

Innovation Strategies Used in Economic Activity

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Abstract The purpose of the article was to analyze available innovation strategies used by entrepreneurs in running a business activity. In total, the work has a theoretical character, with a significant part of the material characterized by a tabular or schematic form. The first component of the work is a concise introduction to the subject matter, then the second part of the paper discusses the aspects concerning the definition of the word strategy. The third - the main part of the article, based on the subject literature, is devoted to the analysis of innovation strategies. This part of the study has been divided into four sub-parts, including: comparative analysis of innovation strategies by B. Twiss and Ch. Freeman; the fifth and sixth generation innovation model; introversion vs extraversion strategies as well as innovative development strategies. The whole of the considerations is concluded with a summary.

Keywords Economic Activity, Innovation, Strategies

1. INTRODUCTION

Innovation strategies are a key concept not only in all theories of innovation, but are the main subject of reflection on the functioning and development of enterprises. This is because innovations are currently the main determinant of achieving a sustainable competitive advantage [19]. This in turn enables enterprises to achieve differentiated benefits, which in consequence may lead to business success, manifesting itself as: the market leader.

The creator of the term innovation - J. A. Schumpeter, believed that entrepreneurs will be forced to innovate to gain a strategic advantage. The observed situation in the modern economic arena can only confirm the rightness of the statement. Innovation, by Schumpeter, is understood as the creation of new profitable solutions [18], [22]. However, P.F. Drucker in his scientific journals describes innovation as a specific entrepreneurial tool - an activity that gives resources new opportunities for wealth creation [6].

Bearing in mind the arguments quoted above, it should be stated that having multi-faceted knowledge in the field of innovation is extremely important for students of economic faculties, entrepreneurs as well as all market participants. This article is an attempt to explore one of many important issues of innovation, namely, it is about innovation strategies. The aim of the study was to

thoroughly analyze the innovation strategies used in business. The determined goal was decided to achieve by using the following research methods: literature analysis and comparative analysis.

2. PRESENTATION OF THE STRATEGY TERM

When characterizing innovation strategies, it is necessary to define what a strategy is. The Polish dictionary mainly refers to the military strategy, but it can be found the definition of strategy as a forward plan of action [7]. The word strategy itself comes from Greek, derived from the phrases *startos*, which means the army and *agein*, and that is - to command. At the beginning of the functioning, the term *strategos* referred to the leadership of the army and the creation of a battle plan. Nowadays, looking at the free market one can get the impression that the enterprises strategy is a kind of creating a plan to fight against competition.

A. D. Chandler defined the strategy as long-term goals that are related to the essential steps, and these are an important element in achieving the adopted goals [11].

Harvard professor and long-term editor of Harvard Business Review, Kenneth Andrews, stated that strategy is a pattern of decisions that are made in the company, that set goals and form the main policy with plans [1].

R. W. Griffin wrote that the correct strategy focuses on the following factors:

1. scope of the strategy - a set of markets on which the organization will compete;
2. distribution of resources - the way in which the organization distributes its resources among different uses;
3. a distinctive competence - what the organization does particularly well;
4. synergy - the way in which different areas of the company's activity complement or support one another [10].

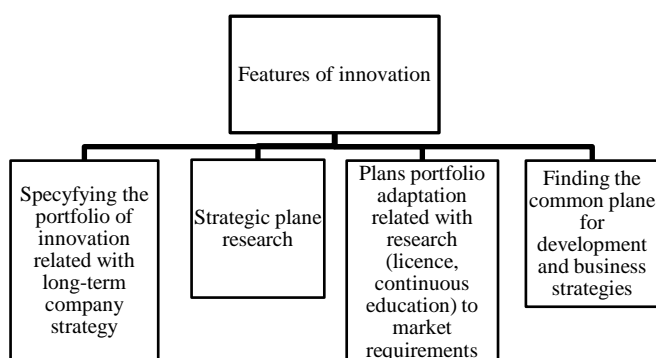
M. Romanowska stated that the implementation of the strategy is a series of tactical and operational activities that define the company's approach to the issues of investment, marketing, structures or procedures. The effect of such an action is to build an appropriate strategy and verify its course [17].

3. ANALYSIS OF INNOVATION STRATEGY

If the innovation strategy is related to a product, then its planning and implementation operates on the level of two types of strategies. The first of them is connected with innovative guidance, consisting in continuous and systematic introduction of new products to the foreign market. The second one refers to imitation, therefore reaction to the innovator's actions [12].

Innovation is strongly associated with the strategy, as shown in the chart 1 below. It should be noted that in every aspect relating to the characteristics of innovation, strategy or planning is an indispensable element. This proves that well-thought-out management policy and long-term plans can bring about results in the form of innovative success.

Diagram 1. Features of innovation



Source: Own study based on: [13].

The strategy is a very important factor in building success, and its omission may lead in extreme cases to the collapse of the business entity.

3.1 Comparative analysis of innovation strategies according to B. Twiss and Ch. Freeman

B. Twiss characterized eight types of strategies to promote innovation. The first of these is the offensive strategy, which is characterized by high risk, but in the case of success, the company can achieve substantial profits. An important element is the research and development department, which is focused on innovation. The marketing and production departments also play a relevant role here. The opposite of an offensive strategy is a defensive one. There is both low risk and low profits. The company is focused on minimizing costs. This strategy does not require the design and implementation of new products. The next element is the purchase of license, which allows the company to obtain technological innovations. The economic entity uses the experience, products and achievements of other enterprises, instead of working and developing their own. The strategy is effective against business entities that have large financial resources.

Another strategy described by B. Twiss is the strategy of avoidance, in which the enterprise tries not to compete with the entity operating in the same market. The author also drew attention to the creation of the market, which refers to the creation of new products thanks to which completely new markets are being built. This situation is determined by the use of technological innovations. The creator also distinguished an independent strategy, which he referred to improving the existing product, thanks to the use of innovation. The effect of this is to replace the old product from the market.

An important element is also the acquisition of highly qualified personnel by employing employees/specialists from competing entities, thanks to which the company can use the knowledge of a business rival.

The last strategy is the one referring to the acquisition of other business units, which may involve the acquisition or merger of smaller entities [21].

Ch. Freeman presented a different concept in which he included six types of strategies. Freeman's idea is presented in table 1.

Table 1. Types of strategies according to Ch. Freeman

The type of strategy	Characteristics of the strategy
Offensive	Its task is to become a leader thanks to innovations such as the introduction of a new product or the modification of an existing one. This strategy is based on the following factors (or their penetration): contacts with representatives of special knowledge, own research facilities.
Defensive	The company is not pioneering in the production of a new product / process, but at the same time it is trying to follow the wave of technical innovations without lagging behind. This type of strategy is active (like offensive strategy) for innovation. The company observes and follows innovation pioneers in order to eliminate mistakes made by innovation leaders. Thanks to this approach, an economic entity can take over part of the newly created market by introducing an alternative to an innovative product.
Imitating	It is associated with the delayed following an entrepreneur using an offensive strategy. It depends on market conditions in which an imitating economic entity functions. In this strategy, solutions proposed by a competitive company should be quickly implemented. The strategy builds the advantage by achieving lower costs.
Subsidiary	In other words, it is referred to as a satellite, associated with the acceptance by an enterprise of the position of an active co-operator or other type of position that characterizes the enterprise as a subordinate to a stronger economic entity. Practically no own research works are carried out, no attempt is made to implement changes with the model of other entities. The partner's knowledge is used.
Traditional	In this strategy the product / process is practically not modified. The strategy is used by companies that do not see the need to change the product / process, because customers are satisfied with the existing state and competition does not put pressure on changes.
Bargain	It is related to the use of opportunities that arise in the event of a gap in the modified production sphere. Such a gap has not been noticed so far by the competition. The company that first sees this situation can function well for a long period of time. An important factor is research and development and long-term planning.

Source: [9].

It can be seen that both B. Twiss and Ch. Freeman analyzed similar areas in part of their research. The table below presents the similarities and differences between the two authors.

Table 2. Comparative analysis of the concept of innovation strategy according to B. Twiss and Ch. Freeman

B. TWISS		CH. FREEMAN	
The type of strategy	Key words	The type of strategy	Key words
Offensive	Big risk, big profits	Offensive	Becoming a leader
Defensive	Small risk, small profits	Defensive	Following the pioneers
Purchase of a license	The use of knowledge of other enterprises	Imitating	Delayed following an offensive enterprise
Avoidance	No competition with other companies	Subsidiary	The use of partner's knowledge
Market creation	Introduction of new products creating the market	Traditional	No changes in the product
Independent	Improving an existing product	Bargain	The use of the gap in the modified production sphere
Acquiring qualified staff	Acquiring employees of other units		
Acquiring other entities	Mergers, acquisitions		

Source: Own study based on: [21]; [9].

The above comparative analysis shows that the common denominator for both researchers is the offensive and defensive strategy. However, it is related only to the convergence of names. B. Twiss and Ch. Freeman understood both strategies a bit differently. The first one referred directly to profits, while the second one to take a position on the market. A common ground can be the strategy of avoiding and using the partner's knowledge. In both cases, enterprises do not compete with each other on the market. It can be said that B. Twiss's theory is more aggressive, and two strategies may be testifying to this, which concern the employment of competition employees and the taking over of enterprises.

Within Twiss's offensive strategy, P.F. Drucker introduced the four types of it that are associated with being the strongest and taking a leadership position by the company. Undeveloped space that can be used should be searched. Another approach is to find and use a specialized ecological niche and economic change of properties of the product, market or industry [15].

3.2 Innovation model of the fifth and sixth generation

An interesting view on the innovation process was presented by R. Rothwell, who presented the fifth generation innovation model [5], [2]. It shows that innovation is a multifactorial process that operates due to the existence of dependencies between external and internal factors. These elements are co-organized by computer networks. A new factor appears in Rothwell's vision, namely computer technology. The characteristics of individual generations are presented in Table 3.

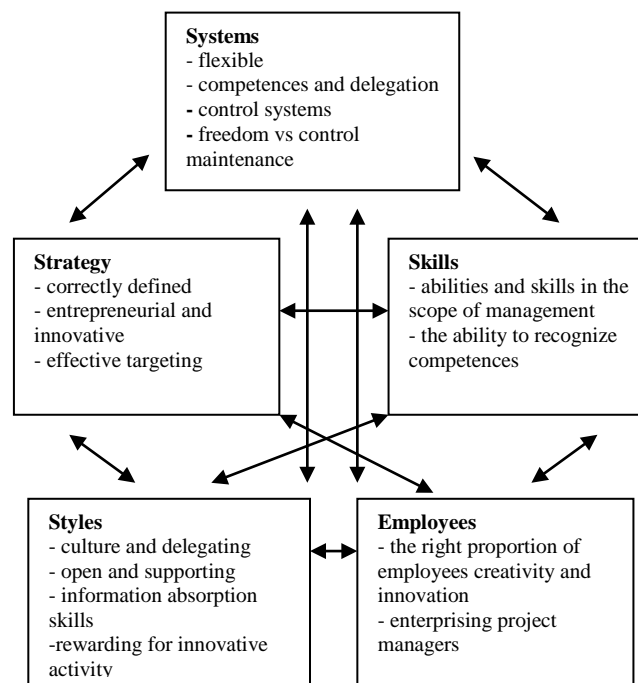
Table 3. R. Rothwell's innovation models

Generation	Basic features
First/Second	Linear model - supply model, demand model
Third	A related model, assuming the interaction of various elements and feedbacks of information
Fourth	Parallel model, internal integration of the business unit and cooperation with suppliers and recipients, emphasis on connections and alliances
Fifth	Integrated system based on network connections: flexible, based on response system related to the consumer, continuous innovation

Source: [20].

At the beginning of the 21st century, a significant change in the method of creating innovations by enterprises was noticed. The key is not only knowledge that is in the possession of an economic entity, but also the one that can be obtained from the environment. The new way of constituting innovation is referred to as the VI generation model. It is shown in Diagram 2.

Diagram 2. The VI generation model



Source: [4].

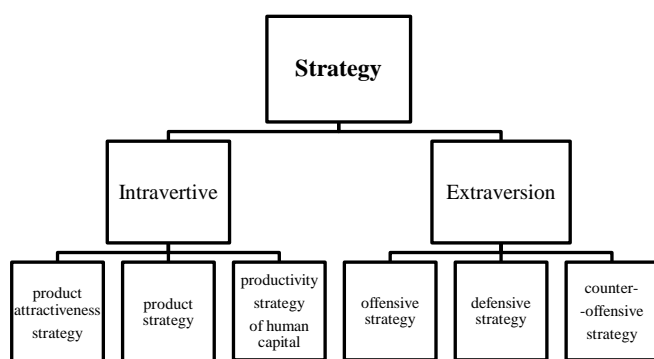
In the above-mentioned model, two elements are important: the internal potential of the company and the ability to acquire knowledge from the environment. The first factor is created by: systems, employees' skills, styles and strategies. It allows us to use the resources of the company. In the sixth generation model, it can be seen that there is a parallel interaction among all factors of the process of creating innovation.

3.3 Intravertive and extraversion strategies

In the space of research on innovations, there is also a division into two groups of strategies: intraversion and extraversion. The first one includes, among others, the product attractiveness strategy and product strategies that are important from the perspective of added value. The last element belonging to this strategy is the productivity of human capital and capital resources (resources involved, the so-called vector of resource development). The extraversion strategy refers to an offensive strategy related to entities that have

a special position on the market, resulting from a significant competitive advantage (priority of using the sources of the innovative factor). In the aspect of extraversion strategy, there is also a defensive strategy that concerns market leaders protecting their position by striving to strengthen their position. The last element included in this kind of strategy is counteroffensive strategy, which leads (at a specific moment) to modification and development of products in order to prolong their life cycle in the market, development of "hybrids" that aim to associate elements of existing and new technologies, transition to the higher level of sales compared to a competitor, financial exhaustion of competitors, as well as "acquisition" of key personnel of competing enterprises. The above groups are presented in the diagram below.

Diagram 3. Intravertive and extraversion strategy



Source: Own study based on the literature of the subject.

3.4 Innovative development strategies

Table 4 presents the synthesis of the typology of innovative development strategies. Therefore, the most important elements regarding the classification criteria, types of strategies were collected and there is also a short description of them.

Table 4. Synthesis of the typology of innovative development strategies

Classification criteria	Types of strategies	Characteristic
The goals of innovation	product, process and organizational	new products, new functional features, new processes, modernization of old processes, implementation of new organizational systems, increase in management efficiency
Factors of innovation	R + D	development of own R & D base, cooperation with external R & D units
	purchase of a license	purchases of domestic and foreign licenses
	staff training	creating own intellectual potential, occasional education; shortening the innovation cycle
Ways of implementing innovations	pioneer	isolated, bound, market leader
	imitative	isolated, bound, cost leader
A reference to ecological problems	cost reductions	cost reductions at the producer and operating costs at the customer's
	improving	production of ecological

Market	quality	products
	greening	greening of products, processes, packaging
	customer education	permanent, occasional education, constant contact with the client, convenience in purchasing consumer goods, shares of "eco" products
searching for new markets		
	maintaining old markets	

Source: [3]; [23].

As we can see, each of the abovementioned strategies does not function spontaneously, because specific relationships can be noticed among them. The enterprise (sector), defining and implementing a given innovation strategy, determines the fundamental factor in its implementation. The consequence of such a process is the fact that the remaining factors of other strategies are subordinated to the overarching strategy [8].

In implementing the development strategy, it is important to analyze both the main and strategic goals. Establishing them will allow us to manage our innovation strategy in a better and more effective way. An example will be the analysis of objectives (table 5) in the Polish economy for the Mazowieckie Voivodeship, which was selected due to the highest rate of innovation [14].

Table 5. Strategy goals tree

MAIN OBJECTIVE		
An increase in Mazovian innovation, leading to acceleration of growth and increased competitiveness on the EU scale		
STRATEGIC OBJECTIVE I Increase and strengthen cooperation in innovation and innovation development processes	STRATEGIC OBJECTIVE II An increase in internationalization focused on the development of innovation in the Mazowieckie voivodship	STRATEGIC OBJECTIVE III Increased effectiveness of support and financing of pro-innovation activities in the region
STRATEGIC OBJECTIVE IV		Shaping and promoting pro-information and pro-entrepreneurial attitudes conducive to creativity and cooperation
STRATEGIC OBJECTIVE V Development of the information society		

Source: [16].

In this case, the main goal will only be realized if the second-order goals are met, namely the strategic goals. Three of them refer to processes that effect in increasing innovation. The other two focus on providing the potential for innovation, which is built through shaping attitudes and developing knowledge in society. It is worth adding that each of the strategic goals has also assigned an operational objective.

4. SUMMARY

Many modern enterprises, regardless of their size, owe their success to a large extent to innovativeness, and what is absolutely essential with it, is also an appropriate innovation strategy. Increasingly, the competitiveness of economic entities, and especially their competitive advantage, is determined not only by the possession of specific assets, but above all by the ability to use knowledge, experience, skills and technologies in such a way as to offer potential clients the better and more innovative products or services they desire.

It is important to approach system strategies in a systematic way. The result of such action is the integration between analysis and strategic planning. The sphere of these two elements is related to the company and its surroundings, which in effect provides a fundamental analysis of possible strategic situations.

The task of each company is to create a strategy for building and planning innovations, by analyzing development opportunities in obtaining new results and through investments in human capital and new technologies, etc.

It is worth paying attention to the fact that business strategies are an important element of innovation. Strategic management is a very important aspect in the functioning of entities on the market, because it requires advanced technology. Innovations implemented in such entities lead to changes in the model of implementation and investment of economic resources.

Summing up, on the basis of the theoretical analysis, it can be stated that the issue of innovation is multidimensional and extremely important for business entities operating on the market. In addition, when researching innovation strategies, it should be noted that there is still a need for further scientific research aimed at deepening the existing knowledge in this field.

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