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# Opening to innovations in the development of small and medium enterprises

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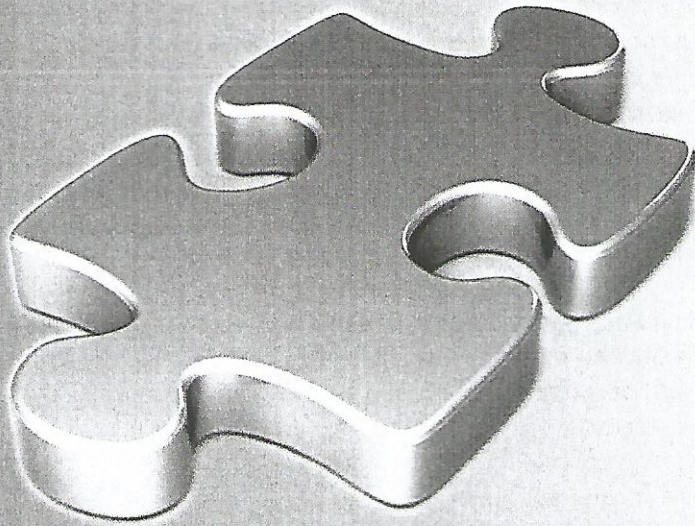
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# 11 OPENING TO INNOVATIONS IN THE DEVELOPMENT OF SMALL AND MEDIUM-SIZED ENTERPRISES

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## 1. Introduction

The growing challenge of the day-to-day activity of enterprises is creating new products, entering new areas of activity, gaining and keeping clients through introduction of loyalty programs, as well as introducing changes in different areas of activity. Through the process of changes which takes place in time the organizations are developing by making the action strategy.

Facing the tendency of technologies and products growing old, the changing and turbulent environment, the development of new, innovative solutions is the only way for an enterprise to keep and strengthen its position on the market. When developing an action strategy, the managers in charge of an enterprise should answer the following questions: are we open to innovations both in the product and technology area as well as in the management, have new ways of organizing, leading, coordinating or motivating been discovered, have any fresh ideas which are noticed by competition been introduced?

It is worth mentioning here that product and technology innovations as well as innovations in the area of rules and management processes can ensure a stable competitive advantage. Through the last century, innovations in the management area have influenced, to a great extent, achieving by enterprises higher and higher levels of effectiveness [6, p. 54].

According to the problem presented in this way, the aim of this paper is to show the essentials of opening to innovations by enterprises. The focus will be on defining the influence of product and technology innovations on an enterprise

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development, an attempt will be also made to define the ways of introducing innovations in the area of management. The scientific part will be the analysis of the small and medium enterprises sector for their innovativeness in the above-mentioned areas (product, technology and management).

## **2. Opening to innovations in the technology and product aspect – their essence and meaning for the innovation strategy**

In the literature there is much focus on innovations. The question about innovations is not long but difficult because one should not ask why to introduce innovations in an enterprise but rather how to introduce them. The contemporary evolution of attitudes to innovations shows that good and useful ideas do not come from the interior of an organization but appear from a specific exterior environment (they come from the commercialized enterprises).

H. Chesbrough created the concept of „opening to innovations” which he defines as a process of checking how the opening to innovations influences the management of an enterprise. He defines the opening to innovations as deliberate usage of flows and outflows of knowledge which speed up the creation of interior innovative ideas as well as the expansion of the market to the exterior (foreign) areas where an enterprise operates. As for natural logic such a definition is simple, an enterprise can and should have the ability to create interior ideas using what can be found in the exterior environment. Enterprises should also know the ways of market changes which aim at maximizing the refund of the capital invested in the product development. The understanding of the problem matter of opening to innovations depends on understanding the fundamental meaning of “closing on innovations” [3].

Opening to innovations largely depends on the ability of an enterprise to create an innovation strategy, which requires a lot of procedures in order to be developed. An interesting attitude was presented by A. Pomykalski when he suggested the analysis, done by managers, of five areas in which an enterprise operates together with the questions to be answered. The first area is the analysis of the market situation – specifying where we are now, the second area is the analysis of the resources and environment – defining where we want to be, the third area is the choice of strategy type – it should give the answer to the question how to get where we want to be, another area is classifying the financial and non-financial criteria – this is where the best way of action is being looked for, and the last area is the introduction and control of the strategy which should give the answer to the question how to increase the certainty of the strategy implementation [11, p. 288-289]. The most difficult stage is the fifth – finding the answer to the question how to get to the plans implementation. At this stage the technology is chosen and the way of technological development to be followed by an enterprise is decided on. While choosing the technology, managers need to answer a lot of questions. Among others, it has to be specified:

if an economic entity should create the technology by itself or if it should be bought, how to transform the technology into the "operational means", that is the abilities to produce and the products, can an enterprise create and sell the technology, what will the consequences of the technology strategy be for the strategy of an enterprise from the holistic perspective [9, p. 114]. It is worth mentioning here that the above problems are concerned with creating technological innovations as well as the transfer of technology. Nonetheless, the technologies which are used frequently influence the product offer.

The innovation strategy which is being developed aims at eliminating the weak sides of an enterprise and getting advantage of its potential strengths. Mainly competitive strengths because they determine the market position of an enterprise. This strength may be, for example, a project of a new product (a development) different from others. While developing the strategy, first of all it has to be checked if the product being produced so far is a weakness or a strength in the enterprise. If the analyses show that it is a weakness, then the strategy should include its modification (modernization) or the withdrawal from production and introduction of a new product into the market. Product diversification often takes place in enterprises and then it should be decided which products are the strengths and which are the weaknesses. Using the BCG matrix, it can be read which products are the "milk cows" (cash cows), which are the "problem children" (question marks) and which are the "cash traps" (dogs). After such an analysis, the enterprise managers will know what product changes should be introduced, which products should be withdrawn, which should be financed or what new product should be created to cater for the clients' needs.

It needs to be pointed out here that it is the innovation strategy which is the part of the overall strategy of an enterprise. It is based on the analysis of the environment as well as the interior potential which is the basis for the identification of the areas to be changed. The management of innovative activity which means the influence on the course (direction, scale, intensity) of innovation processes, that is causing the suggested changes, should result from the innovation strategy. However, for the innovations management to be effective, the following need to be ensured: an appropriate style of managing the innovative activity, the management based on cooperation of employees, the decentralization of management, a high tendency to take risk, a high degree of focusing on the future of the company, a high clients' needs orientation [13, p. 13].

Innovation processes take place in the defined organizational context. A technological innovation requires a good organization and encouragement inside an organization. The structures favoring innovations are flexible ones, flat, straight, frequently of project or task specific character (and such structures are the most common in small and medium enterprises). It cannot be forgotten that innovations also require an appropriate organization of the company's resources (substantial, personal, financial and informational.) It is commonly believed that the success of an innovation activity is dependent on human

resources and they are said to have the greatest importance. Both managers and employees should have a creative attitude for regular changes in the technical as well as in the organizational area [13, p. 13].

In practice, developing an innovation strategy and the innovations management is not easy. There are many obstacles, both interior and exterior, which hinder the introduction of innovations. They are included and presented in Table 1.

**Table 1.** Interior and exterior obstacles of opening to innovations

	<b>Problem definition</b>	<b>Action plan</b>	<b>Approval of action plan</b>
Interior obstacles of opening to innovations	Implement ideas and knowledge about the product and technology conception derived from suppliers, clients in research agencies which are the source of interior development.	Solve technical problems by using exterior ideas and cooperating with research agencies, suppliers and competitors.	Examine the readiness for products or components commercialization which provide the direct costs and values source for suppliers and competitors.
Exterior obstacles of opening to innovations	Take advantage of the time for interior ideas and concepts of the product intended for suppliers and clients of other companies	Estimate the differences in the tendencies, e.g.: licenses outside, knowledge, know-how and technology inside	Estimate the differences in disappointment caused by the product and technology, implementing additional strategies for financial benefits, alternatively creating a new value

*Source: own elaboration.*

Analyzing the data in Table 1, it can be observed that the interior obstacles of opening to innovations include the lack of ability to derive the knowledge about new products and technologies from outside. These obstacles can be overcome by using the criteria of the decision tree in opening to innovations (Figure 1). Analyzing Figure 1, it can be noticed that the process of making decisions concerning innovations starts with the alliance of the technology and product development with the general business model. No matter if the alliance was made or not, during the first phase managers need to answer the question whether the project of using innovations takes advantage of the key competences of an enterprise and, depending on the answer to this question, while making the decisions the aim should be at the fourth phase referred to as export of knowledge and skills. This phase states that the knowledge and technology are solid enough to be passed to the environment where there are enterprises in demand for this knowledge. Obviously the problem of limits to passing knowledge appears here, as it is understood that not all of it should be passed to others. It must be remembered that some of the knowledge determines an enterprise competitive advantage.

It is worth focusing here on the difference emerging between the phases depending on the fact if the alliance has been signed or not. If in an enterprise the development strategy is not connected to the business model, the import of knowledge and technology should be considered before their export takes place. In the second phase the problem of redefining the project of using innovations in the business model as well as in the key skills is considered. The third phase comprises the decisions concerning initiating the project of a business model or the process of changing the key competences from the start.

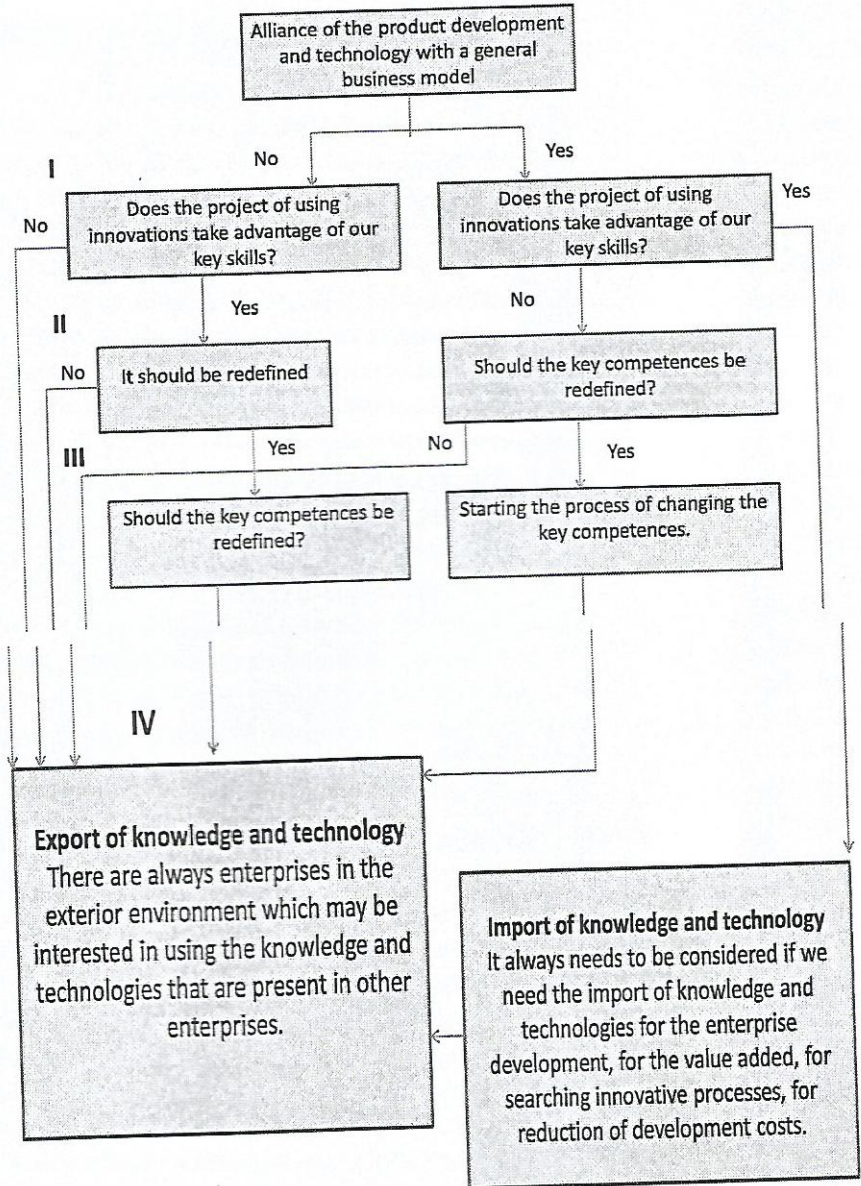


Fig. 1. The Decision Tree in opening to innovations  
Source: own elaboration.

The key competences should not be referred only to product and technology innovations but also to the innovative management. Nonetheless, it is worth mentioning here that the key competences can initiate changes but, on the contrary, the product, technology or management innovations can become the key competences and they may be decisive for an enterprise development.

### 3. Innovative management in the development of enterprises

The development (as mentioned before) is the process of changes taking place in time. Changes may concern different areas of activity including the management in a broad sense. In our case, the change means the withdrawal from the traditional rules of management, the processes and practices which influence the work of managers. The innovative management is indeed everything that considerably changes the customary organizational forms of a company and in this way gets the accomplishment of its goals closer [5, p. 35]. A management innovation can be defined as a marked departure from traditional management principles, processes and practices or a departure from customary organizational forms that significantly alters the way the work of management is performed. Put simply, management innovation changes how managers do what they do. And what do managers do. Typically, managerial work includes [8, p. 75-76]:

- setting goals and laying out plans,
- motivating and aligning effort,
- coordinating and controlling activities,
- accumulating and allocating resources,
- acquiring and applying knowledge,
- building and nurturing relationships,
- identifying and developing talent,
- understanding and balancing the demands of outside constituencies.

In a big organizations, the only way to change how managers work is to reinvent the processes that govern that work. Management process such as strategic planning, capital budgeting, project management, hiring and promotion, employee assessment, executive development, internal communication and knowledge management are the gears that turn management principles into everyday practices. They establish the recipes and rituals that govern the work of managers. While operational innovation focuses on a company's business process (procurement, logistic, customer support, and so on), management innovation targets a company's management processes [8, p. 75-76]

Using a more colloquial language, innovations in management change the way managers do what they do and increase efficiency and effectiveness. In literature the terms like "operational innovation" and "management innovation" can be found. The first one focuses on strictly businesslike processes of a company (production, marketing, order realization, customer service, etc.).



The second one deals with the processes of management (methods and actions influencing the course of daily managing of a company), including the following [5, p. 37-38]:

- strategical planning,
- budget planning,
- projects management,
- empolyment and promotions,
- knowledge management,
- interior communication,
- periodic reports,
- evalutaion and rewarding of employees.

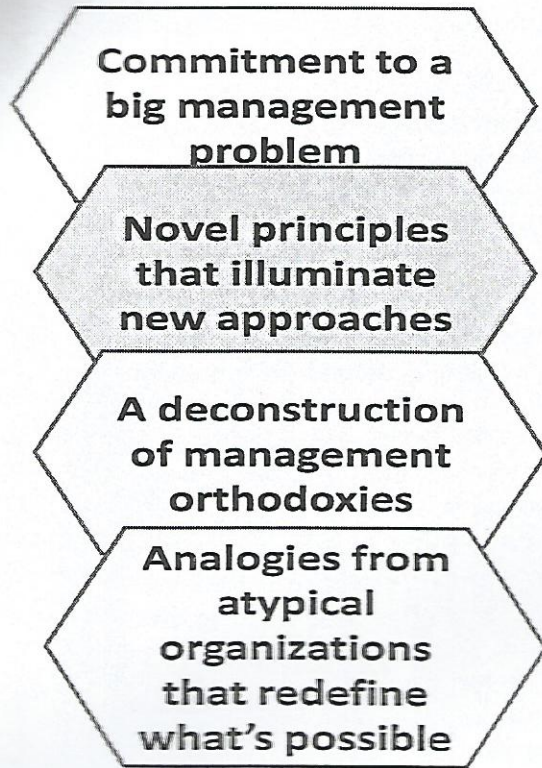
Innovative management is abandoning the old ways of action. According to the theory, it is commonly practiced in big enterprises. However, it is not true. Certainly, in bigger organizations the only way to change the work of managers is by changing the processes of, e.g.: planning, employing, promoting, inside communication or knowledge management. The characteristic typical of big organizations is the fact that they are more formal than small organizations. They have complicated organizational structures and because there are a lot of procedures the changes are more often noticeable. Nonetheless, the innovative management plays a very important role in all enterprises no matter of their size. The thing that the innovative management lacks is a practical methodology. Generating new ideas becomes a challenge, and ideas emerge in friendly environment. So the key factors are: formulating problems which require a fresh look, new paradigms and rules enabling a new approach to the occurring problems, removing the obstacles in creative thinking, finding examples and analogies helping to define potential possibilities [7, p. 45].

I have yet to meet a senior executive who claims that his or her company has a praiseworthy process for management innovation. What's missing, it seems, is a practical methodology. As with other types of innovation, the biggest challenge is generating truly novel ideas. While there is no sausage crank for innovation, it's possible to increase the odds of a "Eureka!" moment by assembling the right ingredients. Some of the essential components are [8, p. 76]:

- a bewitching problem that demands fresh thinking,
- novel principles of paradigms that have the power to illuminate new approaches,
- a careful deconstruction of the conventions and dogma that constrain creative thinking,
- examples and apologies that help redefine what's possible.

Chunky problems. Fresh principles. Unorthodox thinking. Wisdom from the fringe These multipliers of human creativity are as pivotal to management innovation as they are to every other kind of innovation.

The question "How to become an innovator in the management" arises very often. The description of these process we should start with defining innovation's components, which were described at Figure 2.



**Fig. 2.** The elements of management innovation  
*Source: [8, p. 77].*

In most companies, management innovation is ad hoc and incremental. A systematic process for producing bold management breakthroughs must include, this elements.

In first, open source development, for example, encompasses two antithetical ideas: radical decentralization, large-scale project management. Perhaps you feel that the obsessive pursuit of short-term earnings undermines your company's willingness to invest in new ideas. Maybe you believe that your organizations has become less and less agile as it has pursued the advantages of size and scale. Your challenge is to find an opportunity to turn an "either/or" into an "and".

Second, what are big organizations bad at? This question should produce a long list of incompetencies. Big companies aren't very good at changing before they have to or responding to nimble upstarts.

Third, what are the emerging challenges the future has in store for your company? Try to imagine them: an ever-accelerating pace of change. Rapidly

escalating customer power. Near instant commoditization of products and services. Ultra-low-cost competitors.

The fourth step is to use analogies from atypical organizations. It sounds like a new trend, but includes „leadership as a servant”, „power of diversity” and „self – organizing” [8, p. 77-78].

This way of thinking should characterize managers of every organization. In most enterprises the innovative management is temporary while the regularity of this process is essential for achieving success. In small and medium enterprises, which are very flexible and have simple organizational structure, introducing changes in management is easier than in big organizations. The key element shaping the introduction of innovative management is the person of the owner. They are entrepreneurs and managers in small enterprises. So the way of managing depends on them. The second very important element is the team led by them. The ways of motivating, managing or promoting will depend on the attitudes of the people in a group. The importance of the relations between a superior and a subordinate is worth highlighting here.

The biggest challenge in innovative management is generating ideas. In a small enterprise if the right conditions are created, people will readily come up with ideas. A contrary situation is in the case of big enterprises in which the answer to a crisis was developing innovative management (often called entrepreneurial). It was connected with serious changes in organization, management and approach to employees. Only people create an innovation and entrepreneurial culture. As a hierarchical structure used to suppress the development of initiative, so called interior entrepreneurship has emerged in enterprises. Its aim was to create conditions in which a company's employees with ideas that can be promising would get means and possibilities to take action like new entrepreneurs [4, p. 42]. The concept of interior entrepreneurship is connected with introducing innovations on all levels of management as well as among people who aren't on managerial positions but are enterprising, creative and are pro innovations [1, p. 43].

The innovative management is not natural. It requires work and a conscious approach. This can be learned but it demands effort. Innovative enterprises treat innovations as an obligation. They are disciplined, work on it and put it into practice. The chosen areas of innovative management together with the explanation why traditional solutions are not effective are included in Table 2.

Analyzing the data included in Table 2, it can be observed that the areas described are essential for the development of an organization. Nonetheless, it is worth giving here some more attention to the developing of a strategy with the trial and error method – experimenting. As mentioned before, experimenting is essential for formulating a strategy. Though, it is frequently forgotten to keep the minimum of discipline and planning. Managers make attempts and adaptations again and again hoping that the next time will be successful. To avoid such problems, a balance is necessary between hasty moves like „let's try this solution, we'll see how the clients will react and we'll change our actions accordingly,” and, on the other hand, disciplined planning like „let's think about

the market and technology in a systematic way, let's look at the needs of our clients long enough to make sure that we have the right product, technology or business model." In order to achieve such a balance we should: narrow the area of action, learn on small samples, take advantage of prototypes, use non-financial criteria to evaluate employees, set limits to when an experiment must be finished [2, p. 46]. Obviously, these are not the only areas of change in the innovative management. A systematic introduction of innovative management leads to the changes in competitive position and often ensures an organization a long-lasting advantage. The main role in the innovative management is also played by:

- knowledge management,
- capital allocation,
- immeasurable value management,
- taking advantage of every employee's talents,
- building a global consortium – organizational innovation.

**Table 2.** Areas of innovative management

Area	Change	Why?
Dispersed responsibility	Defining the scope of responsibility	When responsibility is defined in equal proportions, all employees are supposed to be equally involved in new ideas. The dispersion of responsibility does not encourage the development of an organization.
Centralization	Decentralization	Decision authorization together with responsibility encourages the development of an enterprise.
Differences occurrence	Balance	Defining the level of balance enables the development of enterprising attitudes. The balance in three areas: strategy, operational activity and organization.
Fixed strategy development	Experimenting	It should be remembered that the strategies rejected in the first stages of developing new undertakings can turn out to be really useful in further actions. The gist of formulating a strategy is an experiment.
Relying on experience	Combining experience with creativity	It is possible to increase the effectiveness of action through: combining new ideas with experienced employees changing the way of thinking of people working in an enterprise for a long time developing certain skills and buying new ones creating a single organizational culture.
Autonomy	Integrating with preserving autonomy	To much independence leads to the decline of learning.

*Source: own elaboration based on [15, p. 46].*

To sum up, for the innovative management to give permanent competitive advantage, at least one of the three conditions must be fulfilled: an innovation is based on an innovative rule of management contrary to a fixed tradition; an innovation is systematic and includes the entirety of rules and actions; an innovation is part of a wider program of series of innovations, whose results add to one another in time.

#### **4. Opening to innovations in the sector of small and medium enterprises – research results**

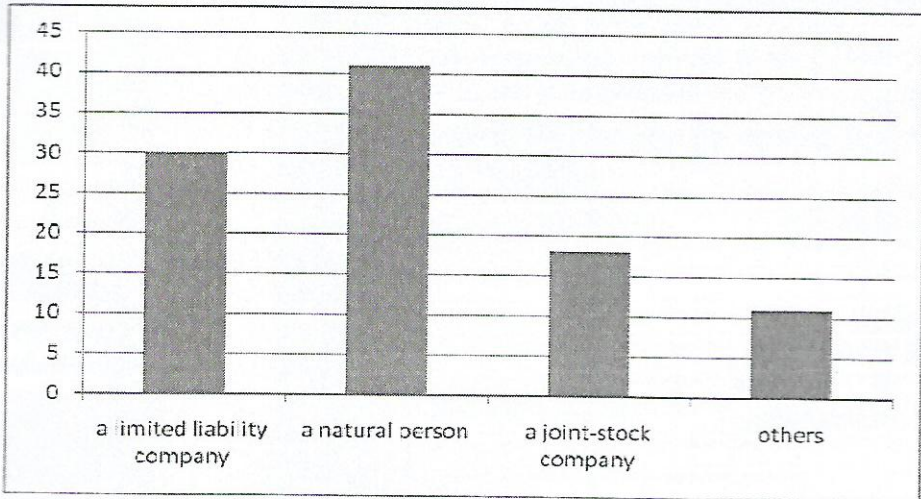
The role of SME is very important for the whole economy and that is why this sector was used for the analysis. A very general criteria of division is the size of economic entities. In practice there is a division into small, medium and large economic entities. The basis for this classification is, most frequently, the number of employees. However, it is not perfect or the only possible measuring instrument. The size of economic entities can also be determined by the size of production or turnover, the value of production resources in their possession or the level of the profit gained. The concept of “a small and medium enterprise” was described in the Act of 19<sup>th</sup> November 1999 – The Economic Activity Code. Enterprises which are considered small employ fewer than 50 employees a year on average and their annual income does not exceed the equivalence of 7 million euros. In a medium enterprise the employment does not go beyond 250 employees a year on average and its income is up to 40 million euros or the total of assets is up to 27 million euros. Other entities will be ranked among large enterprises[12].

In the period of transforming the Polish economy into a market economy small economic entities are gaining the right meaning. The economic policy of most countries with market economy recognizes the need to support the development of smaller enterprises due to the benefits resulting from their functioning in the national economy. Highly developed countries clearly accept the fact that without the development of small enterprises the smooth functioning of market mechanisms is not possible.

The question about the sense of existence of SME sector was answered many years ago by Schumpeter when he formulated the “creative distribution thesis.” According to it, capitalism could not exist without new companies constantly emerging on the ruins of the ones that collapsed. It enables a healthy capitalistic economy to undergo reincarnation other and other again, to be in a constant transformation process which leads it higher levels. However, the process of old companies collapsing and new ones emerging, that means of forming the SME sector, does not occur everywhere in the same way. Economic and social functions taken by small and medium enterprises depend both on the already achieved economic level and on the socio-political system. Even in

countries on a similar economic level, the role of small and medium enterprises is different and the state of development diverse.

For the sake of this paper 27 enterprises were examined of which 39% are micro-enterprises (up to 9 employees), 34% are small enterprises (10-49 employees), 27% are medium enterprises. The organizational-legal forms of the enterprises examined were presented in Figure 3.

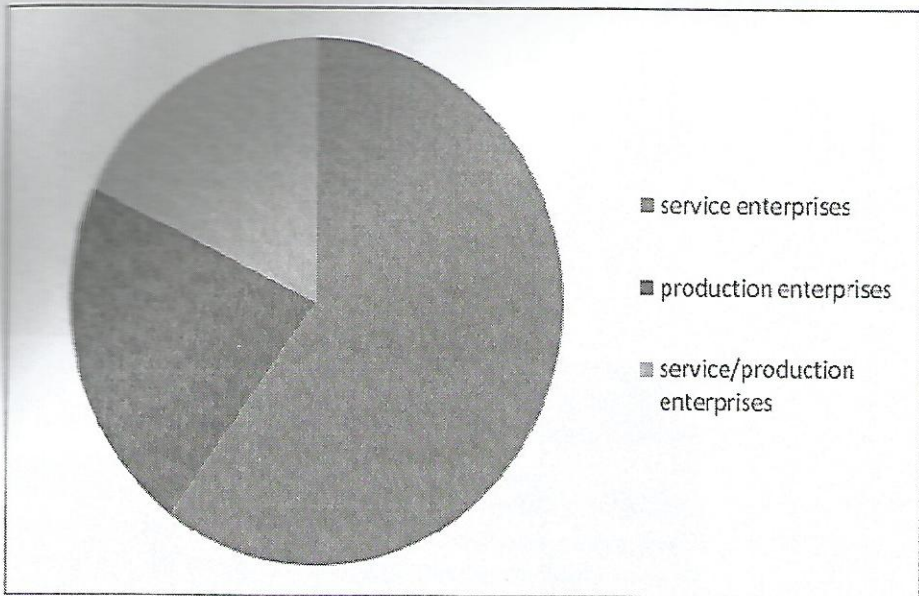


**Fig. 3.** Organizational-legal forms of examined enterprises

*Source: own elaboration.*

Analyzing Figure 3, it can be seen that most of the examined enterprises (41%) is run by natural persons, 30% are limited liability companies and 18% are joint-stock companies, other organizational-legal forms comprise 11%, they can be a general or private partnership.

Figure 4 shows that 60% are service enterprises, 22% are production enterprises, and 18% are service/production ones. This is reflected in real life as most small enterprises provide services (e.g. shops) or combine services with production (e.g. bakeries, restaurants.)



**Fig. 4.** Forms of activity

*Source: own elaboration.*

For the analysis of the small and medium enterprises sector for their opening to innovations as a scientific method a questionnaire with closed questions was used. The results are presented in Table 2.

**Table 2.** Opening to innovations – research results

Question	yes	no
Are innovations implemented in the enterprise?	81,5%	18,5%
Are new technologies implemented in the enterprise?	81,5%	18,5%
Does the entity create technologies itself.	78%	22%
Does the entity buy technologies?	70%	30%
Are new procedures and production processes implemented in the enterprise?	63%	37%
Are new products introduced in the enterprise?	82%	18%
Does innovative management occur in the enterprise?	52%	48%
Are the ways of managing people changed?	60%	40%
Are motivation systems changed?	56%	44%
Are procedures (ways of action) changed?	52%	48%

*Source: own elaboration.*

Analyzing the data included in Table 2, it can be seen that in 81% of examined enterprises innovations are implemented in the form of new technologies and products. While implementing new technologies, 78% of examined enterprises stated that they create technologies themselves and 70% that they buy technologies. A certain inaccuracy can be noticed here as the total

should be 100%, however the remaining difference may include the percent of such entities which create and buy technologies at the same time. The best-known are product innovations and the highest percentage here, as many as 82% of examined enterprises, stated that they implement new products. Whereas, in 63% of examined enterprises changes in the production procedures are implemented.

As for innovations in management, 52% of examined enterprises declared that they are implemented as well. Innovative management is reflected in the change of management ways, motivating and procedures. A conclusion can be drawn that the managers in charge of small and medium enterprises where the innovative management is implemented are aware of what it is (implementing innovations in the management occurs in 52% of examined enterprises, changes in the management, motivating and procedures also occur in more than 50%). It is worth mentioning here that in the highest number of examined enterprises, that is in 60% of them, as far as the innovative management is concerned the ways of management were changed.

As for the frequency of introducing innovations in the examined enterprises, 48% answered that it happens once a year, 32% that once in a few months, and only 20% that once in 6 years.

The last question addressed to the managers of the examined enterprises was about the areas in which innovations are the most frequent. The results are shown in Figure 5.

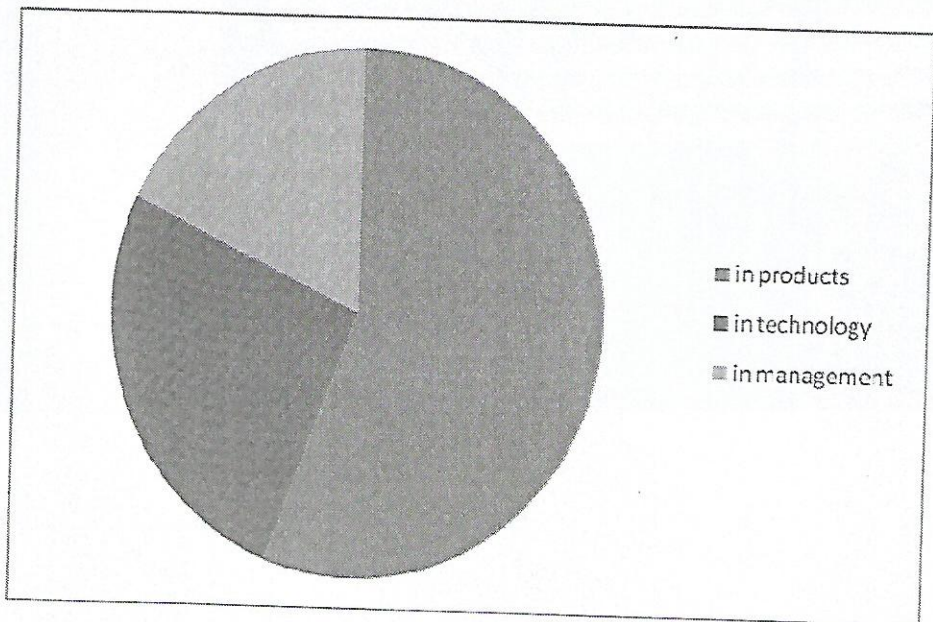


Fig. 5. The areas with the most frequent introduction of changes

Source: own elaboration.



The last question was to find out which areas of innovations are used in practice most often. The answers to this question confirmed the statements included in Table 2. The area where innovations are most frequently introduced are products, next technologies and finally management.

## 5. Conclusions

Opening to innovations is a very important factor deciding about gaining a permanent competitive advantage by enterprises. The innovation can aim at three directions: products, technology or management. The most effective is introducing innovations systematically and integrally (it means in all the areas mentioned.) The research showed that in the SME sector product and technology innovations are widely introduced. Some insufficiency can be seen in the innovative management. Despite the importance of the innovative management in achieving high efficiency and effectiveness, in practice it is not present in all enterprises. It is also difficult to estimate to what extent the owners of small enterprises are aware of this management method. Moreover, nowadays most of managers claim that they are masters of innovation and treat themselves as inventors. And this is why they don't see that they are deficient in the area of management. Looking for breakthrough concepts, they may find themselves in a dead-end situation, nonetheless history teaches us how to achieve success in this area by following four ways [10, p. 76-81]:

- a recipe concerning strategy – expand the scope of search, enlarge the range of activities,
- a recipe concerning processes – make the systems of planning and control more flexible,
- a recipe concerning management – create conditions encouraging contacts between a team of innovators and individuals representing the main current of company's activity,
- a recipe concerning qualifications – choose people for their leadership and interpersonal abilities and support innovators by creating around them a culture of cooperation.

The enterprises that want to avoid traps should expand the scope of searching for new ideas, make flexible control and structure procedures which are too rigid, ensure communication between innovators and the company's representatives as well as improve the employees' communication and cooperation skills. For innovations in the management to be successful, the following rules must be obeyed: be courageous, establish a plan of innovations, create a company as flexible as the change, popularize innovations, let everyone do their best.