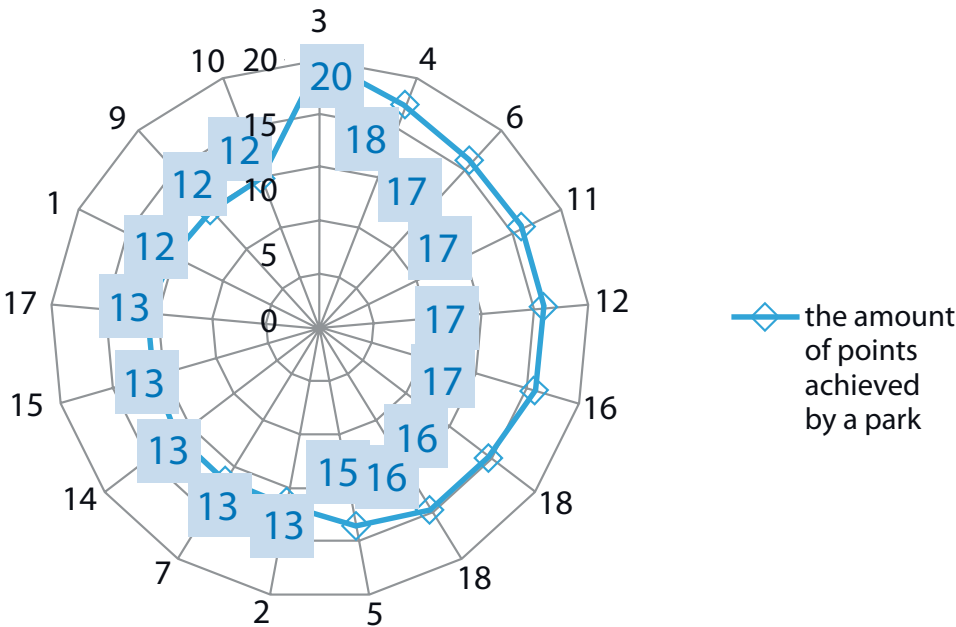


the source:the author's own

3. Internet web sites evaluation

Internet web sites evaluation results, with their structure, are presented in diagram 10. The evaluation level is between 12 and 20 point at 20 possible.

Diagram 10. Number of points achieved by each park for internet web pages.



the source:the author's own

Table 5. Internet web sites evaluation

No.	Criterion*	The quantity of points achieved by a park No.:																	Number of points in cat.
		3	4	6	11	12	16	8	18	5	2	7	14	15	17	1	9	10	
1.	Information on the web site	5	4	4	5	5	4	5	5	5	4	5	5	4	4	3	3	4	74
2.	Number of visits In the year (number of unique visits to www)	5	5	4	2	5	4	4	4	3	bd	1	2	2	1	3	2	2	49
3.	Park positioning In Internet browsers	5	4	4	5	2	4	2	2	2	4	2	1	2	5	1	2	1	48
4.	Web site adjustment to different Internet browsers	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5	83
5.	Number of points achieved by a park	20	18	17	17	17	17	16	16	15	13	13	13	13	13	12	12	12	
6.	Medium score:	5,0	4,5	4,3	4,3	4,3	4,3	4,0	4,0	3,8	3,3	3,3	3,3	3,3	3,3	3,0	3,0	3,0	
7.	Order according to punctuation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

*1-5 point scale.

the source:the author's own

The highest score for the web site was achieved by park no. 3 - 20 points at 20 possible. The second best score was achieved by park no 4 -18 points. The third position belongs to no.: 6, 11, 12 and 16, which received 17 points.

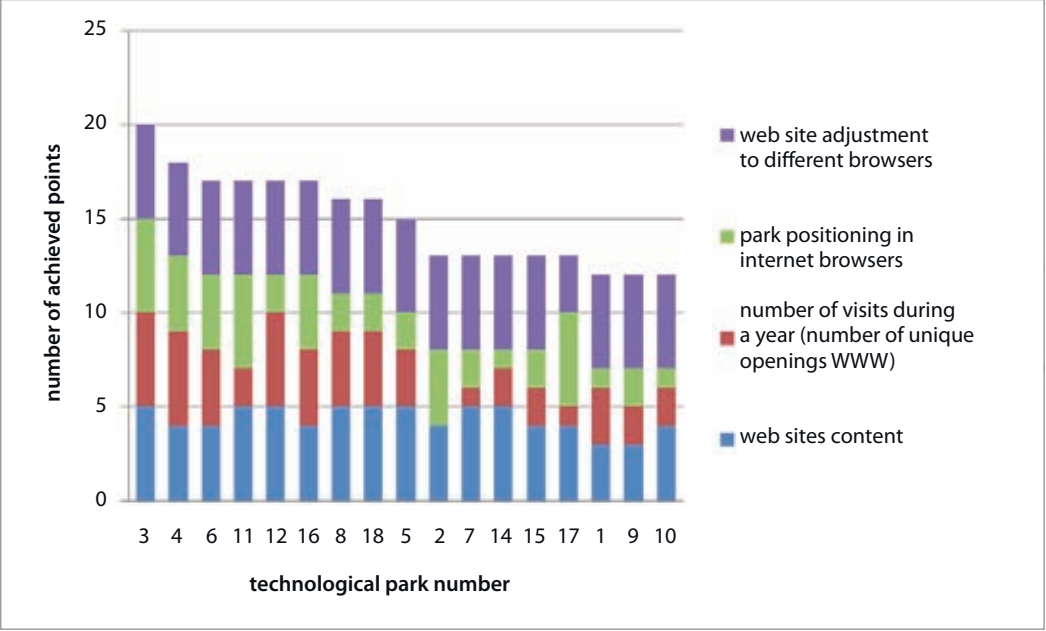
Technological parks' web sites are visited by large number of users. Three of investigated parks – no. 3, 4 and 16 reached statistics of more than 50 thousand users a year. The largest number of unique visits was achieved by park no. 4 - 66095.

The content evaluation of web sites referred to information about contact data, localization, products and services offer, organized trainings, conferences etc., as well as about park collaboration. The best scores are the one of park no. : 3, 5, 7, 11, 12, 14 and 18.

Web site positioning in browsers also was evaluated, for keywords: technological-science park, technological park and technology park. The biggest effectiveness was obtained by park no. : 3, 11 and 17.

Web sites of investigated technological parks are adjusted to three most commonly used Internet browsers: Internet Explorer, Mozilla Firefox and Google Chrome.

Diagram 11. Number of points achieved by each technological park for web site with division info criteria 1-4



the source:the author’s own

4. Park tenants’ evaluation

In each investigated park, not depending from the number of located companies we directed ourselves to three tenants, and ask them to complete “Tenant’s evaluations questionnaire”. In this questionnaire the evaluation from 1 to 5 scale was placed according to following criteria:

- 1) to what extend are you satisfied with technological park management,
- 2) how do you evaluate technological park offer,
- 3) to what extend your company’s localization in the park influences the success of your firm,
- 4) how do you evaluate the mount of charges for using park’s infrastructure,
- 5) how do you evaluate park’s network relations with science and public admin. inst., as well as other science parks etc.,
- 6) according to you what is the technological transfer scale in park,
- 7) how do you evaluate park’s infrastructure,
- 8) how do you evaluate services delivered by the park,
- 9) how do you evaluate level of experts that collaborate with the park,
- 10) how do you evaluate collaboration with university,
- 11) how do you evaluate the innovativeness of park offer.

All the information contained in tenant’s evaluation questionnaire was treated as confidential. From evaluation given by 3 tenants for each criterion we counted a medium score presented in table 6.

In verse 12 in table 6 we resumed evaluations achieved by parks for each criterion, what graphically presents diagram no. 12. In the verse no. 13 in table no. 6 we presented medium scores achieved by parks what is showed by curve in diagram no. 13.

Most of the evaluations exceed 4, and the medium score achieved by 17 parks is 4.21. What it means is that parks’ managing institutions were able to create proper relations with park tenants. The highest scores were achieved by Parks no. 5, 10 and 18.

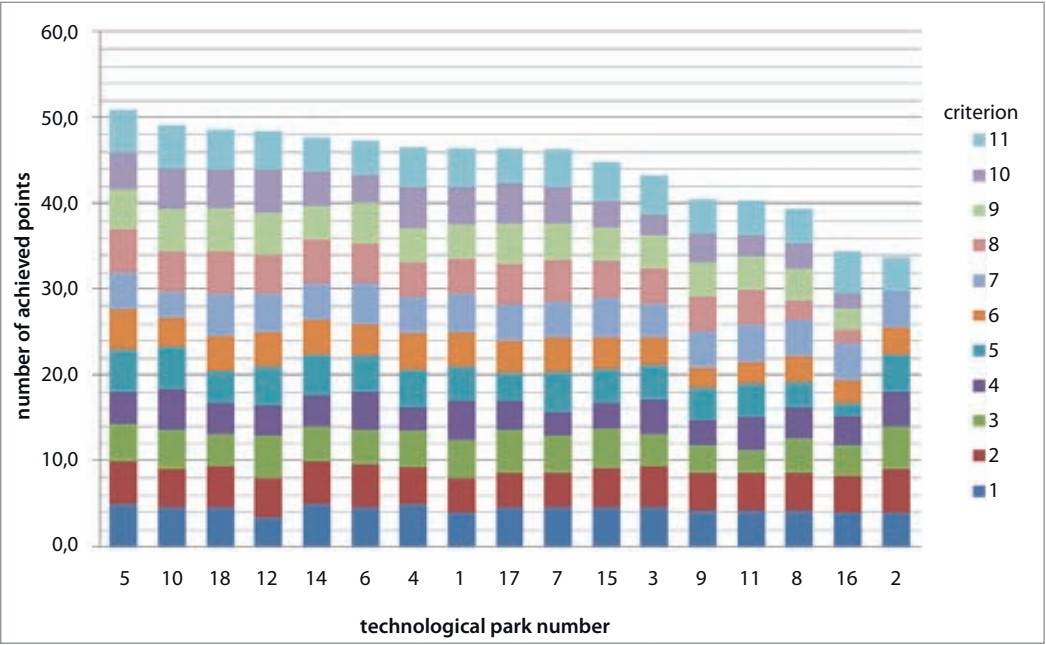
Table 6. Park tenants evaluation

		The medium evaluation of 3 tenants achieved by the park No.:																	Number of points in cat.
No.	Criterion*	5	10	18	12	14	6	4	1	17	7	15	3	9	11	8	16	2	
1.	To what extent are you satisfied with technological park management	5	4,7	4,7	3,5	5	4,7	5	4	4,7	4,7	4,6	4,7	4,3	4,2	4,3	4	4	76,0
2.	How do you evaluate technological park offer	5	4,3	4,7	4,5	5	5	4,3	4	4	4	4,6	4,7	4,3	4,5	4,3	4,3	5	76,4
3.	To what extent your company's localization in the park influences the success of your firm	4,3	4,7	3,7	5	4	4	4,3	4,5	5	4,3	4,6	3,7	3,3	2,7	4	3,6	5	70,6
4.	How do you evaluate the amount of charges for using park's infrastructure	3,7	4,7	3,7	3,5	3,7	4,3	2,7	4,5	3,3	2,7	3	4	3	3,7	3,6	3,3	4	61,3
5.	How do you evaluate park network relations with science and public admin. inst., as well as other science parks etc.	5	5	3,7	4,5	4,7	4,3	4,3	4	3,3	4,7	4	4	3,7	4	3	1,6	4,5	68,3
6.	What is the technological transfer scale in the park according to you	4,7	3,3	4	4	4	3,7	4,3	4	3,7	4	3,6	3,3	2,3	2,5	3	2,6	3	60,0
7.	How do you evaluate park's infrastructure	4,3	3	5	4,5	4,3	4,7	4,3	4,5	4,3	4,3	4,6	4	4,3	4,3	4,3	4,3	4,3	73,4
8.	How do you evaluate services delivered by the park	5	4,7	5	4,5	5	4,7	4	4	4,7	4,7	4,3	4	4	4	2,3	1,6	0	66,5
9.	How do you evaluate level of experts cooperating with the park	4,7	5	5	5	4	4,7	4	4	4,7	4,3	4	4	4	4	3,6	2,6	0	67,5
10.	How do you evaluate collaboration with university	4,3	4,7	4,5	5	4	3,3	4,7	4,5	4,7	4,3	3	2,3	3,3	2,5	3	1,6	0	59,7
11.	How do you evaluate the innovativeness of park offer	5	5	4,7	4,5	4	4	4,7	4,5	4	4,3	4,6	4,7	4	4	4	5	4	74,9
12.	Number of points achieved by a park	51	49	49	49	48	47	47	47	46	46	45	43	41	40	39	35	34	
13.	Medium score:	4,6	4,5	4,4	4,4	4,3	4,3	4,2	4,2	4,2	4,2	4,1	3,9	3,7	3,7	3,6	3,1	3,1	
14.	Order according to punctuation	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	

*1-5 point scale.

the source:the author's own

Diagram 12, The number of points – sum of medium scores awarded by three tenants - to management technological park institution, division into 11 criteria.



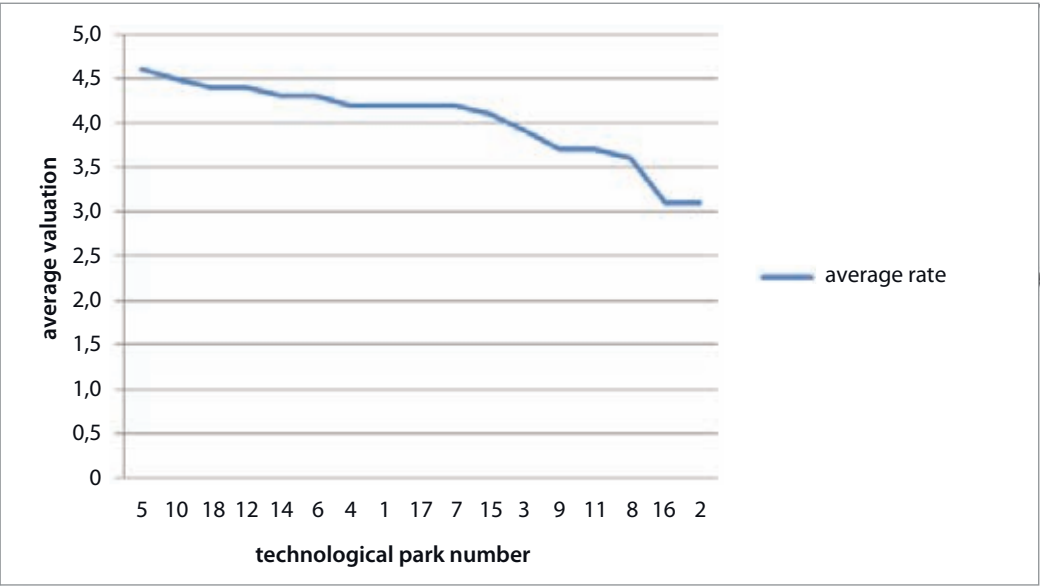
the source:the author's own

From table no. 6 and diagram no. 12 we can see that tenants awarded highest evaluation for: park management, their offer, offer innovativeness, park's infrastructure, and influence of park's localization on company's success. The lowest evaluation was awarded for: collaboration with university, level of technological transfer, charges level for using park's infrastructure.

Technological park management institutions should pay special attention to the areas in which they achieved the lowest evaluation and should strengthen their activity in this respect.

The curve presented below in diagram no. 13 reflects average total results achieved by park in view of tenants. We can notice that those evaluations are situated in between 3 and 4.7 points. The moderation of this diagram reflects that results differ only slightly. There are no bigger differences with the exception of parks no. 9, 11 and 8, as well as 16 and 2.

Diagram 13. Average total evaluation of 3 tenants awarded to technological park managing institutions



5. Evaluation of park specialization

With the great variety of parks' researched group in respect of tenants park number (from 3 to 97), while determining the specialization we cannot use only participation of dominant branch among tenants. Strategic group map showing specialization with relation to tenants' number is the best representation. See point no. 8.

Parks no. 17, 7 and 5, which concentrate a small number of companies (respectively 10, 5 and 3) are characterized by the highest (100%) specialization.

In Parks no. 10, 4, 12, 15 and 18 we encountered specialization from 80% to 50%. There are from 19 to 38 companies operating in those parks. Similar specialization level, but with significantly higher number of tenant we can see in Parks no. 6 and 3, in which operate 69 and 72 companies respectively, relatively low specialization of park no. 16 - 31% seems to be quite high if we compare it to the highest in the group number of tenants.

The rest of the parks, from which the highest specialization of 13% is the one of Park no. 14, are characterized by diversity of production and services.

Parks are specializing most frequently in ICT technologies, biotechnologies, medicine, electronics and energy saving technology developing.

6. Park characteristics in 8 areas of benchmark research

The research of 17 technological parks was realized according to the methodology based on 56 indicators characterized by 8 areas, defined in 4 BSC (balanced scorecard) perspectives. Obtained results were described in detail in so called dedicated reports and presented to research participants. For comparison we used the median method because the spread of results coming from park differences was to enormous.

We have to remember that investigated technological parks constitute a diversified group in many ways, which causes difficulties in unambiguous results evaluation. Investigated parks are not uniform in following respect:

- **life cycle** – in investigated sample we find parks in early phase of development: Park no. 9 in embryonic phase, Parks no. 5, 10 and 12 in growth chase and 13 parks in maturity phase, and also parks with different period of functioning – from less than a year to 15 years.
- **size** – in respect to occupied area (from 0.79 to 528.83 ha) and possessed technical infrastructure, as well as numbers of tenants (from 3 to 97) and their research potential,
- **management method** – that results from owner like structure,
- **operational model** – science-technological parks acting next to universities and technological parks or technological-industrial parks.

In annex no. 1 you can find curves representing a position (strong, weak or average) of each park in respect to each 56 indicators.

Best results (benchmarks) in respect to indicators characterizing eight areas of benchmark research are presented in table no. 7.

From benchmark result overall analysis of technological parks four erroneously defined indicators were excluded:

- in financial perspective:
 - **park building costs to park surface** (PLN/m²),
- in stakeholder perspective:
 - **tenants number, who left a park and continue the activity, related to number of tenants** (%),
 - **number of workplaces created by a park in last accounting year to number of people working in the region at the end of the year** (%),
- in internal processes perspective:
 - **park building period** (counted from the moment when decision about park building was taken till the moment when first tenant moved in).

The best results gathered in the table no. 7 obtained from park sample group, allow to define best practices in relation to indicators, in eight defined areas, remembering that each indicator relates to different park.

1. **Technological park funding sources** – The park raised public funds in the amount of 3974.17% of total income, in the majority from European Union (3483.45%), many times exceeding its income. This data refer not only to parks in early phases of development, but also to that park which in 2009 completed investment. Other Park with leader market position spent 88.74% of financial means for investment. Yet another – obtained a highest income in group from surface retting for tenants whose participation in total income of this park, was at the level of 81.58%. Another park financially supported its tenants, dedicating for that 50.90% of its income.
2. **Operating activity** – Park achieved high effectiveness of operations activities in progress, the evidence of what is the assets productivity in sum of 240.70%, assets profitability 44.53%. Those are exceptional results, because in the majority of parks they are low. Other park showed satisfying fast liquidity 1.22 and current liquidity 2.10. Next best results are: total sales dynamics 16.92%, sales cost in relation to sales 55.30%. Highest income for one agreement reached 821 421.22 PLN.
3. **Value to park's tenants** – In this area the highest results were achieved by parks in growth or embryonic phase. And so, the Park dedicated in 2009 the sum of 108 642.51 PLN for marketing, which constitutes 47.00% of total sale. In case of parks in maturity phase such a high expenses for marketing would rather not take place, similarly, as other indicators. In one of the parks, ratio of employees' number and tenants' number reached 7.45, so it is very high, but this is caused by little number of companies that operate in the Park. Other Park in the last 12 months gained 100% of new clients and 100% of new tenants, which is also related to its early development phase.
4. **External relations and region influence** – The Park is very active for it collaborates with considerable number of companies in relation with the tenants' number – 19.79 and science entities – 5.00. It prefers cooperation with independent experts – 4.20 per 1 tenant, comparing to number of collaborating consulting companies – 1.40 per 1 tenant. In the year 2009 Park completed 18 projects in cooperation with other institutions. It cooperated with financial institutions of venture capital type, seed capital etc., which is characterized by value of 0.60 in relation to tenants' number. The Park has high amount of partners – 2.67 in relation to tenants' number. Start-up companies have located themselves in the park – indicator 2.0 in relation to newly created companies, as well as spin-off companies – indicator 9.00. In this area best results were achieved by parks in maturity phase, with exception of cooperating science entities' number related to tenants number.
5. **Technological park designing and creation** – Park was created in very good localization – near main road and railroads, as well as universities and relatively near to big industrial plants (clusters) and airports – obtaining the highest possible score of 25 points. Other park is situated on the area of 528.83 ha and disposes of building surface of 23 444 m². There are 97 tenants in one the parks. Those results are mainly valid for mature parks.
6. **Activity effectiveness** – the Park uses 99.7% of its surface. In the last 12 months the number of rendered services per one tenant was 35.53, and number of offered service types by the Park in relation with tenants' number was 5. New sales related to total sales constitutes 100%, number of venture capital investments in the period of last 3 years related to number of tenants amounts to 0.33. Number of innovation and technological implementations at park tenants amounted respectively to: in relation to cooperation science entities – 12.50, to number of partners – 4.17 and to number of tenants – 1.47. The Park achieved highest possible evaluation for web site – 20 points, considering web content, number of unique visits to website exceeding 60 thousand within a year, appearing in browser (Google) and adjustment to most common Polish browsers. The evaluation of management institution given by tenants – 4.64 points for 5 possible, it is very high.
7. **Creation and transfer of knowledge** – The Park in 2009 incurred expenses for employees' trainings in the amount of 1.71% of sales value and expenses for ICT technologies constituting 207.75% of sales value, which had to be connected with on-going investment and usage of public means. 100% of companies present in the park are innovative companies that conduct R&D activity. It is a proof of park's high innovativeness level.
8. **Competence and experience** – Park management system is based on competent employees with higher education (100%), some with academic degree (18.28%), with proper number of managers

(10.81% of total employees' number). During the 2009 there was no employee rotation. The number of legally protected patents and trade-marks per one tenant amounted to 0.67. There are 55 science-industrial groups in the next Park that conduct science initiatives.

Presented results refer to the state at the end of 2009. This situation will change yet in the 2010, due to changes in results of parks in early development phases, but also, due to new situation of mature parks, which are completing operational programs investments. New entities will probably appear that, presently, did not fulfil criteria of technological park definition. Those changes will be presented in the next research.

Table 7. Best practices (benchmark) of technological parks achieved IN investigated group o 17 parks.

Area No.	Perspective – area – indicator	Best result	Achieved by
	Financial perspective		
1	Area: technological park funding sources		
	1) Public means value in relation to income	3974.17%	Park no. 9
	2) Value of means obtained from European Union (or as grants from other international organizations) in relation to total income	3483.45%	Park no. 7
	3) Park investment costs in relation to total costs	88.74%	Park no. 10
	4) Income from surface renting in relation to total income	81.59%	Park no. 16
	5) Total sum of financial help for park tenants in relation to total income	50.90%	Park no. 3
2	Area: Operating activity		
	1) Total income to total assets (assets productivity)	240.70%	Park no. 3
	2) Profit (loss) gross income and gross assets ratio (assets profitability)	44.53%	Park no. 3
	3) Total income per one agreement ratio (indicator of relation income/ number of contracts)	821421.22 PLN	Park no. 11
	4) Total sales dynamics	16.92%	Park no. 5
	5) Sales costs in relation to total sales (indicator has a destimulant character)	55.30%	Park no. 8
	6) Fast liquidity ratio	1.22	Park no. 15
	7) Current liquidity ratio	2.10	Park no. 10
	Stakeholders perspective		
3	Area: Value to park tenants		
	1) Park marketing costs per one tenant	108642.51 PLN	Park no. 5
	2) Park marketing costs in relation to total sales	47.00%	Park no. 10
	3) Number of park's employees (only employees engaged into park's work) in relation to tenants number	7.45	Park no. 5
	4) New clients compared to all clients –	100.00%	Park no. 9
	5) Number of new tenants in park in the last 12 months to tenants number	100.00%	Park no. 9
4	Area: External relations and region influence		
	1) Number of cooperation companies to tenants number	19.79	Park no. 14
	2) Number of cooperating science entities to tenants number	5.00	Park no. 5
	3) Number of cooperating independent experts in relation to park tenants number	4.2	Park no. 7
	4) Number of cooperating consulting companies per one tenant	1.40	Park no. 7
	5) Number of park's completed project in partnership with other institutions	8	Park no. 11
	6) Number of cooperating financial institutions types: venture capital per one tenant	0.6	Park no. 7
	Internal processes perspective		

5	Area: Technological park designing and creation		
	1) Park localization	25 points	Park no. 6, 16 and 17
	2) Park surface	528.83 ha	Park no. 6
	3) Park buildings' surface	23 444.00 m2	Park no. 18
	4) Number of park tenants	97	Park no. 16
	5) Number of parks' partners in relation to parks' tenants	2.67	Park no. 5
	6) Number of spin-off companies to newly created companies	0.25	Park no. 7
	7) Number of start-up companies to newly created companies	9.00	Park no. 2
6	Area: Activity effectiveness		
	1) Usage level of buildings' surface	99.70%	Park no. 3
	2) Number of services rendered to tenants in the last 12 months in relation to tenants number	35.53	Park no. 16
	3) Number of offered service types to tenants number	5.00	Park no. 15
	4) Number of tenants debuting on SE including New Connect to tenants number	10%	Park no. 17
	5) Overall evaluation of park's management institution expressed by tenants	4.64	Park no. 5
	6) Internet strategy	20	Park no. 3
	7) New sales to total sales ratio	100.00%	Park no. 9, and 15
	8) Venture capital investments' number completed in the last 3 years	0.33	Park no. 5
	9) Number of innovation and technology implementations completed at park tenants in relation to science cooperating entities number	12.50	Park no. 18
	10) Number of innovation and technology implementations completed at park tenants in relation to partners number	4.17	Park no. 18
	11) Number of innovation and technology implementations in relation to tenants number	1.47	Park no. 18
	Learning and development perspective		
7	Area: Creation and knowledge transfer		
	1) Training costs in relation to total sales	1.71%	Park no. 7
	2) ICT technology costs	207.75%	Park no. 2
	3) Innovative companies to park tenants number	100.00%	Park no. 5, 7, 15
	4) Park tenants that conduct R&D activity to tenants number	100.00%	Park no. 5 and 7
8	Area: Compensation and experience		
	1) Employees with higher education to total employees number	100%	Park no. 6, 8, 10, 18
	2) Employees with academic degree, at least "doctor" [postgraduate] or other degree	18.28%	Park no. 17
	3) New employees in relation to total number of park employees	0.00%	Park no. 14
	4) Employees leaving from work (with professional experience above 6 month) to total number of parks employees	0.00%	Park no. 5, 9, 14
	5) Managers to total number of park's employees	10.81%	Park no. 1
	6) Number of legally protected patents and trade-marks to the number of tenants	0.67	Park no. 5
	7) Number of science-industrial groups completing science initiatives	55	Park no. 6

the source:the author's own

7. Park's strengths and weaknesses evaluation

Among investigated parks we can notice two activity models of technological parks:

I. Science-technological park model, nearly related and collaborating with university, in the majority of cases technical, aimed at working with academic environment.

Park strengths are above all:

- 1) high number of innovative companies,
- 2) high number of start-up, technology start-up and spin-off companies,
- 3) collaboration with venture capital and seed capital financial institutions,
- 4) good infrastructure, rooms adjusted to needs of small entrepreneurs, access to laboratories,
- 5) financial support of companies in incubation phase,
- 6) services rendering and training completion for park tenants,
- 7) conducting R&D business activity by tenants,
- 8) tenants possession of legally protected patents and trade-marks,
- 9) park employees continuous training,
- 10) well educated, competent group of employees,
- 11) ICT investments,
- 12) big number of project completed in partnership with other institutions,
- 13) effective cooperation with science entities,
- 14) high level of strategic partners' intellectual capital - owners,
- 15) park tenants specialization, leading to clusters creation.

II. Science-technological park model – oriented to investors attracting and cooperation with companies and clients outside the park. Some parks have problems with spin-off and spin-out companies' creation, caused by large distance from science institutions that could generate them.

Strengths of this park type are above all:

- 1) high number of innovative companies, that relocated they activity to the park,
- 2) modern logistic and technical infrastructure, rooms adjusted to needs of small and medium entrepreneurs,
- 3) large park surface, possession of investment terrains,
- 4) high tenants number,
- 5) collaboration of venture capital etc. institutions,
- 6) financial support of tenants,
- 7) service rendering for park tenants,
- 8) service rendering for external clients,
- 9) collaboration with companies,
- 10) high number of science-industrial groups,
- 11) high number of completed project in partnership with other institutions,
- 12) conducting R&D activity by tenants
- 13) tenants possession of legally protected patents and trade-marks,
- 14) ICT investments,
- 15) park tenants specialization, leading to clusters creation,
- 16) well educated, competent group of employees,
- 17) park employees' continuous training.

It is obvious that, independently, from adopted model good results related to operational activity constitute park's strengths:

- 1) high productivity and assets profitability,
- 2) high sales dynamics,
- 3) adequate profitability sales level (sales costs relation to total sales),
- 4) safe level of liquidity ratio,

and according to obtained results: park localization and internet strategy.

Weaknesses

Practically, the lack of any of above mentioned strengths becomes a weakness of a park.

A weakness of many investigated parks is, nevertheless, little park's surface and relatively low percentage of buildings' surface dedicated for companies, which delimitates its development. Taking into consideration relatively low income generated by the majority of parks, there is a concern that without obtaining public means they will not be able to undertake investments. It is often related to lack of means for investments and weak results of operational activity.

It is worth mentioning that some results and, especially, their improvement only in part, are dependent on effective park development. The number of spin-off, spin-out companies can be an example to that, as well as number of legally protected patents. Results can be influenced to big extent by university and science-industrial centres activity, and it is here that we should search for the reasons of low level of obtained results, in enumerated areas of activity.

8. Strategic group analysis

Strategic group analysis is an internal structure method analysis of sector/branch, showing the structure of entities functioning in its framework.

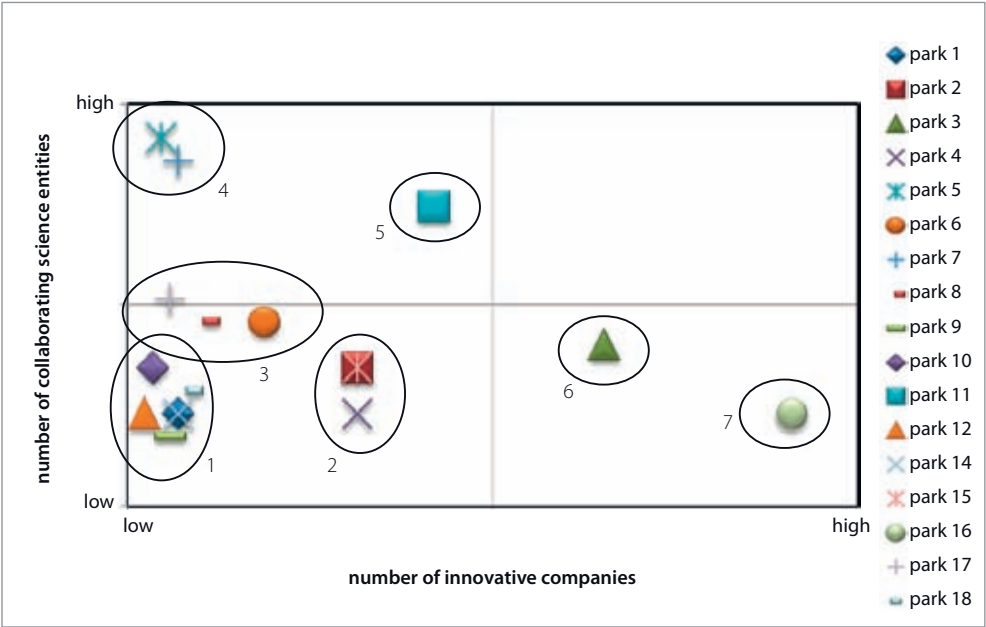
Strategic group map is a surface map of strategic branch.

It can be understood differently depending from adopted analysis criteria (in other words, strategic dimension).

According to the definition a strategic group - and at the same time the most similar entities to the company - are the companies that search for conquering the same market (segment) and use for this purpose the same activity strategy according to strategic dimensions.

On the picture no. 3 we presented strategic group map according to dimensions: number of collaborating science entities – number of innovative companies.

Picture 3. Strategic group map according to dimensions: number of collaborating science entities – number of innovative companies



the source:the author's own

Strategic group map no. 1 shows parks' strategic group in relation to number of cooperating science entities and number of innovative companies localized in park. We can notice 7 strategic groups. The biggest group is the group of parks that collaborate with low number of science entities and at the same time have low number of innovative companies. This group is forms by 6 from 16 companies marked on the map. The majority of parks are contained within the quarter where a number of collaborating science entities is, at the very most, average and the number of innovation companies as well. We can, therefore, consider that

there is a relationship between the number of collaborating science entities and the number of innovative companies situated in the park.

The best results as far as the number of innovative companies were achieved by Parks no. 16, 3 and 11 that create separate strategic group and Parks 2, 4 and 15 that form strategic group no.2.

As far as the number of innovative companies Park no.16 stands out. This park collaborates with small number of science entities, but it has big number of innovative companies, which is a sign of high effectiveness of this collaboration.

Very good results are also those of Park no. 3 which has a lot of innovative companies and collaborates with higher number of science entities.

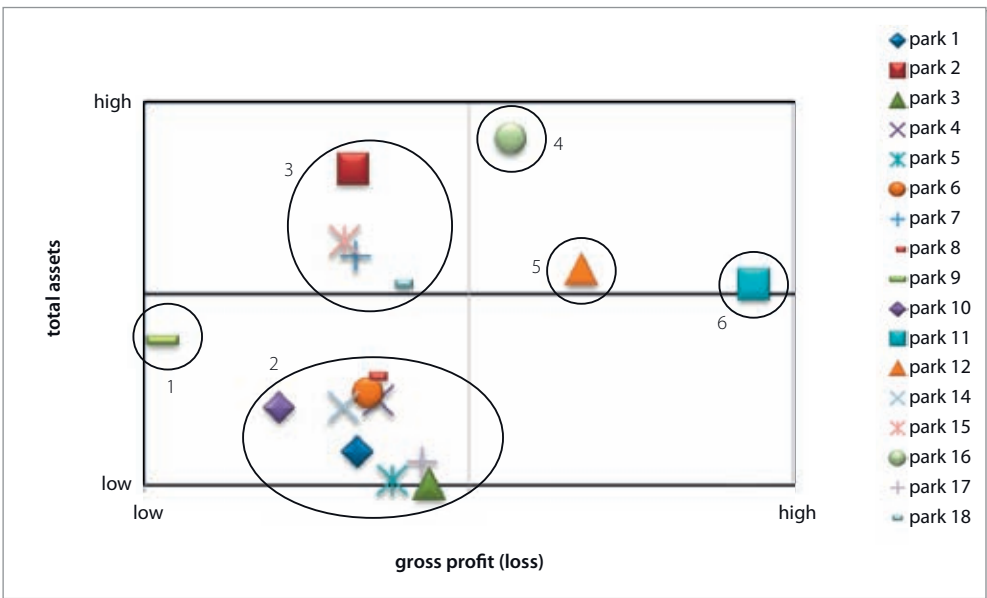
Park no. 11 is characterized by a big number of collaborating science entities and a big number of innovative companies.

Parks no. 2, 4, and 15 create a strategic group, on the one hand, characterize by over the average number of innovative companies, and on the other an average number of collaborating science entities.

In case of Park no. 16 and Park no. 4 the argument, saying that number of collaborating science entities decides about quantity of innovative companies, does not apply. Nevertheless, both parks have strong relationships with renowned universities, that is why the quality of this collaboration and not the quantity is of importance here.

In the picture no. 4 we presented a strategic group map according to: total assets – gross income.

Picture 4. Strategic group map according to: total assets – gross income



the source:the author's own

The comparison of strategic dimension such as: asset sum and gross profit/loss represents high parks' diversity in Poland. Parks concentrate in 6 strategic groups. But the strategic distances between groups are sometimes as big as it is in case of group no. 1 and no. 2.

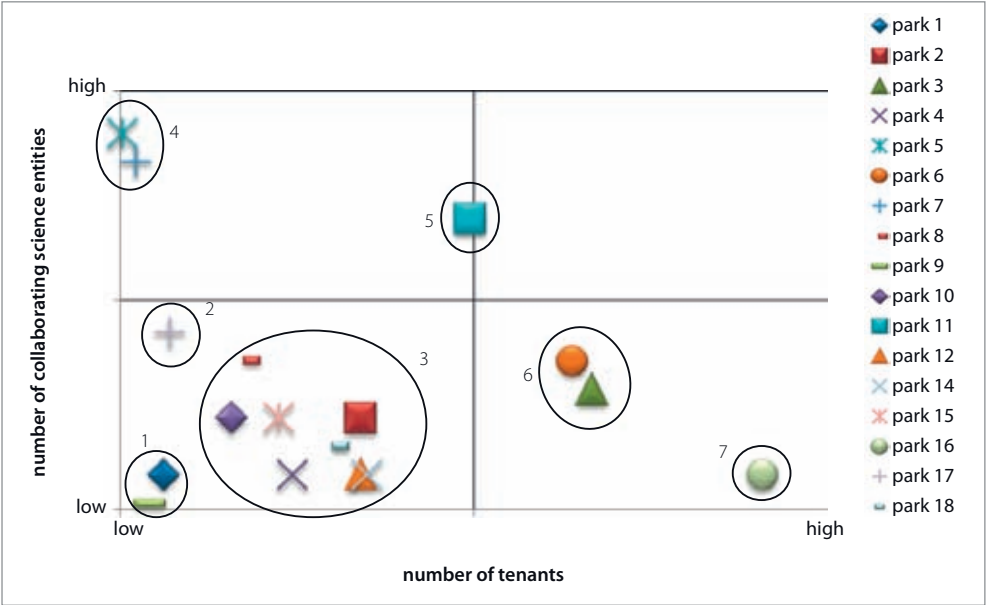
In the biggest group (no.2) are placed 9 from 17 parks analyzed on the map. They constitute quite a homogenous group of parks with average profit or loss and low assets. This means that in 2009 the biggest number of parks in Poland is a number of parks with low assets and average profit/loss. This is a proof of effectiveness of those parks, with exception of parks no. 10 and 14 that reported losses.

The best position as far as reported profit in 2009 was achieved by park no. 11 that with average assets testifies high effectiveness. Park no. 11 is the only one in strategic group number 6.

Parks 12 and 16 also have good position. Strategic distance between park 11 and other Parks is big.

In the picture no. 5 we presented strategic groups' map according to dimensions: number of collaborating science units – number of tenants.

Picture 5. Strategic group map according to dimensions: number of collaborating science units – number of tenants



the source:the author's own

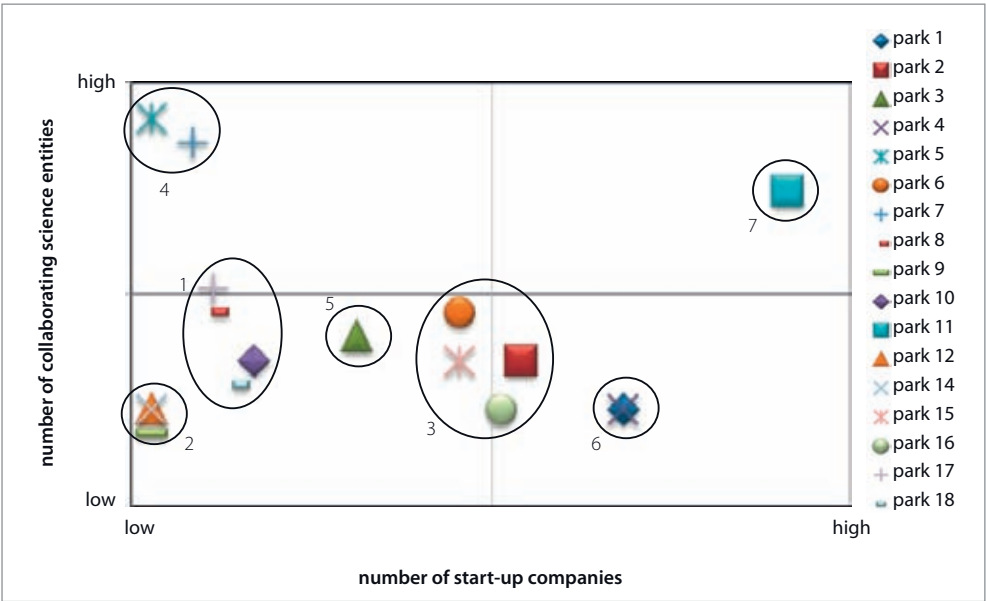
The comparison – number of collaborating science entities and number of tenants indicates the existence of one homogenous park strategic groups (3) composed by 8 parks. This group is characterized by low or at most average number of park tenants and low number of collaborating science entities. In comparison with the whole group of parks in Poland, when we talk about number of collaborating science entities we can distinguish parks no. 5 and 7. Unfortunately, they are specific because of low number of tenants.

The biggest number of tenants with low number of collaborating science entities has a park no. 16. Parks no. 3 and 6 also have good position.

Park no. 11 has the fourth position as far as tenants number. It collaborates with high number of science entities. This should be an example of “natural development” for a park.

In the picture 6 strategic groups' map was presented according to dimensions: number of collaborating science entities – number of start-up companies

Picture 6. Strategic group map was presented according to dimensions: number of collaborating science entities – number of start-up companies



the source:the author's own

The comparison of strategic dimensions - number of collaborating science entities and number of start-up companies indicates high diversity and fractioning of parks – strategic group no.7.

The biggest number of start-up companies in relation to number of collaborating science entities has a park no. 11 and its position is very good.

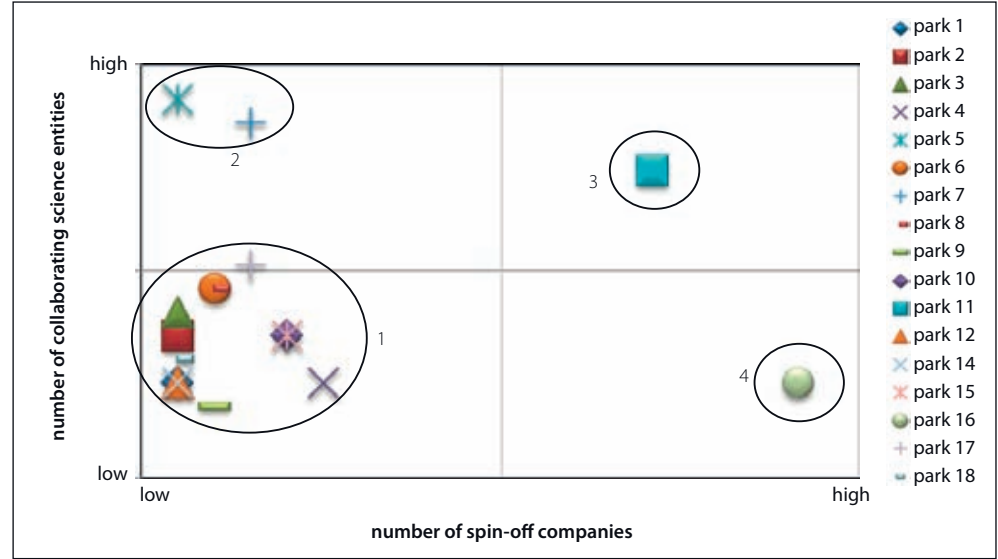
Parks no. 1 and 4 create small strategic group (no. 6) whit the next highest number of start-up companies after Park no. 11, despite of law number of collaborating science entities, that shows high effectiveness of this collaboration

Parks no. 5 and 7 have small number of start-ups or they do not have them at all, in comparison with very high number of collaborating science entities - and this in some way could be a proof of little effectiveness of this collaboration.

The biggest group is created by parks no. 6, 15, 2 and 16 (group no.3) and parks 17, 10, 18 and 8 (group no.1). From the point of view of start-up companies number and number of collaborating science entities they are similar. In group no. 3 the star-ups, as well as the number of collaborating science entities in average but still good within the branch.

In the picture no. 7 strategic groups’ map was presented according to dimensions: number of collaborating science entities – number of spin-off companies.

Picture 7. Strategic groups’ map was presented according to dimensions: number of collaborating science entities – number of spin-off companies



the source:the author's own

Technological parks in Poland are quite homogeneous as far as two strategic dimensions – number of collaborating science entities and number of created spin-off companies. The number of collaborating science entities should correlate strongly with the number of spin-off companies functioning in the park. Good cooperation with science centres should generate offers of founding spin-off companies by scientist in the park. The image of Polish parks in this respect shows that there are many parks which do not have spin-off companies or they have only one or two – group no. 1.

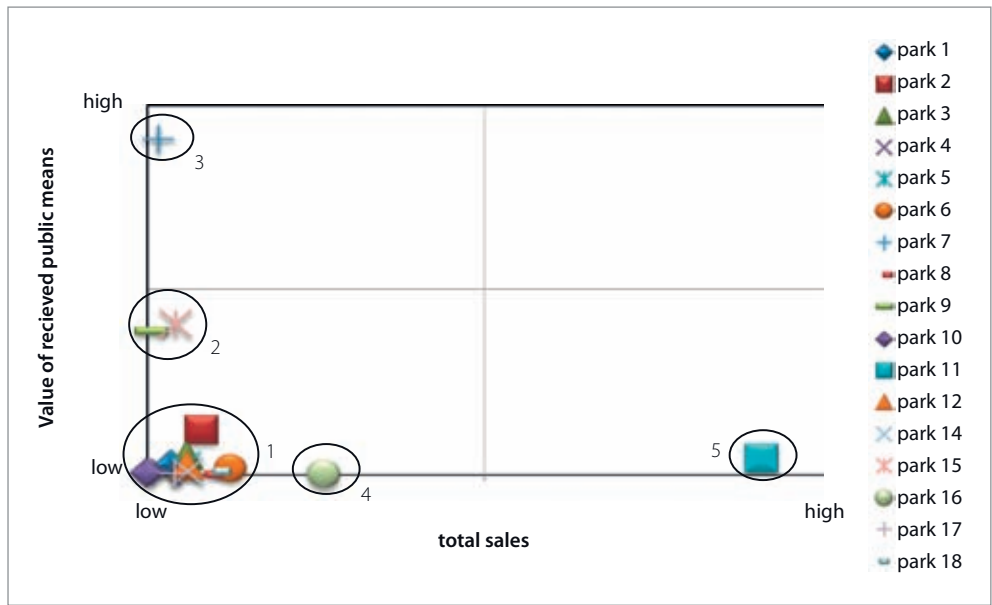
Group no. 1 includes 13 parks. The best position among them is the Park no. 4 in which are located 4 spin-off companies, with low number of collaborating science entities that can be the proof of high effectiveness of this collaboration and accepted action strategy.

Better results than those of park no. 4 were achieved only by two Park no. 16 and 11. It is worth mentioning that Park no. 16 possesses the biggest number of spin-off companies cooperating with low number of science entities. Or this cooperation is so effective or this is the specificity of this park.

In case of Park no. 11 high number of science entities with which the park cooperates coincides with high number of spin-off companies.

In the picture 8 strategic groups’ map was presented according to dimensions: value of received public means – total sales

Picture 8. In the picture 6 strategic groups' map was presented according to dimensions: value of received public means – total sales



the source:the author's own

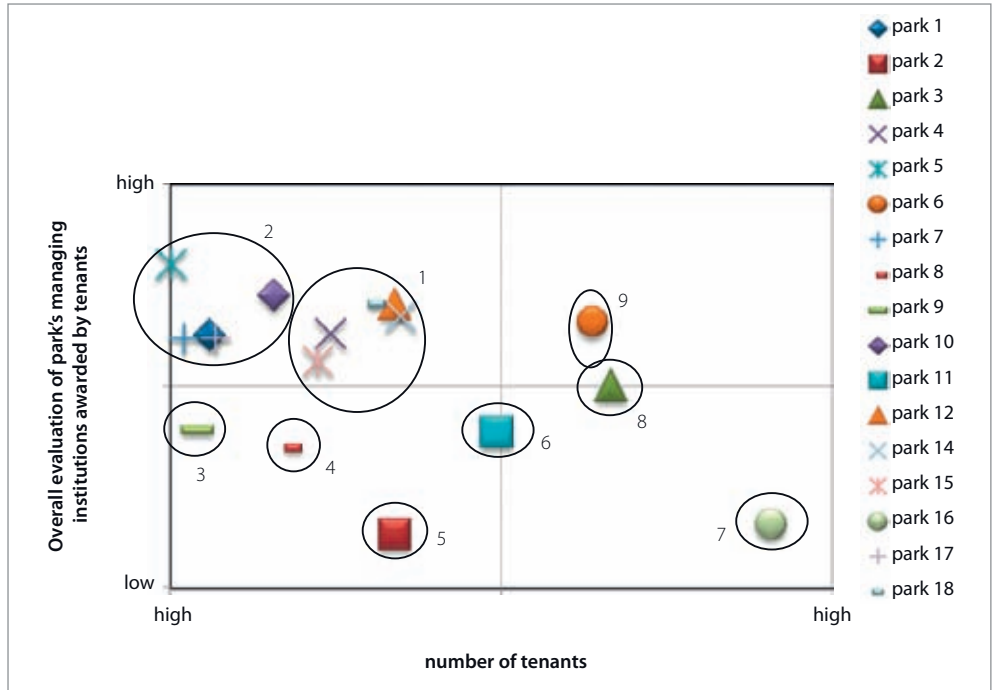
The comparison of strategic dimensions, value of received public means (in PLN) and total sales, indicates parks effectiveness in benefiting from received help from public means in the year of research, in 2009.

Groups' map shows that a significant majority, 11 parks, received little value of public means in 2009 and generated little sales in comparison to leader – park no. 11.

For park no. 11 the value of received public means in 2009 was little, but the volume of sales was very high. Next Park no. 16 is significantly distant from Park no. 11.

In the picture no. 9 strategic groups' map was presented according to dimensions: overall park's management institution by tenants – number of tenants

Picture 9. In the picture 9 strategic groups' map was presented according to dimensions: overall park management institution by tenants – number of tenants



the source:the author's own

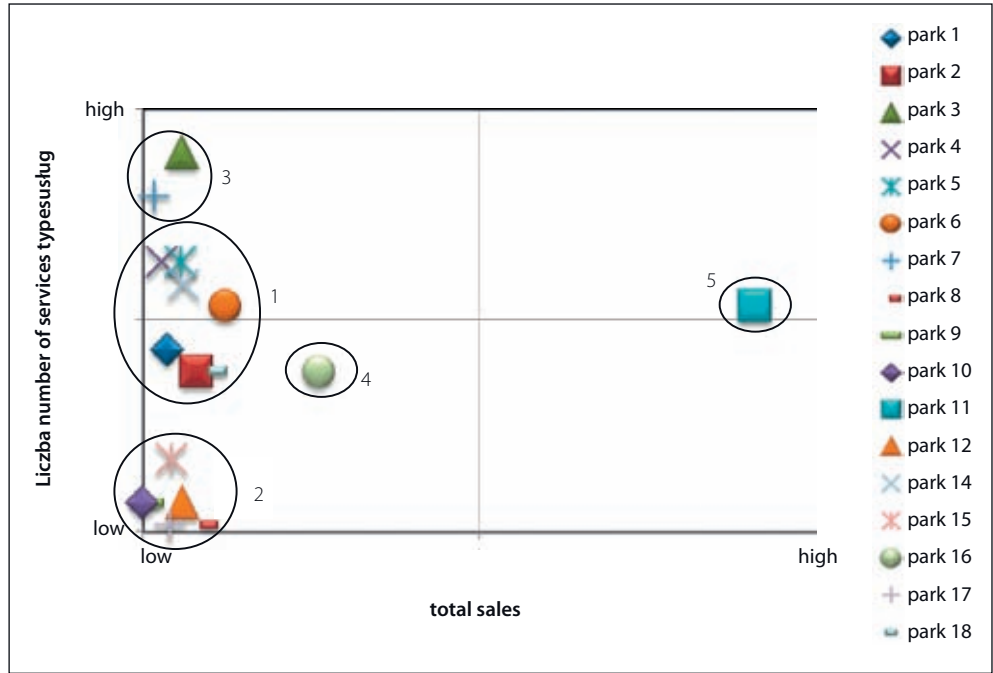
The relation between overall evaluation of management park institutions and number of tenants shows a very big diversity in branch. There are many dispersed, not homogeneous strategic groups. Apparent similarity is noticed in two groups (1) and (2). In group no. 1 there are 5 parks, that achieved above average evaluation awarded by tenants – (the average evaluation of 4,64 in scale 1 do 5), characterized by small, in relation to average, number of tenants. It is easier to satisfy a smaller number of tenants than a bigger one, so this result should not be surprising.

The argument that is easier to satisfied a smaller number of tenants is confirmed by the second group's results, were a number of tenant is smaller, and medium evaluation of tenants was higher. Parks with biggest number of tenants have lower evaluations.

As far as tenants evaluation in relation to their number Parks no. 3 and 6 are leaders.

In the picture 10 strategic groups' map was presented according to dimensions: number of services types – total sales.

Picture 10. Strategic groups' map was presented according to dimensions: number of services types – total sales.



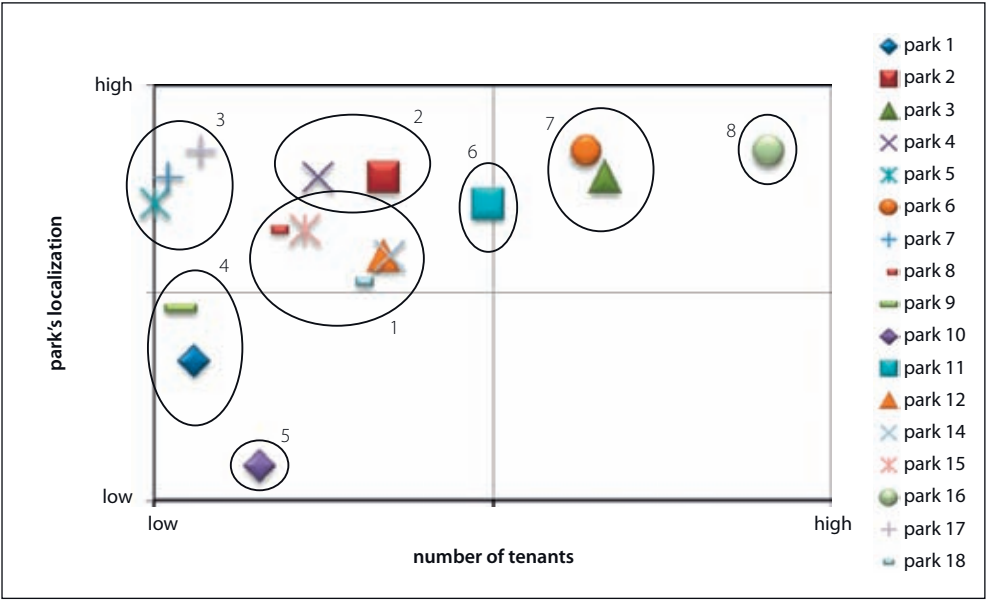
the source:the author's own

The comparison of services types offered by parks and sold in 2009, at least one time, and total sale [in PLN] shows quite homogeneous picture in this respect, with exception of Park no. 11. Because of high sales in Park no.11, the majority of parks have comparable results, in the small total sales level. Parks with little sales create 3 strategic group.

The above average number of services is offered by Park no. 11 and it also has considerably higher sales results than other parks. It is located in a strategic group not threaten by other parks. Park no. 11 is a leader; there is no other one with better position. The Park engages itself in work with clients, offers different services types in relation to park tenants. It also rendered many services to tenants in the last 12 months.

In the picture 11 strategic groups' map was presented according to dimensions: park's localization – number of tenants.

Picture 11. Strategic groups’ map was presented according to dimensions: park’s localization – number of tenants.



the source:the author's own

Variable sheet: park's localization (measured by the distance from communication railroads, roads, airports, universities and industrial plants) and tenants number, also indicates to big diversity in branch in this respect.

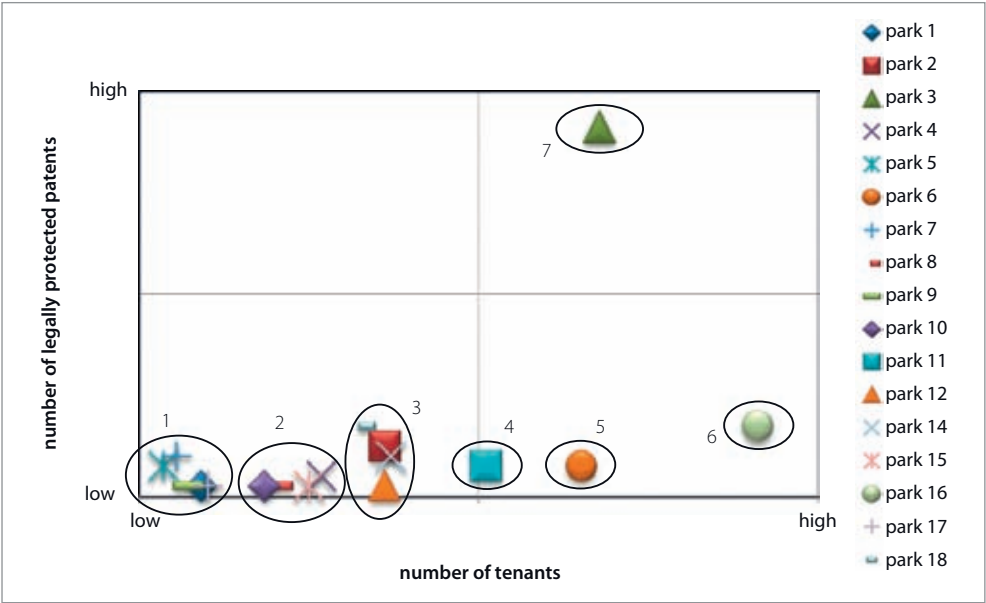
The biggest strategic group – (1) is created by parks no.: 8, 15, 14, 12 and 18 – in total 5 parks. This group received an above average evaluation of localization. but not the highest, it also possesses average tenants' number.

Parks no. 2 and 4 create small strategic group (no. 2) that has an average number of tenants, but high localization evaluation.

Park with the highest evaluated localization, such as: 16, 6 and 3 have significantly higher tenants' number, significantly more above an average (park no. 16 the biggest in branch).

In the picture 12 strategic groups' map was presented according to dimensions: number of legally protected patents – number of tenants.

Picture 12. Strategic groups’ map was presented according to dimensions: number of legally protected patents – number of tenants.



Variables: number of legally protected patents in relation to tenants shows the picture of parks in Poland as little innovative. The majority of parks oscillate around the X axis or little above it. The main division line into groups goes through tenants' number, not patents number.

Strategic group – (1), in which 5 parks are situated has a very small number of patents and tenants. Strategic group – (2), has a slightly bigger tenants' number, but also little number of patents. Strategic group (3) has tenant number big enough that we cannot talk that they are little innovative. In this group we can distinguish park no. 18 with the highest patents' number in the group no.3.

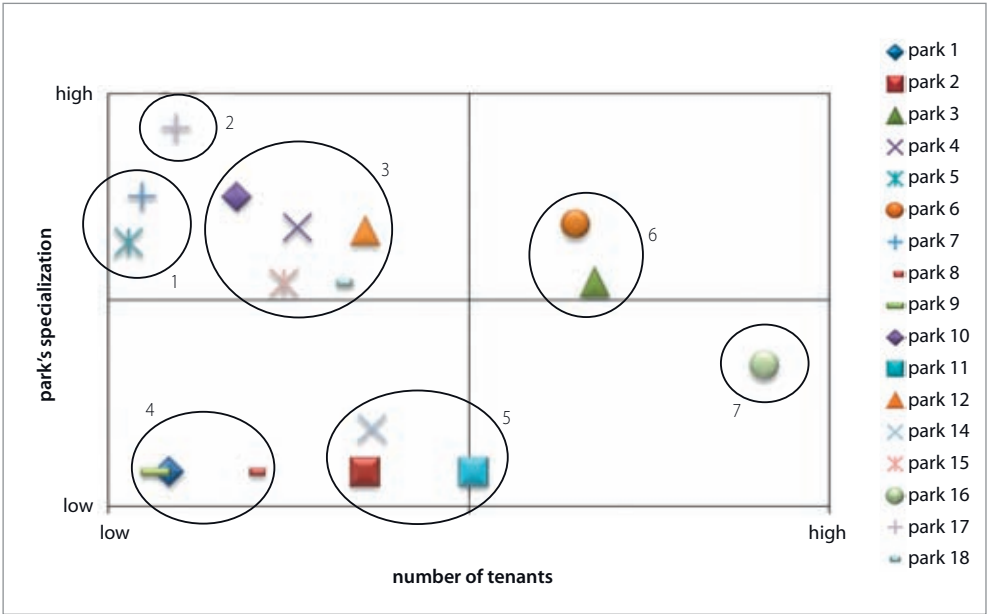
Park no.11 is sole in the strategic group (no. 4), it is characterized by high number of park's tenants and average tenants' number. Similarly Park no. 6

The best position, not threaten by anything, has the Park no. 3. It has a very high number of patents and big number of tenants, as for Polish reality. This means that Park's politics orientated to stimulate innovative companies starts to be successful.

Park no. 16 stands out from the group. It has the highest number of tenants, with relatively low patents' number.

In the picture 13 strategic groups' map was presented according to dimensions: park's specialization – number of tenants.

Picture 13. Strategic groups' map was presented according to dimensions: park's specialization – number of tenants



the source:the author's own

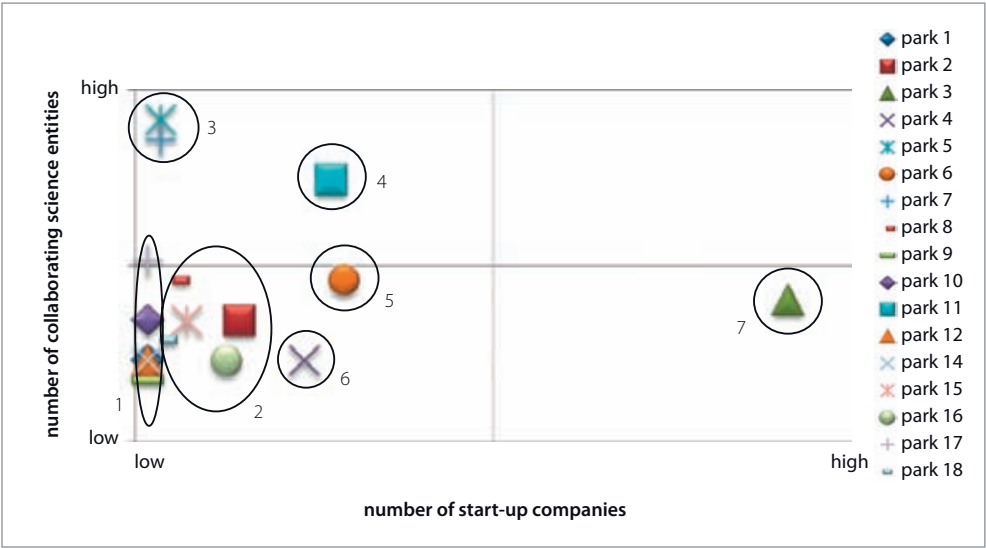
Strategic dimensions comparison of park's specialization – tenants' number, shows high diversification of parks in Poland. Parks accumulate in 7 strategic groups, with strategic distances between groups being sometimes very big.

The highest specialization is the one of Park no. 17, which localizes in its terrain small number of parks and which on its own creates strategic group no. 2. Parks 7 and 5 also have high specialization, but with little number of companies - strategic group no. 1. Parks no. 10, 4, 12, 15 and 18 create strategic group no. 3 in which we have quite high specialization. In those parks are located from 19 to 38 companies. Similar level of specialization, but with significantly higher number of tenants, has Parks no. 6 and 3 in which operate, respectively, 69 and 72 companies – strategic group no. 6.

Park no. 16 creates itself a strategic group no. 7 with big number of companies, uncomparable to others, as far as specialization. The rest of parks have diversified services and production – strategic group no. 4 and 5 – differing mainly in tenants number.

In the picture no. 14 strategic groups' map was presented according to dimensions: number of collaborating science entities – number of Technological start-up companies.

Picture 14. Strategic groups' map was presented according to dimensions: number of collaborating science entities – number of Technological start-up companies



the source:the author's own

Low number of collaborating entities and technological start-up, groups the majority of parks, in “non-developing” quarter, where technological start-ups’ number is low and the number of collaborating science entities also. Nevertheless, in this quarter we also can distinguish 3 strategic parks’ groups located in short distances between each other. In a group (1) we have 5 parks – 9, 10, 1, 12 and 14. It is a group, where there are no technological start-ups, and still park collaborates with low number of science entities.

Strategic group no. 2 also has 5 parks – 18, 16, 2, 8 and 15. These are the parks which have from 1 to 3 technological start-ups and similarly they collaborate with little number of science entities, even though, in some cases, with slightly bigger, than in case of park from group no.1.

The best position, as far as technological start-ups number, has a Pak no. 3, solely creating strategic group, characterized by biggest number of technological start-ups and close to average number of collaborating science entities.

Significantly worst from a park no. 3, but distinguishing parks are parks no. 6, 11 and 4. They also create independent strategic groups, mainly differing by number of collaborating science units.

IV. SETTING BEST PRACTICES

1. Setting best working procedures

- 1) **Benefiting from synergy, resulting from combining knowledge with material wealth infrastructure**, in other words, good localization, innovative technical infrastructure and building equipment with knowledge resources, whose basis are formed by competent management and park's partners intellectual capital, above all, through:
 - careful selection of companies – park disposes of Science Council that qualifies companies to the Park and observes its activity focusing on innovativeness, thanks to that the Park has a high number of innovative companies, including start-up companies, high percentage of incubated and released companies that continue their activity, as well as the biggest of all Polish parks' number of patents applications,
 - giving financial support to tenants (in 2009 it dedicated for this purpose more than 50% of income); this kind of activity results in high number of tenants and companies' dedicated surface level usage, as well as numerous group of so called e-tenants, waiting for a place in the park and using all Park's services, able to rent rooms etc.; thanks to that this Park does not have to incur big costs in marketing,
 - good tenants and clients service with relatively high percentage of employees per one tenant (0.69), continuously trained and well managed; Park employs above average number of people with higher degree,
 - skilful combination of above mentioned activities with very good financial results of the Park, especially income and assets profitability, sales dynamics.
- 2) **Supporting and preference for development innovative activity in park** by:
 - developing a collaboration with science entities of high potential in innovation and technology field, to gain spin-off and spin-out companies, to develop collaboration in the matter of technological and innovation implementations and to gain tenants that would realize R&D activity,
 - offering financial help to companies in incubation period from own means, for example, providing preferences in the matter of charges for rented infrastructures, giving information and support in application process of obtaining help from public means,
 - expanding services offer for tenants in the matter of trainings, legal consulting and technology transfer, as well as helping in searching for financial sources of their development by cooperation with venture capital and seed capital funds,
 - acting in favour of park's specialization with the possibility of creating on its terrain a highly innovative cluster,
 - propagating park's resources, park's and tenants achievements, building a good park's image, and above all, by efficient internet strategy.
- 3) **Implementation of management system based on competent employees, who use experience of mature Park**, characterized by:
 - mature organizational infrastructure (ISO) and delegation of authority,
 - proper number of managers and relation between employees and tenants number,
 - stable group of employees with higher education, some with a academic title, using modern ICT technologies, continuously trained, loyal to employment institutions,
 - benefiting from knowledge that enables realization of wild scope of services causing tenants' loyalty, gaining new clients and cooperating with companies,
 - active cooperation with science entities, consulting companies and individual experts.
- 4) **Building and application of globally understood business model** based on:
 - modern wealth resources (localization, modern infrastructure),
 - employees' competence, strategic partner's intellectual capital and specialization,
 - wild scope of business processes (including services for tenants)
 - gained business competitive advantage, expressed by park's surface usage and effective public means gaining, cooperation in research projects, especially in international ones.

2. Best practices in 4 areas of BSC

Good practices, in the field of BS, penetrate each other and result in activities related to financial, stakeholders and internal processes perspective, but also training and development perspective.

To the best practices observed in the research are:

- 1) **Effective action, measured by cost scale and financial results of a Park** which obtained best relation of income to assets and profit to asset in the investigated sample. That also has good sales dynamic. Is a benchmark in the matter of **financial help for tenants** (in 2009 dedicated for this purpose 50% of income) that results in high number of tenants and rented in 99.7% the surface dedicated for tenants. The Park possesses many virtual – e-tenants, waiting for the possibility to locate themselves in the Park. E-tenants use all Park's services, they are able to rent rooms etc. It is an undeniable success to have this kind of waiting companies group, thanks to that, Park does not incur high costs in marketing. The Park dedicates above averages costs for employee trainings. We can say that Park invests in human resources.
- 2) **Realizing investment activity to create modern infrastructure, through effective public means gaining from European Union**, to create an attractive, modern infrastructure for potential clients. The effectiveness in this field may be caused by competence of well educated employees, cooperation potential and its usage in good relation between strategic partner and Park's owner.
- 3) **Park's creation and accomplishment within few years till the presently occupied position. Investments completed in short time that did not endangered Park's liquidity.** Park invested a lot in ICT technologies and in this respect it is a benchmark. Disposes of professional equipment and endowment at the world's level, as well as multimedia rooms (learning and development perspective). Investment costs within total costs constitute 80% (financial perspective). With dynamic development and investment Park has a good fast liquidity ratio. In the year 2009 gained means from European Union, which proves its effectiveness related to personnel quality. Park employs personnel with higher education, also with academic degrees (knowledge and development perspective). In a very short time it was filled with tenants. Not only their number is impressive, but also their quality that is showed by income ratio per agreement - this is also strength of the Park (financial perspective). It is worth mentioning one more dimension that defines the Park, and it is a partnership with other institutions – number of relations with other institutions is very high. Park concluded international agreements (stakeholder perspective).
- 4) **Supporting entrepreneurship development.** The Park is a benchmark in respect to the number of start-up companies located in it (internal processes perspective). Dedicates considerable amount of financial help for tenants.
- 5) **High functioning effectiveness** of Park with low funding from public means, thanks to the highest in the investigated group indicator of income per agreement that generate income, what is caused by creation of effective network of collaboration with science entities. The basis of these relations is: high indicators related to park's human resources: number of people with higher education, employees with academic title (knowledge and development perspective). Many Park's employees are related with science entities and, therefore, the major capability of establishing cooperation. Intense cooperation with science entities results in creation of innovative companies and above the average number of completed project in cooperation with other institutions (stakeholder perspective). The result of cooperation with academic environment are the start-up, technological start-up and spin-off companies located in Park that benefit from preferences in charges for infrastructure renting within incubation period.
- 6) **Implementation of management systems based on competent employees that benefits from the experience of mature Park, based on employees with higher education** some with academic title. It is a group related with the Park, continuously trained, assuring stable work, with proper number of managers and delegation of authority. Number of legally protected patents and trademarks per 1 tenant is two times higher than an average. Park completes the biggest number of agreements in the investigated group, as far as cooperation with companies. Has a strong position in the matter of cooperation with consulting companies. Completes more projects in partnership with other institutions than any other park, and also collaborates with venture capital financial institutions. This is well-known practice in many parks.

7) Benefiting from synergy, resulting from combining knowledge with material wealth infrastructure, in other words, good localization, modern technical infrastructure and building equipment with knowledge resources, whose basis are formed by competent employees (level of education, trainings and ICT equipment) and Park's partners' intellectual capital. Management of those resources influenced on the type of tenants locating in the Park, which are innovative companies conducting R&D activity. The possibility of using wealth and knowledge resources is reflected in the good evaluation of Park by tenants, and influences its loyalty. This perspective is present in many parks.

8) Preference for development and innovative activity that indicated high number of innovative companies in comparison with tenants' number. It is caused by expanding services offered for tenants by Park, as well as offering financial help and cooperation with venture capital and seed capital financial institutions. Coherence of strategy focused on innovation helps in reaching success of collaborating industrial-science groups and applied patents in relation to tenants. All researches end with a number of innovation and technology implementations that is above average. This is well-known practice in many parks.

9) Effective internet strategy that allows achieving and propagating good technological park image and in consequence attracting new tenants and new clients.

10) Constant creation and benefiting from cooperation. Competent, knowledge developing through trainings, open for cooperation employees created network of cooperation in respect to Park's tenants, but also in wider sense, creating cluster (in which the Park is a leader). It enables, or helps, to achieve best, or very good, results in internal processes perspective, measured by number of park's partners to the number of tenants, by usage of park's surface, and by relation of spin-off companies to the number of newly created companies, as well as number and services types rendered to tenants compared with their number. Ability for cooperation, enforced by the level of tenants services processes, decides about successes in stakeholders perspective such as:

- number of collaborating companies to number of tenants,
- number of collaborating science entities to number of tenants,
- number of collaborating independent experts to number of Park's tenants,
- number of collaborating companies per one tenant.

Similar practice is well-known in many parks.

11) Benefiting from scale effect of wealth resources of Park that disposes of important infrastructural values, with good location, possessing attractive investment terrains – the biggest in investigated group, well managed wealth resources, which is reflected in Park's tenants number, high number of innovative companies and number of newly created work places, having start-up and spin-off companies. The park is benchmark in respect to number of acting science-industrial groups (55), realization of science initiatives, which correlates with high level of employees – only with higher education and here Park also is a benchmark.

12) Creating science-industrial centre in respect of ICT technologies, thanks to clearly determined specialization, accompanied by numerous contacts, a proof of that are the following results:

- number of collaborating science-industrial groups to number of tenants,
- number of collaborating independent experts to number of tenants,
- number of collaborating consulting companies per one tenant

13) Creating national biotechnological competence centre. The activity supporting the creation of biotechnological competence centre is a significantly high amount of costs dedicated by Park for marketing purposes, per one tenant and park's costs for marketing participation in total sales. Moreover, this good practice is related to the possession by Park of numerous contacts, proof of which are achieved results in stakeholders perspective. We are talking about such indicators as:

- number of collaborating companies to number of tenants,
- number of collaborating science entities to number of tenants,
- number of collaborating independent experts to number of tenants,
- number of collaborating consulting companies per one tenant

14) Marketing activity. The expression of this practice is high value of relation between marketing costs to total sales and per one tenant. Investigated park participates and organizes, to big extend, foreign missions, conferences and trade fairs.

V. CONCLUSIONS AND RECOMMENDATIONS

1. Benchmarking research included 17 technological parks constituting a diversified group, in many respects, that definitely hinders an unambiguous result evaluation. Investigated parks are not uniform in the matter of:
 - **life cycle** – in the investigated sample we can find parks in early development level: Park no. 9 in embryonic phase, Parks no. 5, 10 and 12 in growth phase and 13 parks in maturity phase, and also parks with different period of existence - from less than a year to 15 years,
 - **volume** – of occupied area (from 0.79 to 528.83 ha) and possessed technical infrastructure, and tenants' number (from 3 to 97) and their research potential,
 - **management model** – resulting from proprietary structure,
 - **activity model** – science-technological parks acting nearby the universities and technological parks or industrial-technological.
2. From technological park benchmark collective result analysis in Poland, we excluded four indicators that do not give the realistic view of the situation, or have such a low values that they do not bring anything new and for that reason were controversial in investigated institutions:
 - In financial perspective:
 - **park building costs to park surface** in stockholders perspective: because the best, meaning the lowest result (the indicator has a destimulant character) equal to 9,26 PLN/m² is not achievable, therefore, it constitutes a wrong point for comparison, since building cost of particular park is compared with the period of 15 years ago, in other words the moment when first investor moved in, and park surface is compared with the presently possessed one, achieved from new investment costs of which were incurred in 2005-2007 and because of that fact they were included in the research.
 - **tenants number, who left a park and continue the activity, related to number of tenants (%)** – In science-technological parks this indicator should not be destimulant, because the fact of incubated company leaving from a park is a regularity, especially when a park does not dispose of investment terrains,
 - **number of workplaces created by a park in last accounting year to number of people working in the region at the end of the year (%)** – because of low percentage we resigned from park classification in this category,
 - in internal processes perspective:
 - **park building period** (counted from the moment when decision about park building was taken till the moment when first tenant moved in), because it is difficult to take as the point of reference the time of creation of those parks, which used existing, prepared to use buildings and surfaces, achieving in this way close to 0 value, unreal for other parks (indicator has a destimulant character).
3. Not depending from investigated technological park group, basic recommendations for majority of technological park researches are the following:
 - 1) **The effectiveness and productivity of possessed assets** should be improved. Mainly in question of gross profit and sales value to total assets, which substantial part is fixed assets of great value. The most important way for improving this situation is increasing the quantity and value of sold services and rationalization of costs.
 - 2) Thanks to their, on many occasions, extend contacts parks are capable of significantly, **improving the number of collaborating companies, science entities and financial institutions**. The improvement of their number could stimulate both companies innovativeness in parks, expressed by number of patents, technological implementations and technology transfer, and development of tangible and intangible assets.
 - 3) The number of spin-off and spin-out companies should be significantly improved. **The intensification of academic entrepreneurship is very needed and real**, especially when big universities with significant innovation potential and entrepreneurship are partner or proprietary of parks.
 - 4) **Park tenants, in small degree, use for their development venture capital and seed capital investments**. Both park's contacts and employees' competences should enable realization of this type

of initiatives. The application of this kind of instruments clearly depends on needs and investment strategies of Park's tenants.

- 5) The great weakness of Polish economy is **low level of legally protected patents and trademarks**. This problem is reflected in investigated parks – many tenants till now did not presented patents and trademarks. To the improvement of this situation parks could concur by commercialization of invention, usage patterns and new technologies elaborated by park tenants.
3. The volume of some of the results, and especially, their improvement, just partly are dependent on efficient park management. The number of spin-off, spin-out companies, or the number of legally protected patents, can be an example of that. Low activity of universities and science-research centres influences decisively on results. Parks should strengthen their collaboration with institutions, above all, by initiating joint projects, science-industrial groups and promoting among students and academic employees parks' advantages as the best in certain environment place for creating innovative companies.
4. The weakness of many investigated parks is little surface of occupied terrain and relatively low percentage of buildings' surface dedicated for companies, which delimitates development. Parks cannot generate by itself means for investments.

ANNEX. ANALYSIS OF 56 INDICATORS IN 8 AREAS OF BENCHMARK RESEARCH

Park 1					Park 1				
	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG	
Value of public means / total income (%)	63,70	0,23	48,96	3 974,17					
Park building costs / park's surface (PLN/m²)	3 057,11	10 074,00	2 028,12	9,26					
Value of public means from European Union (or as grants from other international institutions) / total income (%)	63,70	0,00	41,81	3 483,45					
Park investment costs / park total costs (%)	3,23	0,00	30,38	88,74					
Income from surface ranting / total income (%)	11,56	5,00	22,68	81,59					
Total sum of financial help for park's tenants / total income (%)	0,03	0,00	0,21	50,90					
	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG	
Total income / park's assets (%)	39,45	1,26	13,99	240,70					
Gross profit / park's assets (%)	0,55	-6,99	1,01	44,53					
Total income / number of generating income agreements (#)	277 536,27	18 152,05	139 132,04	821 421,22					
Total sales dynamic (% wzrostu)	1,74	0,00	1,40	16,92					
Sales costs / total sales (%)	274,55	851,52	88,58	55,30					
Fast liquidity ratio (#)	0,20	0,01	0,24	5,72					
Current liquidity ratio (#)	0,48	0,03	2,10	26,26					
	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG	
Park's marketing costs / Number of tenants (PLN)	1 021,91	0,00	2 971,00	108 642,51					
Park's marketing costs / total sales (%)	2,97	0,00	4,97	47,00					
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,45	0,15	0,48	7,45					
New clients / clients (%)	33,57	1,64	57,69	100,00					
Number of new park's tenants in the last 12 months / Number of tenants (%)	78,05	5,26	28,21	100,00					
Number of tenants that left the park and continue their activity / Number of tenants (%)	12,20	33,33	8,25	0,00					
	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG	
Number of collaborating companies / Number of tenants (#)	0,00	0,00	0,75	19,79					
Number of collaborating science entities / Number of tenants (#)	0,07	0,03	0,13	5,00					
Number of collaborating independent experts / Number of tenants (#)	1,10	0,11	0,46	4,20					
Number of collaborating consulting comparies / Number of tenants (#)	0,20	0,00	0,12	1,40					
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00					
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,00	0,00	0,03	0,60					
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,02	0,00	0,01	0,05					

	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Park building period (counted from the moment when decision about park building wastaken till the moment when first tenant moved (in months))	22,00	48,00	22,00	0,00				
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	17,00	13,00	23,00	25,00				
Park's surface (ha)	3,84	0,79	5,45	528,83				
Parks building's surface (m ²)	2 259,40	505,50	4 422,53	23 444,00				
Number of tenants (#)	41,00	3,00	34,00	97,00				
Number of park's partners / Number of tenants (#)	0,68	0,08	0,42	2,67				
Number of spin-off companies / number of newly created companies (#)	0,00	0,00	0,25	2,00				
Number of start-up companies / number of newly created companies (#)	0,72	0,00	1,00	9,00				

	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Level of park building's surface usage (#)	99,50	31,65	86,85	99,70				
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	2,73	0,38	3,67	35,53				
Number of services types offered by park / Number of tenants (#)	0,27	0,10	0,27	5,00				
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00				
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,23	3,08	4,21	4,64				
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	12,00	12,00	15,00	20,00				
New total sales / total sales (%)	0,00	0,00	4,19	100,00				
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33				
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,33	0,00	0,62	12,50				
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,04	0,00	0,42	4,17				
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,02	0,00	0,15	1,47				

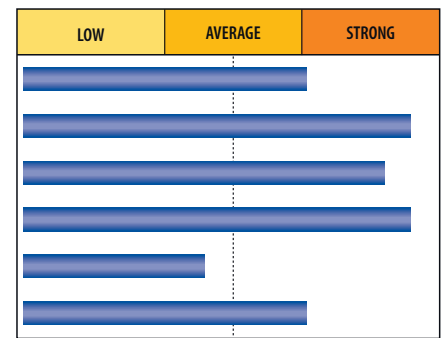
	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Training cots / total sales (%)	1,47	0,00	0,46	1,71				
Cost of ICT technologies / total sales (%)	0,00	0,00	2,28	207,75				
Innovative companies / Number of park's tenants (%)	0,00	0,00	57,14	100,00				
Tenants realizing R&D activity / Number of park's tenants (%)	0,00	0,00	17,65	100,00				

	INVESTGATED PARK 1	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Employees with higer education / Total employees' number (%)	59,46	36,36	86,67	100,00				
Employees wits academic degree, at least doctor, or academic title / Total employees' number (%)	5,41	0,00	6,04	18,28				
New employees / Total employees' number (%)	21,62	91,41	25,00	0,00				
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	5,41	54,84	6,25	0,00				
Managers / total employees' number (%)	10,81	78,95	30,00	10,81				
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67				
Number of science – industrial groups completing science initiatives (#)	0,00	0,00	2,00	55,00				

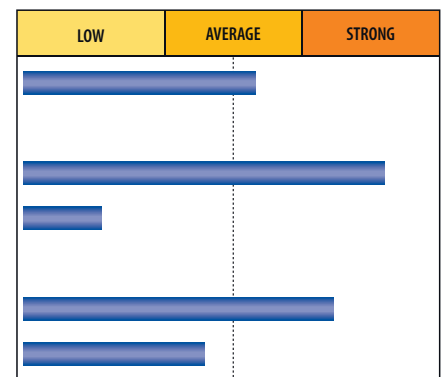
Park 2

Park 2

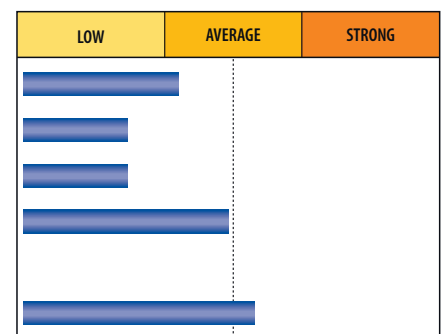
	INVESTGATED PARK 2	LOW	AVERAGE	STRONG
Value of public means / total income (%)	78,44	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	258,00	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	78,44	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	82,46	0,00	30,38	88,74
Income from surface ranting / total income (%)	19,56	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	2,55	0,00	0,21	50,90



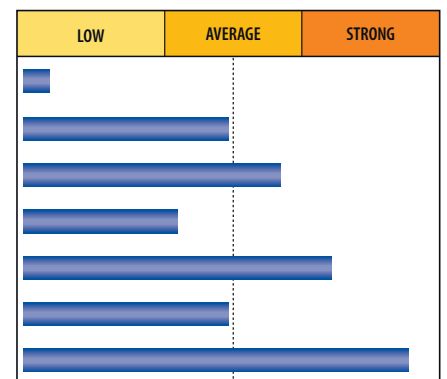
	INVESTGATED PARK 2	LOW	AVERAGE	STRONG
Total income / park's assets (%)	18,49	1,26	13,99	240,70
Gross profit / park's assets (%)	bd	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	362 096,84	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	0,49	0,00	1,40	16,92
Sales costs / total sales (%)	bd	851,52	88,58	55,30
Fast liquidity ratio (#)	0,96	0,01	0,24	5,72
Current liquidity ratio (#)	0,96	0,03	2,10	26,26





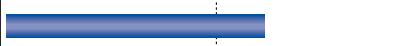











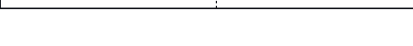
	INVESTGATED PARK 2	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	1 374,42	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	1,72	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,34	0,15	0,48	7,45
New clients / clients (%)	42,62	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	5,26	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	7,89	33,33	8,25	0,00




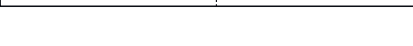









	INVESTGATED PARK 2	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,03	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,13	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	1,08	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,11	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	5,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,03	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,04	0,00	0,01	0,05



	INVESTGATED PARK 2	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	11,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	24,00	13,00	23,00	25,00	
Park's surface (ha)	2,60	0,79	5,45	528,83	
Parks building's surface (m²)	15 000,00	505,50	4 422,53	23 444,00	
Number of tenants (#)	38,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,55	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	bd	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	9,00	0,00	1,00	9,00	

	INVESTGATED PARK 2	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	92,00	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	16,58	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,26	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	bd	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,08	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	13,00	12,00	15,00	20,00	
New total sales / total sales (%)	0,01	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	bd	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	3,20	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,76	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,42	0,00	0,15	1,47	

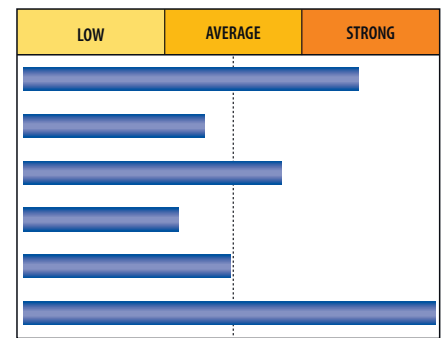
	INVESTGATED PARK 2	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,21	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	207,75	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	68,42	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	34,21	0,00	17,65	100,00	

	INVESTGATED PARK 2	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	61,54	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	7,69	0,00	6,04	18,28	
New employees / Total employees' number (%)	76,92	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 months) / total number of park's employees (%)	7,69	54,84	6,25	0,00	
Managers / total employees' number (%)	15,38	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,11	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	1,00	0,00	2,00	55,00	

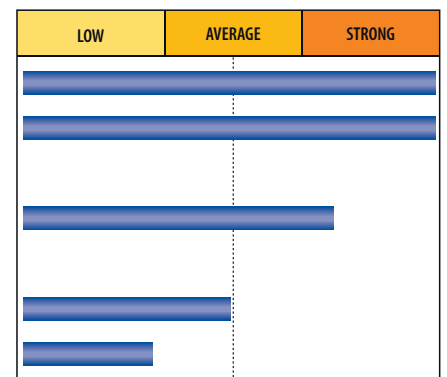
Park 3

Park 3

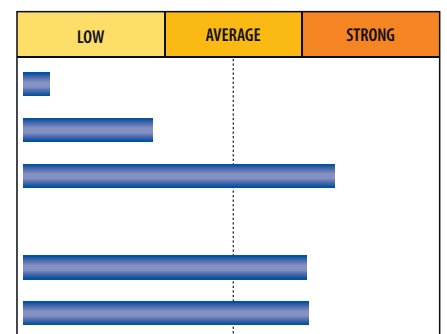
	INVESTGATED PARK 3	LOW	AVERAGE	STRONG
Value of public means / total income (%)	84,17	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	2 100,00	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	53,37	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	11,33	0,00	30,38	88,74
Income from surface ranting / total income (%)	22,68	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	50,90	0,00	0,21	50,90



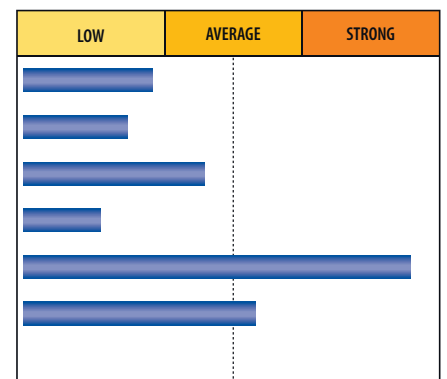
	INVESTGATED PARK 3	LOW	AVERAGE	STRONG
Total income / park's assets (%)	240,70	1,26	13,99	240,70
Gross profit / park's assets (%)	44,53	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	18 152,05	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	2,44	0,00	1,40	16,92
Sales costs / total sales (%)	bd	851,52	88,58	55,30
Fast liquidity ratio (#)	0,24	0,01	0,24	5,72
Current liquidity ratio (#)	0,56	0,03	2,10	26,26















	INVESTGATED PARK 3	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	818,50	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	2,63	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,69	0,15	0,48	7,45
New clients / clients (%)	bd	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	47,22	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	2,78	33,33	8,25	0,00













	INVESTGATED PARK 3	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,42	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,08	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,46	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,07	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	8,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,03	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	bd	0,00	0,01	0,05



	INVESTGATED PARK 3	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	15,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	24,00	13,00	23,00	25,00	
Park's surface (ha)	1,40	0,79	5,45	528,83	
Parks building's surface (m²)	10 000,00	505,50	4 422,53	23 444,00	
Number of tenants (#)	72,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,42	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	bd	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	1,25	0,00	1,00	9,00	

	INVESTGATED PARK 3	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	99,70	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	1,39	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,28	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,94	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	20,00	12,00	15,00	20,00	
New total sales / total sales (%)	0,00	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	bd	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	bd	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	bd	0,00	0,15	1,47	

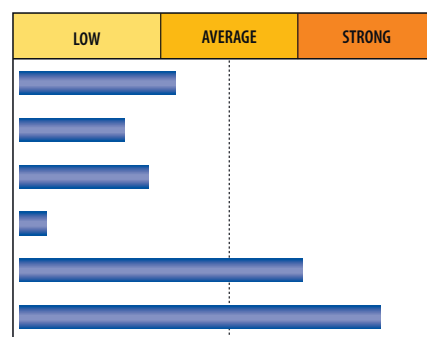
	INVESTGATED PARK 3	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,68	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	2,28	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	76,39	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	12,50	0,00	17,65	100,00	

	INVESTGATED PARK 3	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	74,00	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	6,00	0,00	6,04	18,28	
New employees / Total employees' number (%)	44,00	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 months) / total number of park's employees (%)	14,00	54,84	6,25	0,00	
Managers / total employees' number (%)	14,00	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,50	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	bd	0,00	2,00	55,00	

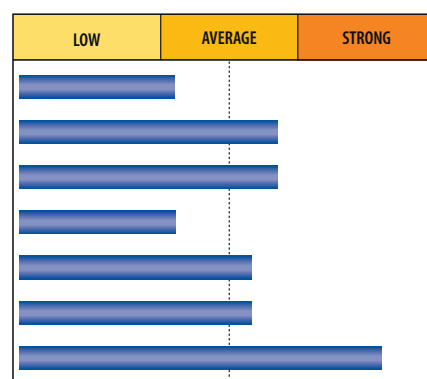
Park 4

Park 4

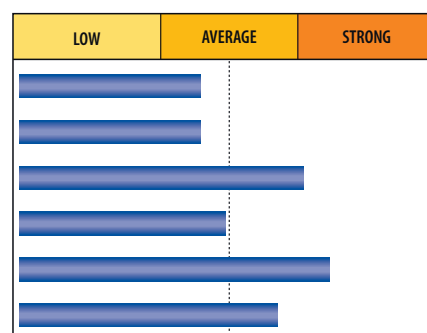
	INVESTGATED PARK 4	LOW	AVERAGE	STRONG
Value of public means / total income (%)	19,24	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	5 717,57	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	14,70	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	1,24	0,00	30,38	88,74
Income from surface ranting / total income (%)	37,72	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	12,38	0,00	0,21	50,90



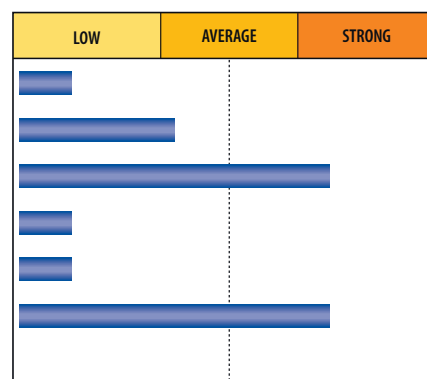
	INVESTGATED PARK 4	LOW	AVERAGE	STRONG
Total income / park's assets (%)	11,46	1,26	13,99	240,70
Gross profit / park's assets (%)	1,51	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	167 414,87	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	1,16	0,00	1,40	16,92
Sales costs / total sales (%)	70,01	851,52	88,58	55,30
Fast liquidity ratio (#)	0,51	0,01	0,24	5,72
Current liquidity ratio (#)	24,90	0,03	2,10	26,26



	INVESTGATED PARK 4	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	1 569,36	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	3,98	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,59	0,15	0,48	7,45
New clients / clients (%)	57,69	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	50,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	7,14	33,33	8,25	0,00



	INVESTGATED PARK 4	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,04	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,11	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	1,25	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,04	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,07	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,00	0,00	0,01	0,05



	INVESTGATED PARK 4	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	34,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	24,00	13,00	23,00	25,00	
Park's surface (ha)	0,79	0,79	5,45	528,83	
Parks building's surface (m²)	3 536,74	505,50	4 422,53	23 444,00	
Number of tenants (#)	28,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,11	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,29	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	1,64	0,00	1,00	9,00	

	INVESTGATED PARK 4	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	57,08	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	3,79	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,54	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,24	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	18,00	12,00	15,00	20,00	
New total sales / total sales (%)	5,06	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,04	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	1,33	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	1,33	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,14	0,00	0,15	1,47	

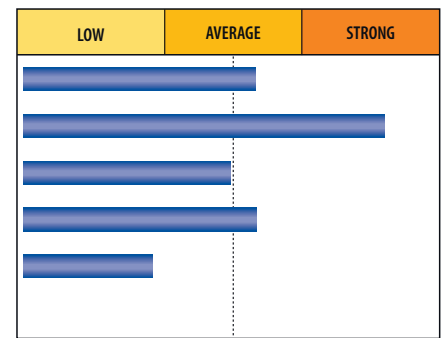
	INVESTGATED PARK 4	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,18	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,39	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	92,86	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	28,57	0,00	17,65	100,00	

	INVESTGATED PARK 4	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	36,36	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	6,06	0,00	6,04	18,28	
New employees / Total employees' number (%)	24,24	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 months) / total number of park's employees (%)	6,06	54,84	6,25	0,00	
Managers / total employees' number (%)	12,12	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,04	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	4,00	0,00	2,00	55,00	

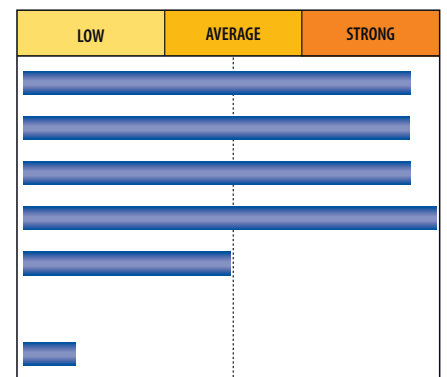
Park 5

Park 5

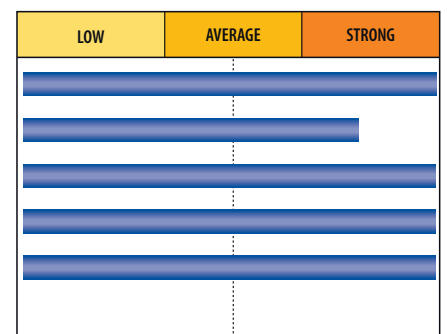
	INVESTGATED PARK 5	LOW	AVERAGE	STRONG
Value of public means / total income (%)	53,71	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	542,93	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	41,81	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	37,41	0,00	30,38	88,74
Income from surface ranting / total income (%)	14,11	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90



	INVESTGATED PARK 5	LOW	AVERAGE	STRONG
Total income / park's assets (%)	126,91	1,26	13,99	240,70
Gross profit / park's assets (%)	16,46	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	572 669,83	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	16,92	0,00	1,40	16,92
Sales costs / total sales (%)	70,12	851,52	88,58	55,30
Fast liquidity ratio (#)	0,01	0,01	0,24	5,72
Current liquidity ratio (#)	0,46	0,03	2,10	26,26



	INVESTGATED PARK 5	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	108 642,51	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	17,57	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	7,45	0,15	0,48	7,45
New clients / clients (%)	100,00	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	100,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	33,33	33,33	8,25	0,00



	INVESTGATED PARK 5	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	6,00	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	5,00	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	4,00	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	1,00	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,33	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,00	0,00	0,01	0,05



	INVESTGATED PARK 5	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	11,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	23,00	13,00	23,00	25,00	
Park's surface (ha)	5,74	0,79	5,45	528,83	
Parks building's surface (m²)	3 428,92	505,50	4 422,53	23 444,00	
Number of tenants (#)	3,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	2,67	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,00	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,00	0,00	1,00	9,00	

	INVESTGATED PARK 5	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	92,32	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	16,67	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	5,00	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,64	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	15,00	12,00	15,00	20,00	
New total sales / total sales (%)	3,32	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,33	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	bd	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	bd	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	bd	0,00	0,15	1,47	

	INVESTGATED PARK 5	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,78	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,00	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	100,00	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	100,00	0,00	17,65	100,00	

	INVESTGATED PARK 5	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	98,21	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	4,47	0,00	6,04	18,28	
New employees / Total employees' number (%)	71,59	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	0,00	54,84	6,25	0,00	
Managers / total employees' number (%)	35,79	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,67	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	5,00	0,00	2,00	55,00	

Park 6

Park 6

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Value of public means / total income (%)	18,92	0,23	48,96	3 974,17	<div></div>
Park building costs / park's surface (PLN/m²)	6 051,24	10 074,00	2 028,12	9,26	<div></div>
Value of public means from European Union (or as grants from other international institutions) / total income (%)	18,92	0,00	41,81	3 483,45	<div></div>
Park investment costs / park total costs (%)	26,14	0,00	30,38	88,74	<div></div>
Income from surface ranting / total income (%)	5,00	5,00	22,68	81,59	
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90	

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Total income / park's assets (%)	33,84	1,26	13,99	240,70	<div></div>
Gross profit / park's assets (%)	0,78	-6,99	1,01	44,53	<div></div>
Total income / number of generating income agreements (#)	102 930,48	18 152,05	139 132,04	821 421,22	<div></div>
Total sales dynamic (% wzrostu)	1,86	0,00	1,40	16,92	<div></div>
Sales costs / total sales (%)	58,11	851,52	88,58	55,30	<div></div>
Fast liquidity ratio (#)	1,88	0,01	0,24	5,72	<div></div>
Current liquidity ratio (#)	4,52	0,03	2,10	26,26	<div></div>

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Park's marketing costs / Number of tenants (PLN)	7 977,54	0,00	2 971,00	108 642,51	<div></div>
Park's marketing costs / total sales (%)	11,92	0,00	4,97	47,00	<div></div>
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,23	0,15	0,48	7,45	<div></div>
New clients / clients (%)	40,54	1,64	57,69	100,00	<div></div>
Number of new park's tenants in the last 12 months / Number of tenants (%)	31,88	5,26	28,21	100,00	<div></div>
Number of tenants that left the park and continue their activity / Number of tenants (%)	11,59	33,33	8,25	0,00	<div></div>

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Number of collaborating companies / Number of tenants (#)	0,75	0,00	0,75	19,79	<div></div>
Number of collaborating science entities / Number of tenants (#)	0,10	0,03	0,13	5,00	<div></div>
Number of collaborating independent experts / Number of tenants (#)	1,54	0,11	0,46	4,20	<div></div>
Number of collaborating consulting comparies / Number of tenants (#)	0,33	0,00	0,12	1,40	<div></div>
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00	<div></div>
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,03	0,00	0,03	0,60	<div></div>
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,04	0,00	0,01	0,05	<div></div>

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	21,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	25,00	13,00	23,00	25,00	
Park's surface (ha)	528,83	0,79	5,45	528,83	
Parks building's surface (m²)	3 163,00	505,50	4 422,53	23 444,00	
Number of tenants (#)	69,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,57	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,05	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,68	0,00	1,00	9,00	

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	89,05	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	1,13	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,19	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,31	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	17,00	12,00	15,00	20,00	
New total sales / total sales (%)	34,62	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	bd	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	bd	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	bd	0,00	0,15	1,47	

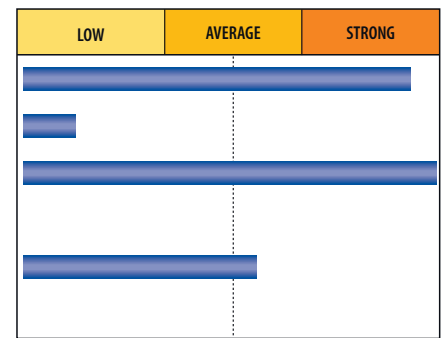
	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,49	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	8,56	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	21,74	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	13,04	0,00	17,65	100,00	

	INVESTGATED PARK 6	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	100,00	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	12,50	0,00	6,04	18,28	
New employees / Total employees' number (%)	31,25	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	25,00	54,84	6,25	0,00	
Managers / total employees' number (%)	37,50	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,03	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	55,00	0,00	2,00	55,00	

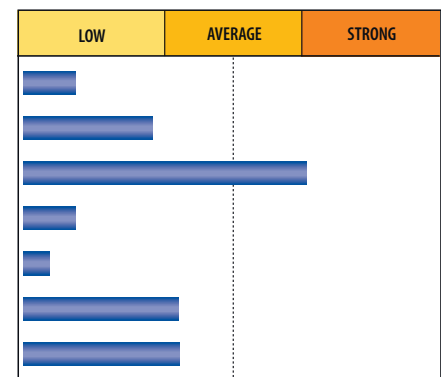
Park 7

Park 7

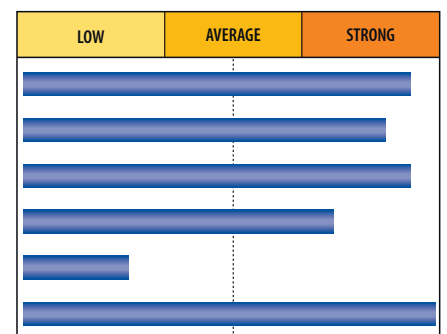
	INVESTGATED PARK 7	LOW	AVERAGE	STRONG
Value of public means / total income (%)	3 483,45	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	7 775,27	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	3 483,45	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	0,00	0,00	30,38	88,74
Income from surface ranting / total income (%)	29,55	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90



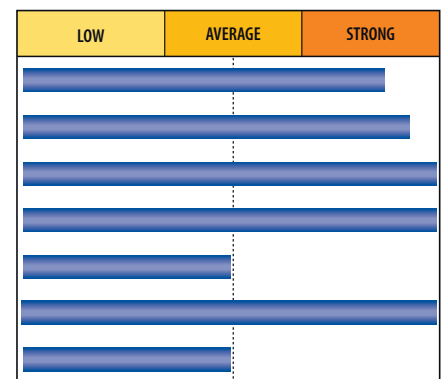
	INVESTGATED PARK 7	LOW	AVERAGE	STRONG
Total income / park's assets (%)	4,27	1,26	13,99	240,70
Gross profit / park's assets (%)	0,06	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	183 284,37	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	0,07	0,00	1,40	16,92
Sales costs / total sales (%)	332,25	851,52	88,58	55,30
Fast liquidity ratio (#)	0,19	0,01	0,24	5,72
Current liquidity ratio (#)	0,80	0,03	2,10	26,26



	INVESTGATED PARK 7	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	38 686,20	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	27,46	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	2,80	0,15	0,48	7,45
New clients / clients (%)	87,50	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	20,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	0,00	33,33	8,25	0,00



	INVESTGATED PARK 7	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	8,00	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	2,80	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	4,20	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	1,40	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	3,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,60	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,01	0,00	0,01	0,05



	INVESTGATED PARK 7	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	9,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	24,00	13,00	23,00	25,00	
Park's surface (ha)	1,83	0,79	5,45	528,83	
Parks building's surface (m²)	5 980,50	505,50	4 422,53	23 444,00	
Number of tenants (#)	5,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	2,00	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	2,00	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	2,00	0,00	1,00	9,00	

	INVESTGATED PARK 7	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	98,50	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	15,20	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	3,60	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,21	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	13,00	12,00	15,00	20,00	
New total sales / total sales (%)	bd	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,14	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,20	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,40	0,00	0,15	1,47	

	INVESTGATED PARK 7	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	1,71	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	8,95	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	100,00	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	100,00	0,00	17,65	100,00	

	INVESTGATED PARK 7	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	92,86	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	14,29	0,00	6,04	18,28	
New employees / Total employees' number (%)	50,00	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	14,29	54,84	6,25	0,00	
Managers / total employees' number (%)	42,86	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,60	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	6,00	0,00	2,00	55,00	

Park 8

Park 8

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Value of public means / total income (%)	1,14	0,23	48,96	3 974,17	<div><div></div></div>
Park building costs / park's surface (PLN/m²)	918,71	10 074,00	2 028,12	9,26	<div><div></div></div>
Value of public means from European Union (or as grants from other international institutions) / total income (%)	0,99	0,00	41,81	3 483,45	<div><div></div></div>
Park investment costs / park total costs (%)	71,61	0,00	30,38	88,74	<div><div></div></div>
Income from surface ranting / total income (%)	16,54	5,00	22,68	81,59	<div><div></div></div>
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90	

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Total income / park's assets (%)	12,17	1,26	13,99	240,70	<div><div></div></div>
Gross profit / park's assets (%)	0,86	-6,99	1,01	44,53	<div><div></div></div>
Total income / number of generating income agreements (#)	145 287,76	18 152,05	139 132,04	821 421,22	<div><div></div></div>
Total sales dynamic (% wzrostu)	12,83	0,00	1,40	16,92	<div><div></div></div>
Sales costs / total sales (%)	55,30	851,52	88,58	55,30	<div><div></div></div>
Fast liquidity ratio (#)	5,72	0,01	0,24	5,72	<div><div></div></div>
Current liquidity ratio (#)	26,26	0,03	2,10	26,26	<div><div></div></div>

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Park's marketing costs / Number of tenants (PLN)	10 602,69	0,00	2 971,00	108 642,51	<div><div></div></div>
Park's marketing costs / total sales (%)	6,66	0,00	4,97	47,00	<div><div></div></div>
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,48	0,15	0,48	7,45	<div><div></div></div>
New clients / clients (%)	100,00	1,64	57,69	100,00	<div><div></div></div>
Number of new park's tenants in the last 12 months / Number of tenants (%)	9,52	5,26	28,21	100,00	<div><div></div></div>
Number of tenants that left the park and continue their activity / Number of tenants (%)	14,29	33,33	8,25	0,00	<div><div></div></div>

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Number of collaborating companies / Number of tenants (#)	0,29	0,00	0,75	19,79	<div><div></div></div>
Number of collaborating science entities / Number of tenants (#)	0,33	0,03	0,13	5,00	<div><div></div></div>
Number of collaborating independent experts / Number of tenants (#)	0,14	0,11	0,46	4,20	<div><div></div></div>
Number of collaborating consulting comparies / Number of tenants (#)	0,29	0,00	0,12	1,40	<div><div></div></div>
Number of completed projects realized by technological park in partnership with other institutions (#)	3,00	1,00	3,00	18,00	<div><div></div></div>
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,05	0,00	0,03	0,60	<div><div></div></div>
Number of created workplaces by parks and tenants in the last accounting year / number ofpeople working in the region at the end of the year (%)	bd	0,00	0,01	0,05	

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	36,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	22,00	13,00	23,00	25,00	
Park's surface (ha)	30,10	0,79	5,45	528,83	
Parks building's surface (m²)	2 853,92	505,50	4 422,53	23 444,00	
Number of tenants (#)	21,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,33	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,25	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,75	0,00	1,00	9,00	

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	62,01	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	1,43	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,14	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,58	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	16,00	12,00	15,00	20,00	
New total sales / total sales (%)	78,46	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,57	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,57	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,19	0,00	0,15	1,47	

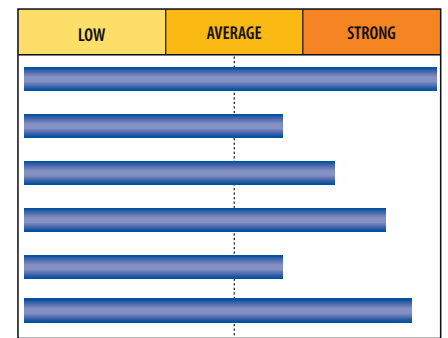
	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,57	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,78	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	37,10	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	19,05	0,00	17,65	100,00	

	INVESTGATED PARK 8	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	100,00	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	0,00	0,00	6,04	18,28	
New employees / Total employees' number (%)	30,00	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	10,00	54,84	6,25	0,00	
Managers / total employees' number (%)	30,00	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	0,00	0,00	2,00	55,00	

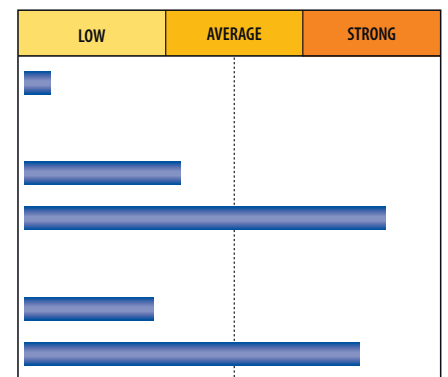
Park 9

Park 9

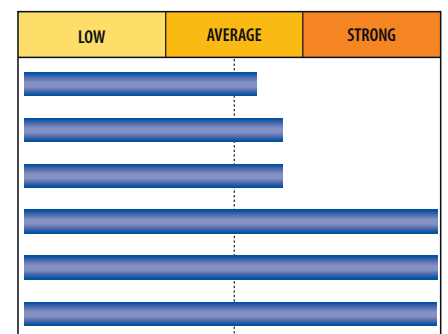
	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Value of public means / total income (%)	3 974,17	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	1 366,79	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	67,44	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	79,52	0,00	30,38	88,74
Income from surface ranting / total income (%)	32,56	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	12,99	0,00	0,21	50,90



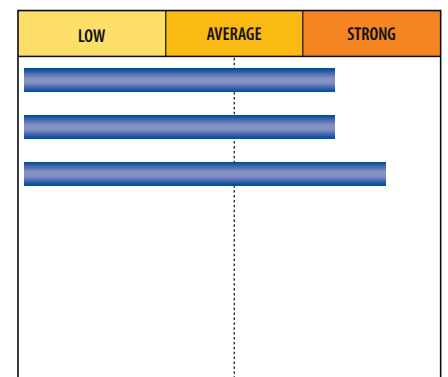
	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Total income / park's assets (%)	2,48	1,26	13,99	240,70
Gross profit / park's assets (%)	-6,99	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	89 200,95	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	11,29	0,00	1,40	16,92
Sales costs / total sales (%)	851,52	851,52	88,58	55,30
Fast liquidity ratio (#)	0,16	0,01	0,24	5,72
Current liquidity ratio (#)	10,54	0,03	2,10	26,26



	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	3 934,98	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	9,48	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,57	0,15	0,48	7,45
New clients / clients (%)	100,00	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	100,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	0,00	33,33	8,25	0,00



	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	2,86	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,29	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	1,71	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,00	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	1,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,00	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,00	0,00	0,01	0,05



	INVESTGATED PARK 9	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	48,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	19,00	13,00	23,00	25,00	
Park's surface (ha)	4,30	0,79	5,45	528,83	
Parks building's surface (m²)	2 161,63	505,50	4 422,53	23 444,00	
Number of tenants (#)	7,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,29	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,14	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,00	0,00	1,00	9,00	

	LOW	AVERAGE	STRONG
Level of park building's surface usage (#)			
Number of services rendered to tenants in the last 12 months / Number of tenants (#)			
Number of services types offered by park / Number of tenants (#)			
Number of tenants debuting on SE including New Connect / Number of tenants (#)			
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)			
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)			
New total sales / total sales (%)			
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)			
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)			
Number of technological and innovation implementations in park's tenants / number of partners (#)			
Number of technological and innovation implementations in park's tenants / Number of tenants (#)			

	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Level of park building's surface usage (#)	86,85	31,65	86,85	99,70
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	15,71	0,38	3,67	35,53
Number of services types offered by park / Number of tenants (#)	0,57	0,10	0,27	5,00
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,68	3,08	4,21	4,64
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	12,00	12,00	15,00	20,00
New total sales / total sales (%)	100,00	0,00	4,19	100,00
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	2,00	0,00	0,62	12,50
Number of technological and innovation implementations in park's tenants / number of partners (#)	2,00	0,00	0,42	4,17
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,57	0,00	0,15	1,47

	LOW	AVERAGE	STRONG
Training costs / total sales (%)			
Cost of ICT technologies / total sales (%)			
Innovative companies / Number of park's tenants (%)			
Tenants realizing R&D activity / Number of park's tenants (%)			

	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Training costs / total sales (%)	0,83	0,00	0,46	1,71
Cost of ICT technologies / total sales (%)	10,49	0,00	2,28	207,75
Innovative companies / Number of park's tenants (%)	57,14	0,00	57,14	100,00
Tenants realizing R&D activity / Number of park's tenants (%)	57,14	0,00	17,65	100,00

	LOW	AVERAGE	STRONG
Employees with higher education / Total employees' number (%)			
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)			
New employees / Total employees' number (%)			
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)			
Managers / total employees' number (%)			
Number of legally protected patents and trade-marks / Number of tenants (#)			
Number of science – industrial groups completing science initiatives (#)			

	INVESTGATED PARK 9	LOW	AVERAGE	STRONG
Employees with higher education / Total employees' number (%)	50,00	36,36	86,67	100,00
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	0,00	0,00	6,04	18,28
New employees / Total employees' number (%)	25,00	91,41	25,00	0,00
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	0,00	54,84	6,25	0,00
Managers / total employees' number (%)	25,00	78,95	30,00	10,81
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67
Number of science – industrial groups completing science initiatives (#)	4,00	0,00	2,00	55,00

Park 10

Park 10

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Value of public means / total income (%)	78,53	0,23	48,96	3 974,17	<div></div>
Park building costs / park's surface (PLN/m²)	9 297,73	10 074,00	2 028,12	9,26	<div></div>
Value of public means from European Union (or as grants from other international institutions) / total income (%)	72,50	0,00	41,81	3 483,45	<div></div>
Park investment costs / park total costs (%)	88,74	0,00	30,38	88,74	<div></div>
Income from surface ranting / total income (%)	8,21	5,00	22,68	81,59	<div></div>
Total sum of financial help for park's tenants / total income (%)	4,86	0,00	0,21	50,90	<div></div>

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Total income / park's assets (%)	1,26	1,26	13,99	240,70	<div></div>
Gross profit / park's assets (%)	-4,80	-6,99	1,01	44,53	<div></div>
Total income / number of generating income agreements (#)	28 319,44	18 152,05	139 132,04	821 421,22	<div></div>
Total sales dynamic (% wzrostu)	8,57	0,00	1,40	16,92	<div></div>
Sales costs / total sales (%)	60,16	851,52	88,58	55,30	<div></div>
Fast liquidity ratio (#)	0,01	0,01	0,24	5,72	<div></div>
Current liquidity ratio (#)	2,10	0,03	2,10	26,26	<div></div>

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Park's marketing costs / Number of tenants (PLN)	1 315,79	0,00	2 971,00	108 642,51	<div></div>
Park's marketing costs / total sales (%)	47,00	0,00	4,97	47,00	<div></div>
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,40	0,15	0,48	7,45	<div></div>
New clients / clients (%)	84,62	1,64	57,69	100,00	<div></div>
Number of new park's tenants in the last 12 months / Number of tenants (%)	21,05	5,26	28,21	100,00	<div></div>
Number of tenants that left the park and continue their activity / Number of tenants (%)	0,00	33,33	8,25	0,00	<div></div>

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Number of collaborating companies / Number of tenants (#)	0,47	0,00	0,75	19,79	<div></div>
Number of collaborating science entities / Number of tenants (#)	0,26	0,03	0,13	5,00	<div></div>
Number of collaborating independent experts / Number of tenants (#)	0,11	0,11	0,46	4,20	<div></div>
Number of collaborating consulting comparies / Number of tenants (#)	0,11	0,00	0,12	1,40	<div></div>
Number of completed projects realized by technological park in partnership with other institutions (#)	6,00	1,00	3,00	18,00	<div></div>
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,21	0,00	0,03	0,60	<div></div>
Number of created workplaces by parks and tenants in the last accounting year / number ofpeople working in the region at the end of the year (%)	0,00	0,00	0,01	0,05	<div></div>

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	0,50	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	13,00	13,00	23,00	25,00	
Park's surface (ha)	5,70	0,79	5,45	528,83	
Parks building's surface (m²)	505,50	505,50	4 422,53	23 444,00	
Number of tenants (#)	19,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,95	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,75	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	1,25	0,00	1,00	9,00	

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	31,65	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	0,47	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,21	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,46	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	12,00	12,00	15,00	20,00	
New total sales / total sales (%)	39,36	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,00	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,00	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,00	0,00	0,15	1,47	

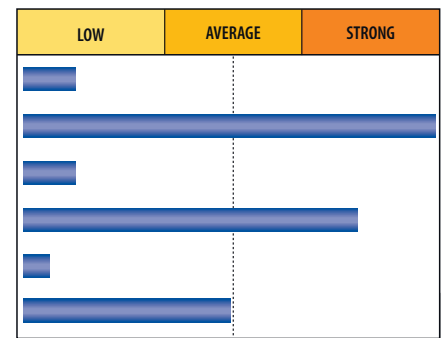
	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,00	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,00	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	10,53	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	10,53	0,00	17,65	100,00	

	INVESTGATED PARK 10	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	100,00	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	0,00	0,00	6,04	18,28	
New employees / Total employees' number (%)	40,79	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	0,00	54,84	6,25	0,00	
Managers / total employees' number (%)	78,95	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	2,00	0,00	2,00	55,00	

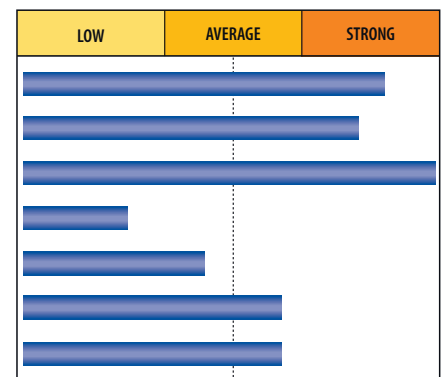
Park 11

Park 11

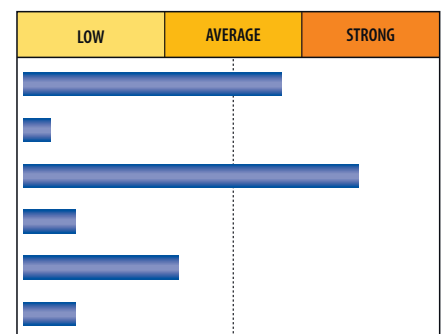
	INVESTGATED PARK 11	LOW	AVERAGE	STRONG
Value of public means / total income (%)	10,27	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	9,26	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	8,55	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	72,84	0,00	30,38	88,74
Income from surface ranting / total income (%)	6,46	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,21	0,00	0,21	50,90



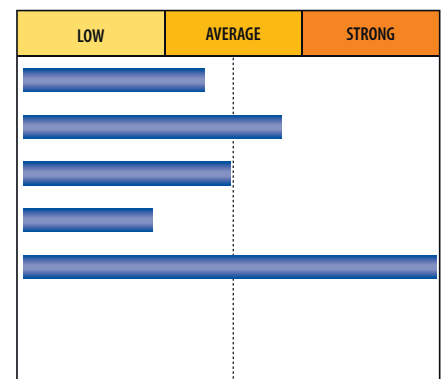
	INVESTGATED PARK 11	LOW	AVERAGE	STRONG
Total income / park's assets (%)	80,05	1,26	13,99	240,70
Gross profit / park's assets (%)	10,76	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	821 421,22	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	0,97	0,00	1,40	16,92
Sales costs / total sales (%)	77,65	851,52	88,58	55,30
Fast liquidity ratio (#)	0,56	0,01	0,24	5,72
Current liquidity ratio (#)	3,87	0,03	2,10	26,26



	INVESTGATED PARK 11	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	4 259,26	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	0,68	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	1,30	0,15	0,48	7,45
New clients / clients (%)	1,64	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	22,22	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	24,07	33,33	8,25	0,00



	INVESTGATED PARK 11	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,74	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,22	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,46	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,09	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	18,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	bd	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,00	0,00	0,01	0,05



	INVESTGATED PARK 11	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building wastaken till the moment when first tenant moved (in months))	0,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	23,00	13,00	23,00	25,00	
Park's surface (ha)	4,00	0,79	5,45	528,83	
Parks building's surface (m ²)	8 100,00	505,50	4 422,53	23 444,00	
Number of tenants (#)	54,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,52	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,93	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	2,21	0,00	1,00	9,00	

	INVESTGATED PARK 11	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	95,51	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	3,67	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,24	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	1,85	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,67	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	17,00	12,00	15,00	20,00	
New total sales / total sales (%)	bd	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	bd	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,67	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,29	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,15	0,00	0,15	1,47	

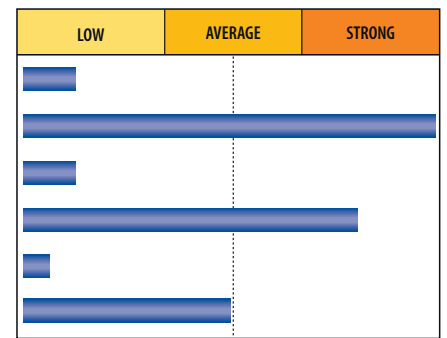
	INVESTGATED PARK 11	LOW	AVERAGE	STRONG	
Training cots / total sales (%)	0,15	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,21	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	64,81	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	11,11	0,00	17,65	100,00	

	INVESTGATED PARK 11	LOW	AVERAGE	STRONG	
Employees with higer education / Total employees' number (%)	83,93	36,36	86,67	100,00	
Employees wits academic degree, at least doctor, or academic title / Total employees' number (%)	7,11	0,00	6,04	18,28	
New employees / Total employees' number (%)	15,65	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	4,27	54,84	6,25	0,00	
Managers / total employees' number (%)	12,80	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,04	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	10,00	0,00	2,00	55,00	

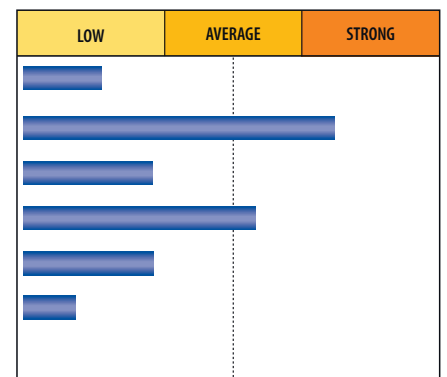
Park 12

Park 12

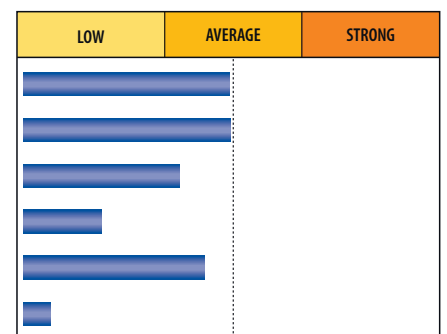
	INVESTGATED PARK 12	LOW	AVERAGE	STRONG
Value of public means / total income (%)	48,96	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	649,58	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	0,00	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	1,27	0,00	30,38	88,74
Income from surface ranting / total income (%)	49,09	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90



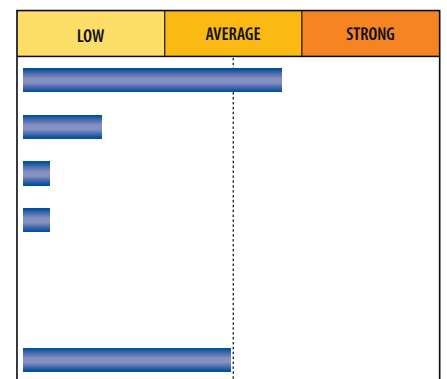
	INVESTGATED PARK 12	LOW	AVERAGE	STRONG
Total income / park's assets (%)	8,47	1,26	13,99	240,70
Gross profit / park's assets (%)	5,74	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	84 044,94	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	1,42	0,00	1,40	16,92
Sales costs / total sales (%)	103,41	851,52	88,58	55,30
Fast liquidity ratio (#)	0,02	0,01	0,24	5,72
Current liquidity ratio (#)	0,03	0,03	2,10	26,26



	INVESTGATED PARK 12	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	2 971,00	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	4,97	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,42	0,15	0,48	7,45
New clients / clients (%)	28,00	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	26,32	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	28,95	33,33	8,25	0,00



	INVESTGATED PARK 12	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	1,32	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,08	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,13	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,03	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	1,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,00	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,01	0,00	0,01	0,05



	INVESTGATED PARK 12	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	28,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	21,00	13,00	23,00	25,00	
Park's surface (ha)	37,00	0,79	5,45	528,83	
Parks building's surface (m²)	13 203,31	505,50	4 422,53	23 444,00	
Number of tenants (#)	38,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,08	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,00	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,00	0,00	1,00	9,00	

	INVESTGATED PARK 12	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	93,80	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	16,97	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,11	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,41	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	17,00	12,00	15,00	20,00	
New total sales / total sales (%)	0,00	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,00	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,00	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,00	0,00	0,15	1,47	

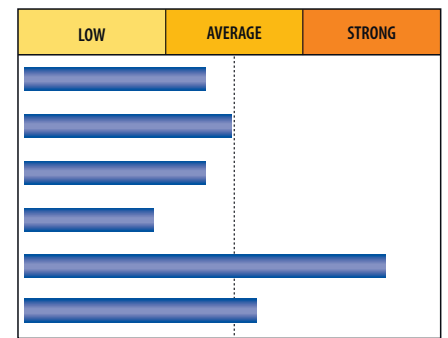
	INVESTGATED PARK 12	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,46	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	0,00	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	2,63	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	0,00	0,00	17,65	100,00	

	INVESTGATED PARK 12	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	75,00	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	6,25	0,00	6,04	18,28	
New employees / Total employees' number (%)	12,50	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	6,25	54,84	6,25	0,00	
Managers / total employees' number (%)	31,25	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	0,00	0,00	2,00	55,00	

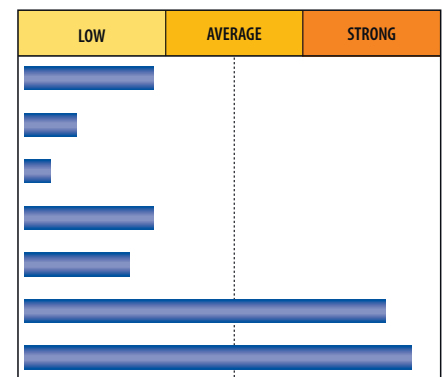
Park 14

Park 14

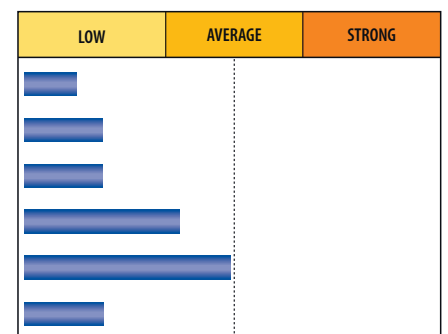
	INVESTGATED PARK 14	LOW	AVERAGE	STRONG
Value of public means / total income (%)	23,23	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	2 028,12	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	23,23	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	4,08	0,00	30,38	88,74
Income from surface ranting / total income (%)	56,04	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,52	0,00	0,21	50,90



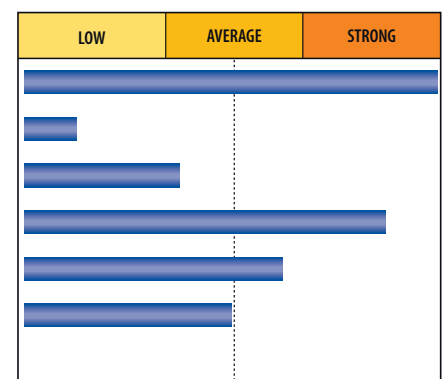
	INVESTGATED PARK 14	LOW	AVERAGE	STRONG
Total income / park's assets (%)	11,45	1,26	13,99	240,70
Gross profit / park's assets (%)	-0,60	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	28 012,05	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	1,07	0,00	1,40	16,92
Sales costs / total sales (%)	105,25	851,52	88,58	55,30
Fast liquidity ratio (#)	1,52	0,01	0,24	5,72
Current liquidity ratio (#)	25,14	0,03	2,10	26,26



	INVESTGATED PARK 14	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	858,97	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	1,44	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,34	0,15	0,48	7,45
New clients / clients (%)	39,47	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	28,21	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	23,08	33,33	8,25	0,00



	INVESTGATED PARK 14	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	19,79	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,08	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,38	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,51	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	4,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,03	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,00	0,00	0,01	0,05



	INVESTGATED PARK 14	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	36,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	21,00	13,00	23,00	25,00	
Park's surface (ha)	13,61	0,79	5,45	528,83	
Parks building's surface (m²)	7 396,00	505,50	4 422,53	23 444,00	
Number of tenants (#)	39,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,31	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,00	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,00	0,00	1,00	9,00	

	INVESTGATED PARK 14	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	81,12	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	0,38	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,36	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,34	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	13,00	12,00	15,00	20,00	
New total sales / total sales (%)	0,86	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	1,33	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,33	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,10	0,00	0,15	1,47	

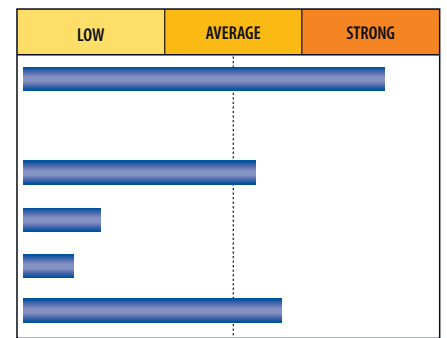
	INVESTGATED PARK 14	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	1,29	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	4,98	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	12,82	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	5,13	0,00	17,65	100,00	

	INVESTGATED PARK 14	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	97,74	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	15,04	0,00	6,04	18,28	
New employees / Total employees' number (%)	0,00	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	0,00	54,84	6,25	0,00	
Managers / total employees' number (%)	15,04	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,08	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	1,00	0,00	2,00	55,00	

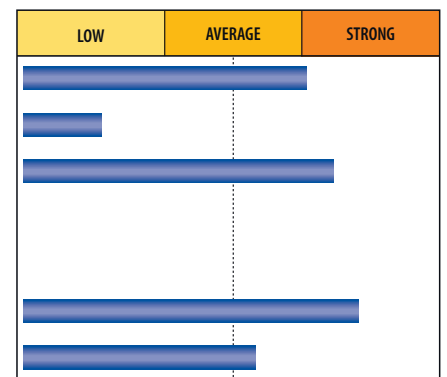
Park 15

Park 15

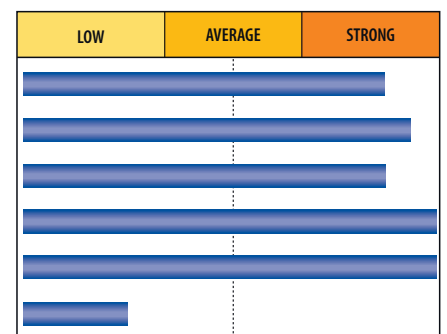
	INVESTGATED PARK 15	LOW	AVERAGE	STRONG
Value of public means / total income (%)	257,51	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	10 047,00	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	49,86	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	1,43	0,00	30,38	88,74
Income from surface ranting / total income (%)	7,69	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	1,22	0,00	0,21	50,90



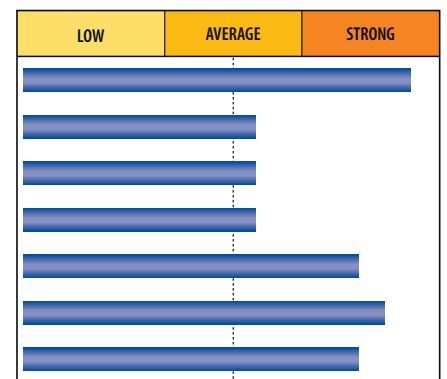
	INVESTGATED PARK 15	LOW	AVERAGE	STRONG
Total income / park's assets (%)	24,41	1,26	13,99	240,70
Gross profit / park's assets (%)	-0,18	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	245 902,14	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	0,00	0,00	1,40	16,92
Sales costs / total sales (%)		851,52	88,58	55,30
Fast liquidity ratio (#)	1,22	0,01	0,24	5,72
Current liquidity ratio (#)	3,30	0,03	2,10	26,26




















	INVESTGATED PARK 15	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	22 851,69	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	35,88	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	1,31	0,15	0,48	7,45
New clients / clients (%)	100,00	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	100,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	15,38	33,33	8,25	0,00











	INVESTGATED PARK 15	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	10,35	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,19	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	1,00	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,19	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	6,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,23	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,03	0,00	0,01	0,05



	INVESTGATED PARK 15	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Park building period (counted from the moment when decision about park building wastaken till the moment when first tenant moved (in months))	42,00	48,00	22,00	0,00				
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	22,00	13,00	23,00	25,00				
Park's surface (ha)	22,00	0,79	5,45	528,83				
Parks building's surface (m²)	4 422,53	505,50	4 422,53	23 444,00				
Number of tenants (#)	26,00	3,00	34,00	97,00				
Number of park's partners / Number of tenants (#)	0,15	0,08	0,42	2,67				
Number of spin-off companies / number of newly created companies (#)	0,38	0,00	0,25	2,00				
Number of start-up companies / number of newly created companies (#)	1,88	0,00	1,00	9,00				

	INVESTGATED PARK 15	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Level of park building's surface usage (#)	48,57	31,65	86,85	99,70				
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	2,00	0,38	3,67	35,53				
Number of services types offered by park / Number of tenants (#)	0,23	0,10	0,27	5,00				
Number of tenants debuting on SE including New Connect / Number of tenants (#)	0,00	0,00	0,00	10,00				
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,08	3,08	4,21	4,64				
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	13,00	12,00	15,00	20,00				
New total sales / total sales (%)	100,00	0,00	4,19	100,00				
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33				
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,40	0,00	0,62	12,50				
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,50	0,00	0,42	4,17				
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,08	0,00	0,15	1,47				

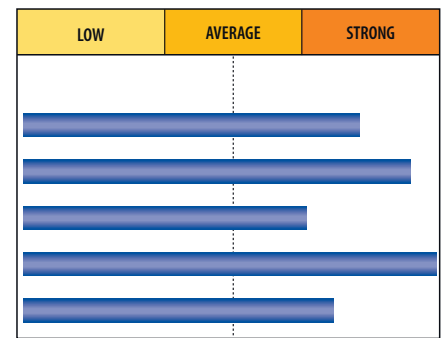
	INVESTGATED PARK 15	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Training cots / total sales (%)	0,26	0,00	0,46	1,71				
Cost of ICT technologies / total sales (%)	77,33	0,00	2,28	207,75				
Innovative companies / Number of park's tenants (%)	100,00	0,00	57,14	100,00				
Tenants realizing R&D activity / Number of park's tenants (%)	11,54	0,00	17,65	100,00				

	INVESTGATED PARK 15	LOW	AVERAGE	STRONG		LOW	AVERAGE	STRONG
Employees with higer education / Total employees' number (%)	82,35	36,36	86,67	100,00				
Employees wits academic degree, at least doctor, or academic title / Total employees' number (%)	0,00	0,00	6,04	18,28				
New employees / Total employees' number (%)	14,71	91,41	25,00	0,00				
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	5,88	54,84	6,25	0,00				
Managers / total employees' number (%)	17,65	78,95	30,00	10,81				
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67				
Number of science – industrial groups completing science initiatives (#)	0,00	0,00	2,00	55,00				

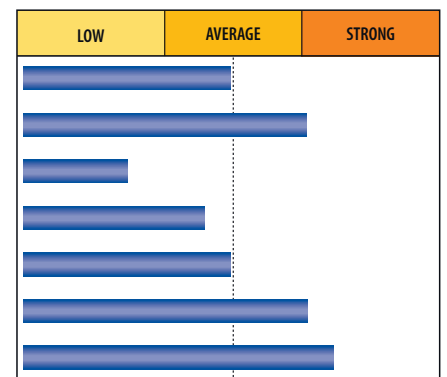
Park 16

Park 16

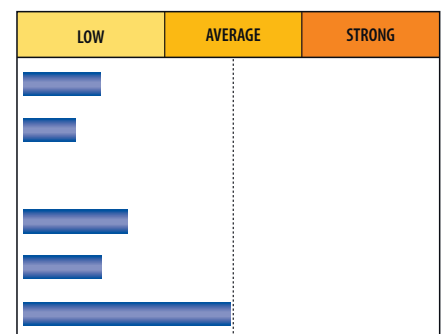
	INVESTGATED PARK 16	LOW	AVERAGE	STRONG
Value of public means / total income (%)	0,23	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m²)	544,34	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	192,89	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	67,86	0,00	30,38	88,74
Income from surface ranting / total income (%)	81,59	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	4,14	0,00	0,21	50,90



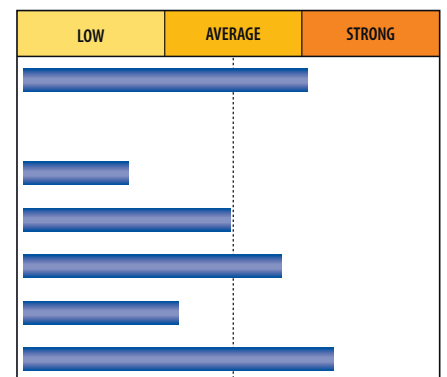
	INVESTGATED PARK 16	LOW	AVERAGE	STRONG
Total income / park's assets (%)	13,99	1,26	13,99	240,70
Gross profit / park's assets (%)	2,48	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	47 267,98	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	1,23	0,00	1,40	16,92
Sales costs / total sales (%)	88,58	851,52	88,58	55,30
Fast liquidity ratio (#)	0,57	0,01	0,24	5,72
Current liquidity ratio (#)	7,00	0,03	2,10	26,26



	INVESTGATED PARK 16	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	939,40	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	0,93	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,15	0,15	0,48	7,45
New clients / clients (%)	30,74	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	15,46	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	8,25	33,33	8,25	0,00



	INVESTGATED PARK 16	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	1,52	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,03	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,21	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,12	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	4,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,02	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,02	0,00	0,01	0,05



	INVESTGATED PARK 16	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	22,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	25,00	13,00	23,00	25,00	
Park's surface (ha)	5,20	0,79	5,45	528,83	
Parks building's surface (m²)	21 682,09	505,50	4 422,53	23 444,00	
Number of tenants (#)	97,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,62	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,85	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	0,85	0,00	1,00	9,00	

	INVESTGATED PARK 16	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	54,12	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	35,53	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,10	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	2,06	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	3,14	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	17,00	12,00	15,00	20,00	
New total sales / total sales (%)	16,80	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,00	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	3,33	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,17	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,10	0,00	0,15	1,47	

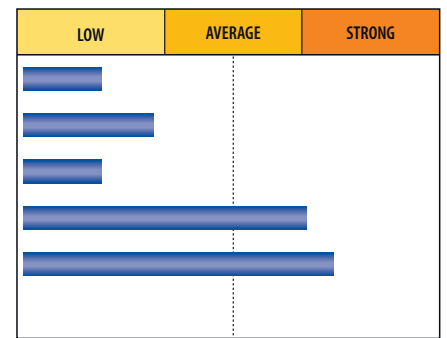
	INVESTGATED PARK 16	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,12	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	9,19	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	79,38	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	39,18	0,00	17,65	100,00	

	INVESTGATED PARK 16	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	86,67	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	13,33	0,00	6,04	18,28	
New employees / Total employees' number (%)	20,00	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 month) / total number of park's employees (%)	6,67	54,84	6,25	0,00	
Managers / total employees' number (%)	40,00	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,06	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	2,00	0,00	2,00	55,00	

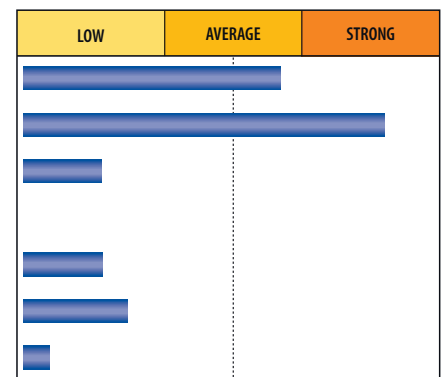
Park 17

Park 17

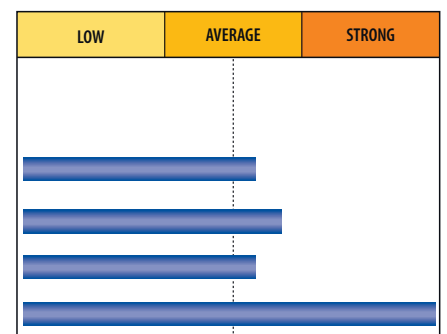
	INVESTGATED PARK 17	LOW	AVERAGE	STRONG
Value of public means / total income (%)	10,54	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	4 995,54	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	9,02	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	30,38	0,00	30,38	88,74
Income from surface ranting / total income (%)	42,30	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90



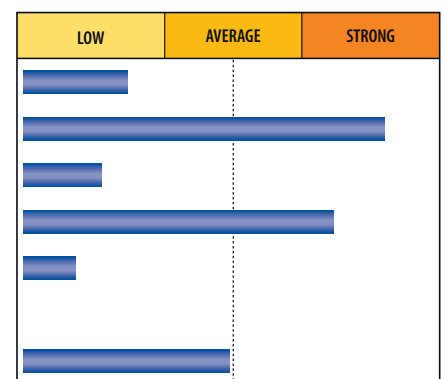
	INVESTGATED PARK 17	LOW	AVERAGE	STRONG
Total income / park's assets (%)	21,26	1,26	13,99	240,70
Gross profit / park's assets (%)	12,31	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	44 940,02	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	0,00	0,00	1,40	16,92
Sales costs / total sales (%)	105,74	851,52	88,58	55,30
Fast liquidity ratio (#)	0,05	0,01	0,24	5,72
Current liquidity ratio (#)	0,13	0,03	2,10	26,26



	INVESTGATED PARK 17	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	0,00	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	0,00	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,55	0,15	0,48	7,45
New clients / clients (%)	62,86	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	30,00	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	0,00	33,33	8,25	0,00



	INVESTGATED PARK 17	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,40	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,80	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,20	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,30	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,00	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,01	0,00	0,01	0,05



	INVESTGATED PARK 17	LOW	AVERAGE	STRONG	
Park building period (counted from the moment when decision about park building was taken till the moment when first tenant moved (in months))	28,00	48,00	22,00	0,00	
Park's localization (external evaluation dependant from localization, distance from main roads, railroads and airports)	25,00	13,00	23,00	25,00	
Park's surface (ha)	bd	0,79	5,45	528,83	
Parks building's surface (m²)	1 116,52	505,50	4 422,53	23 444,00	
Number of tenants (#)	10,00	3,00	34,00	97,00	
Number of park's partners / Number of tenants (#)	0,40	0,08	0,42	2,67	
Number of spin-off companies / number of newly created companies (#)	0,67	0,00	0,25	2,00	
Number of start-up companies / number of newly created companies (#)	1,00	0,00	1,00	9,00	

	INVESTGATED PARK 17	LOW	AVERAGE	STRONG	
Level of park building's surface usage (#)	71,65	31,65	86,85	99,70	
Number of services rendered to tenants in the last 12 months / Number of tenants (#)	16,00	0,38	3,67	35,53	
Number of services types offered by park / Number of tenants (#)	0,30	0,10	0,27	5,00	
Number of tenants debuting on SE including New Connect / Number of tenants (#)	10,00	0,00	0,00	10,00	
Overall evaluation of park's management institution expressed by tenants (Park's evaluation questionnaire) (#)	4,21	3,08	4,21	4,64	
Internet strategy (external evaluation based on web site evaluation, number of visits, accuracy of searching browsers criteria etc.) (#)	13,00	12,00	15,00	20,00	
New total sales / total sales (%)	0,00	0,00	4,19	100,00	
Number of Venture Capital investments completed in 3 years period / Number of tenants (#)	0,10	0,00	0,00	0,33	
Number of technological and innovation implementations among park's tenants / number of collaboration science units (#)	0,25	0,00	0,62	12,50	
Number of technological and innovation implementations in park's tenants / number of partners (#)	0,50	0,00	0,42	4,17	
Number of technological and innovation implementations in park's tenants / Number of tenants (#)	0,20	0,00	0,15	1,47	

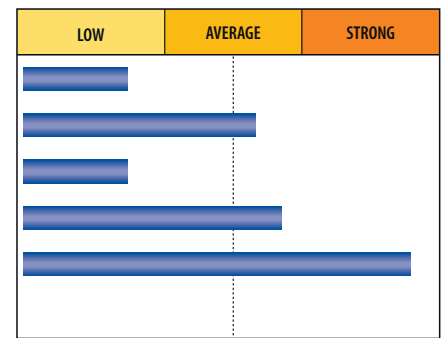
	INVESTGATED PARK 17	LOW	AVERAGE	STRONG	
Training costs / total sales (%)	0,13	0,00	0,46	1,71	
Cost of ICT technologies / total sales (%)	3,18	0,00	2,28	207,75	
Innovative companies / Number of park's tenants (%)	40,00	0,00	57,14	100,00	
Tenants realizing R&D activity / Number of park's tenants (%)	30,00	0,00	17,65	100,00	

	INVESTGATED PARK 17	LOW	AVERAGE	STRONG	
Employees with higher education / Total employees' number (%)	91,41	36,36	86,67	100,00	
Employees with academic degree, at least doctor, or academic title / Total employees' number (%)	18,28	0,00	6,04	18,28	
New employees / Total employees' number (%)	91,41	91,41	25,00	0,00	
Employees leaving from park (with work experience above 6 months) / total number of park's employees (%)	54,84	54,84	6,25	0,00	
Managers / total employees' number (%)	54,84	78,95	30,00	10,81	
Number of legally protected patents and trade-marks / Number of tenants (#)	0,00	0,00	0,04	0,67	
Number of science – industrial groups completing science initiatives (#)	4,00	0,00	2,00	55,00	

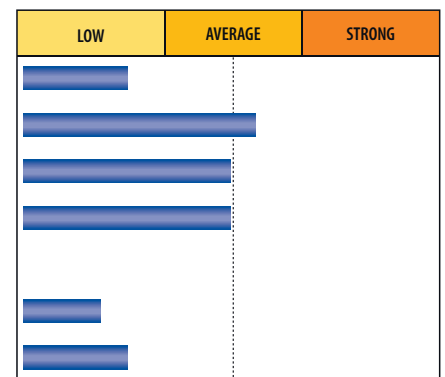
Park 18

Park 18

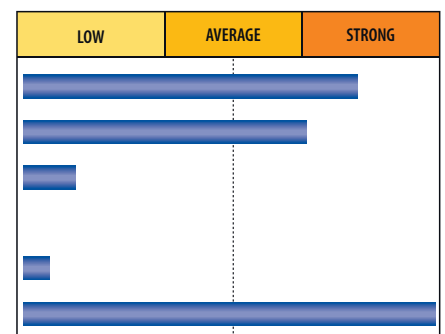
	INVESTGATED PARK 18	LOW	AVERAGE	STRONG
Value of public means / total income (%)	14,40	0,23	48,96	3 974,17
Park building costs / park's surface (PLN/m ²)	1 859,27	10 074,00	2 028,12	9,26
Value of public means from European Union (or as grants from other international institutions) / total income (%)	11,86	0,00	41,81	3 483,45
Park investment costs / park total costs (%)	50,00	0,00	30,38	88,74
Income from surface ranting / total income (%)	74,07	5,00	22,68	81,59
Total sum of financial help for park's tenants / total income (%)	0,00	0,00	0,21	50,90



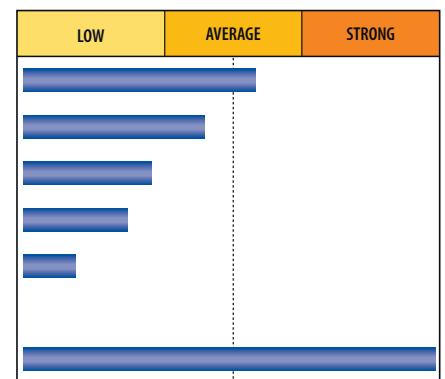
	INVESTGATED PARK 18	LOW	AVERAGE	STRONG
Total income / park's assets (%)	10,19	1,26	13,99	240,70
Gross profit / park's assets (%)	1,17	-6,99	1,01	44,53
Total income / number of generating income agreements (#)	139 132,04	18 152,05	139 132,04	821 421,22
Total sales dynamic (% wzrostu)	1,40	0,00	1,40	16,92
Sales costs / total sales (%)	bd	851,52	88,58	55,30
Fast liquidity ratio (#)	0,03	0,01	0,24	5,72
Current liquidity ratio (#)	0,49	0,03	2,10	26,26

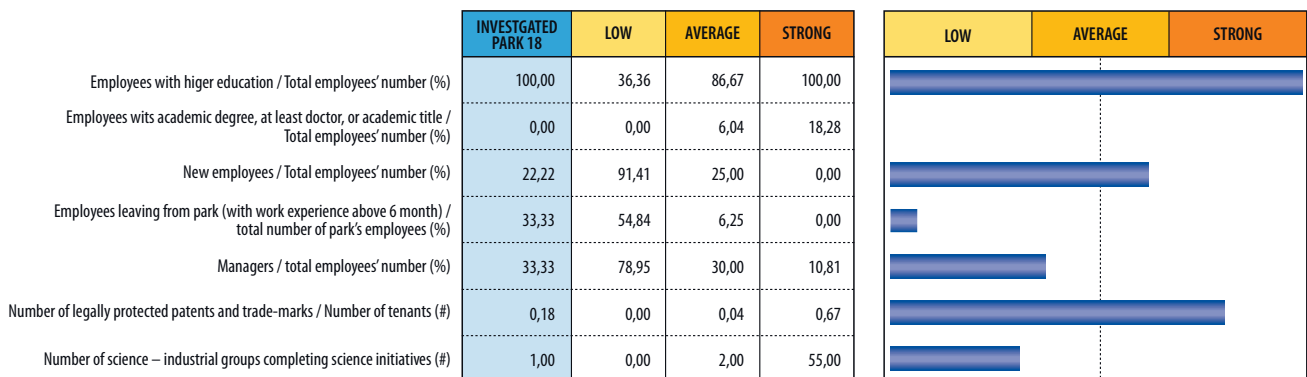
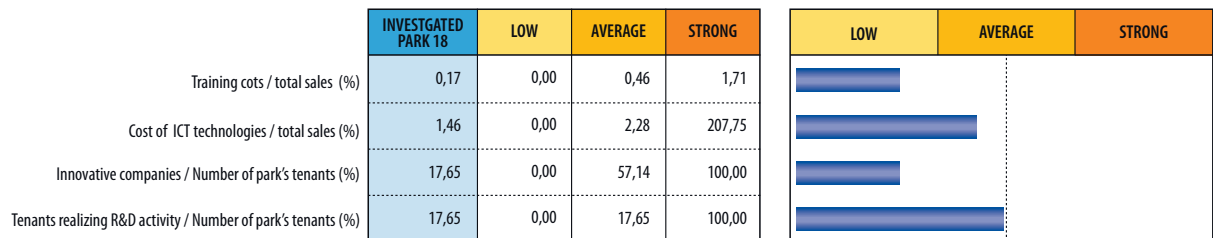
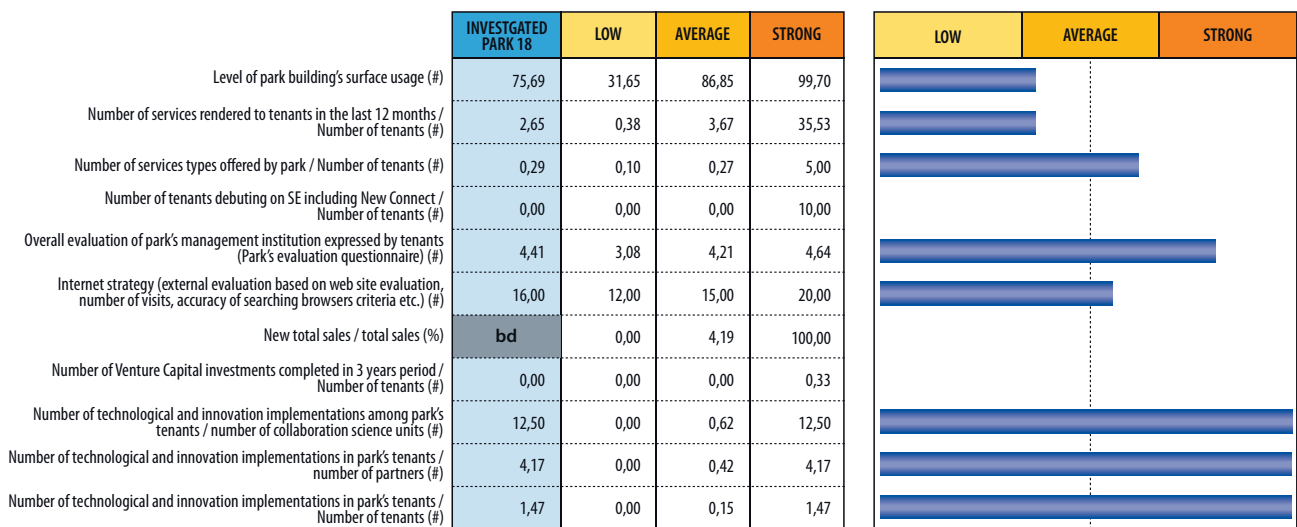
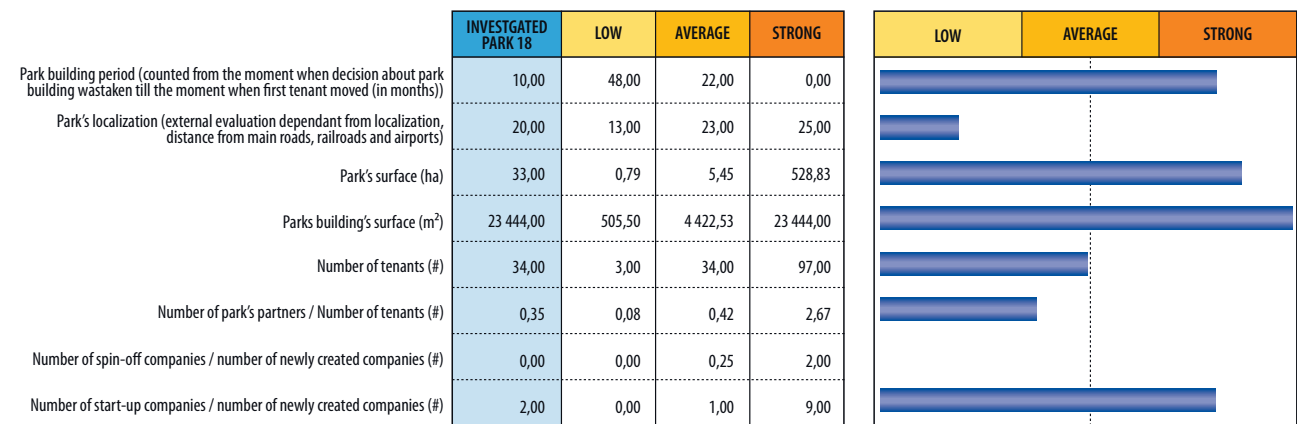


	INVESTGATED PARK 18	LOW	AVERAGE	STRONG
Park's marketing costs / Number of tenants (PLN)	12 352,48	0,00	2 971,00	108 642,51
Park's marketing costs / total sales (%)	11,09	0,00	4,97	47,00
Park employees' number (only tenants engaged in park's work) / Number of tenants (#)	0,26	0,15	0,48	7,45
New clients / clients (%)	bd	1,64	57,69	100,00
Number of new park's tenants in the last 12 months / Number of tenants (%)	5,88	5,26	28,21	100,00
Number of tenants that left the park and continue their activity / Number of tenants (%)	0,00	33,33	8,25	0,00



	INVESTGATED PARK 18	LOW	AVERAGE	STRONG
Number of collaborating companies / Number of tenants (#)	0,88	0,00	0,75	19,79
Number of collaborating science entities / Number of tenants (#)	0,12	0,03	0,13	5,00
Number of collaborating independent experts / Number of tenants (#)	0,26	0,11	0,46	4,20
Number of collaborating consulting comparies / Number of tenants (#)	0,09	0,00	0,12	1,40
Number of completed projects realized by technological park in partnership with other institutions (#)	2,00	1,00	3,00	18,00
Number of collaborating financial institutions (venture capital) / Number of tenants (#)	0,00	0,00	0,03	0,60
Number of created workplaces by parks and tenants in the last accounting year / number of people working in the region at the end of the year (%)	0,05	0,00	0,01	0,05





the source:the author's own

Polska Agencja Rozwoju Przedsiębiorczości (PARP) jest agencją rządową podlegającą Ministrowi właściwemu ds. gospodarki. Powstała na mocy ustawy z 9 listopada 2000 roku. Zadaniem Agencji jest zarządzanie funduszami z budżetu państwa i Unii Europejskiej, przeznaczonymi na wspieranie przedsiębiorczości i innowacyjności oraz rozwój zasobów ludzkich.

Celem działania Agencji, która w 2010 r. obchodzi dziesięciolecie istnienia, jest realizacja programów rozwoju gospodarki wspierających działalność innowacyjną i badawczą małych i średnich przedsiębiorstw (MSP), rozwój regionalny, wzrost eksportu, rozwój zasobów ludzkich oraz wykorzystywanie nowych technologii.

W perspektywie finansowej obejmującej lata 2007-2013 Agencja jest odpowiedzialna za wdrażanie działań w ramach trzech programów operacyjnych **Innowacyjna Gospodarka, Kapitał Ludzki i Rozwój Polski Wschodniej**.

Jednym z priorytetów Agencji jest promowanie postaw innowacyjnych oraz zachęcanie przedsiębiorców do stosowania nowoczesnych technologii w swoich firmach. W tym celu Polska Agencja Rozwoju Przedsiębiorczości prowadzi portal internetowy poświęcony tematyce innowacyjnej **www.pi.gov.pl**, a także corocznie organizuje konkurs **Polski Produkt Przyszłości**. Przedstawiciele MSP mogą w ramach **Klubu Innowacyjnych Przedsiębiorstw** uczestniczyć w cyklicznych spotkaniach. Celem portalu edukacyjnego **Akademia PARP** (www.akademiaparp.gov.pl) jest upowszechnienie wśród mikro, małych i średnich firm dostępu do wiedzy biznesowej w formie e-learningu. Za pośrednictwem strony internetowej **web.gov.pl** PARP wspiera rozwój e-biznesu. W Agencji działa ośrodek sieci **Enterprise Europe Network**, który oferuje przedsiębiorcom informacje z zakresu prawa Unii Europejskiej oraz zasad prowadzenia działalności gospodarczej na Wspólnym Rynku.

PARP jest inicjatorem utworzenia sieci regionalnych ośrodków wspierających MSP tj. **Krajowego Systemu Usług dla MSP, Krajowej Sieci Innowacji i Punktów Konsultacyjnych**. Instytucje te świadczą nieodpłatnie lub wg preferencyjnych stawek usługi z zakresu informacji, doradztwa, szkoleń oraz usługi finansowe. Partnerami regionalnymi PARP we wdrażaniu wybranych działań są **Regionalne Instytucje Finansujące** (RIF).