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## DIVERSIFICATION OF INNOVATION ACTIVITY: CONDITIONS, DIRECTIONS AND TYPES

### ДИВЕРСИФІКАЦІЯ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ: УМОВИ, НАПРЯМИ ТА ВИДИ

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*Ковтуненко Ю.В. Диверсифікація інноваційної діяльності: умови, напрями та види. Науково-методична стаття.*

У статті розглядалися умови, напрями та види диверсифікації інноваційної діяльності. Показано, що диверсифікація інноваційної діяльності підвищує конкурентоспроможність підприємства на світовому ринку та направлена на зниження ризиків підприємства. При цьому, найбільші ризики виникають на малих та середніх підприємствах. Були виділені напрями та види зниження ризиків інноваційної діяльності через диверсифікацію. Диверсифікацію інноваційної діяльності можна охарактеризувати її синергетичним ефектом. Визначено, що використовувати диверсифікацію як метод зниження інноваційного ризику доцільно лише за умов не систематичності даного ризику, тобто для ризику пов'язаного з конкретним видом діяльності чи видом товару. У подальшому рекомендується поглиблювати вивчення диверсифікації сфери інновацій та розробляти унікальні види диверсифікації, які мали б практичну цінність не тільки для великих підприємств, але й для середніх та малих бізнес-структур.

*Ключові слова:* диверсифікація, інноваційна діяльність, ризики, стратегії, підприємство

*Kovtunenکو. Yu. V. Diversification of innovation activity: conditions, directions and types. Scientific and methodical article.*

The article deals with the conditions, directions and types of innovative activities diversification. It is shown that innovative activities diversification increases the competitiveness of an enterprise in the world market and aims at reducing an enterprise risks. However, small and medium-sized enterprises have the greatest risks. Directions and types of innovative activities risks reduction through diversification were highlighted. Innovative activities diversification can be characterized by its synergistic effect. It is determined that the use of diversification as a method of reducing innovative risk is only appropriate if the risk is not systematic, ie the risk associated with a specific activity or a product. In the future, it is recommended to deepen the study of the innovative sphere of diversification and develop unique types of diversification that would be of practical value not only to large enterprises, but also to medium and small business-structures.

*Keywords:* diversification, innovative activities, risks, strategies, an enterprise

**I**n today's faltering economic conditions, the problem of the same focus on enterprises' activities is increasingly emerging. Activities diversification is becoming more and more relevant every year as it allows a company to cover several markets at once and thus increase its operations security. The diversification strategy can be considered as the main guarantee of business success, and the innovative orientation of many enterprises requires the increase of theoretical knowledge in the field of innovative diversification.

#### Analysis of recent researches and publications

Many domestic and foreign scientists paid attention to the issue of an enterprise's activities diversification. Among them are the following: Bohachevska K., who considered theoretical approaches to defining the concept of "enterprise diversification" as an economic category; Korinko M.D. [2], who examined the theoretical and methodological foundations of diversification; Peredalo Kh.S., who analyzed the factors influencing enterprise's diversification; Tsohla O.O. who studied the diversification processes formation in enterprises activities; P. Kotler (2012) [5], who determined the diversification feasibility.

#### Unsolved aspects of the problem

In scientific sources, innovative activities diversification is considered only partially or without emphasis on the innovative orientation, the types and directions of innovative activities diversification are not clearly identified.

*The aim of this article* is to determine the conditions, directions and types of innovative activities diversification. In order to achieve this target, we have to solve the following problems:

- to give the explanation to innovative activities and diversification process;
- to define the conditions under which innovative activities diversification at an enterprise is expedient;
- to consider directions and types of innovative activities diversification.

## The main part

There are different viewpoints on the definition of innovation. In general, there are three main directions in interpretation of innovation:

- one an enterprise's processes;
- results of innovations implementation at an enterprise;
- changes in an enterprise's activities.

However, it is wrong to consider innovative activities only in the context of one direction of definition, since innovations are a complex concept and in some cases can show themselves differently.

The activities diversification process can be considered as a specific form of innovative activities, since the enterprise introduces a new form of activities or new products (service), and if such activities are not innovative at the macro level, then for an enterprise itself (at the micro level) it is an innovation.

In some Ukraine's branches, due to their modernization, business activities diversification is appropriate for the transition to an innovative path of development, which helps to increase resistance to changes and updates in the market and in the legislation.

Also, innovative activities diversification increases an enterprise's competitiveness in the global market, which is reflected in the reduction of innovative risks, reduction of costs in related industries and overall economic growth.

If we pay attention to enterprises' practice in other countries, it has shown that such an approach, with a competent organization, can succeed and is possible for Ukrainian business.

Innovative activity diversification can be defined as location of investments in different types of assets that almost do not intersect in financial terms. Otherwise, diversification can be defined as attracting funds from different and unrelated sources. Diversification has a negative effect – it reduces an enterprise's overall profitability, but at the same time reduces a sharp decline risk in the income.

Diversification will not be effective if there is a large correlation between financial assets. Therefore, as a rule, diversification involves the financial assets presence that move both in parallel with and against market trends, as well as the foreign assets presence, as the economy of different countries often develops not equally [2].

In general, diversification can be defined as the expansion of the assortment, modification of goods or services provided by the organization, the development of new areas of production in order to increase its efficiency, preserve an enterprise's profitability and prevent possible bankruptcy. This definition shows that the diversification process is complex and not only involves the transition to new technologies, but is closely linked to new management and marketing systems.

Not for all businesses, diversification will have an equally positive effect and will produce the expected results. In his writings, Kotler argued that diversification is only appropriate when the market is highly attractive and the SWOT-analysis company has the strengths to develop it [5].

In general, diversification of an enterprise's activities can be considered as one of the effective methods of protection against external risks. After all, if a firm has a narrow focus, any changes in demand or legislation can have significant negative consequences for the enterprise and even lead to bankruptcy, which could be observed during the 2008 economic crisis.

If an enterprise is engaged in diversification of its activity, then in case of problems with one type of product (or service), the losses can be covered by other types of products (services) or, even, completely switch to economically profitable activities, which is already formed and operates at the enterprise.

The question of the need for innovative activities diversification arises even if the company deals with risks that cannot be influenced: political, market, etc.

It should be noted that, although innovative activities diversification is aimed primarily at reducing an enterprise's risks, it can have the opposite effect.

This situation can arise if an enterprise implements innovative projects in relation to such sphere of activity, in which the enterprise has little or no experience at all. Such projects may fail to bring the desired profit due to the limited opportunities that they contain.

As a result, an enterprise will not only protect itself with a new line of business, but will also be forced to cover losses from a failed project.

In general terms, innovative activities risks can be defined as the possibility of losing money invested in the development or production of new types of goods or services, the introduction of new types of technology and technology that will not have the expected effect and profit. Small and medium-sized enterprises have the greatest risks. Large enterprises have more opportunities to protect their operations, and therefore the risks are much lower. However, no enterprise can completely eliminate the risks, since there are no absolute guarantees of success. The main reason for this is the external factors presence that can not be influenced by an enterprise, regardless of its size and the industry in which it operates.

The most common innovative risk is the lack of demand for new products (services) or for manufacture products on the basis of new technologies. The main problem is the lack of quality of the goods to the consumers' expectations [6].

Thus, the manufacture of a new product type or the services provision on old equipment can lead to a decrease in the quality level, as the old equipment is not technically capable of providing the required quality.

In turn, when developing a new product (service) on new equipment, there is a risk that such a product (service) will not have the demand at all or the new equipment will not meet the technical level necessary to produce a new product (service). In this case, it is very difficult to even partially return the investment in an innovative project, because even selling new technologies that do not meet the requirements is unlikely to succeed.

Let us consider in detail the types of innovative risks that can be minimized through diversification:

1. Failure to choose an innovative project. This risk arises from the inconsistency of the expected results from the chosen development strategy actually obtained, as well as incorrect prioritization of different types of innovation. This situation may be the result of mistakes in assessing the long-term interests of an enterprise's owners. Especially the risk is inherent in the cases of own innovative development, not for a specific purpose, but at the initiative of the research unit, which often overestimates the value of its development and, as a consequence, most of the innovation cannot be involved in an enterprise's activities.
2. Insufficient funding for innovative projects. The following situations may occur:
  - a company cannot attract investors, that is, interest them and convince them in the proposed innovative project efficiency;
  - due to non-fulfillment of an enterprise's financial plan, it becomes impossible to self-finance the innovative project;
  - due to creditor solvency reduction, external sources of the innovative project financing are reduced.
3. Marketing risks. These risks are related to the technological feature of innovative projects. To develop them, it is often necessary to use unique equipment and the organization faces the problem to find suppliers of such equipment. Suppliers of materials, equipment, resources, etc. required for a project may also refuse to fulfill their obligations and a project cost of will increase as it will not be possible to purchase everything needed at the price set in the project, which in turn will reduce the economic impact of the project. The same consequences will have a delayed and poor quality of the suppliers' responsibilities.
4. Non-performance of economic agreements. This risk covers all cases where the terms of the contracts are not fulfilled by the fault of the partner or third party: a partner's refusal to conclude the contract after negotiations; loss of a partner's solvency and, as a consequence, inability to fulfill his/her obligations; partne's failure to comply with establnished deadlines and quality level, etc.
5. Better competitive environment. The main reason for this risk can be considered manufacturers' emergence in the market from other industries that offer similar products, which can replace innovative products by satisfying the consumer [7-9].

The directions of innovative activities diversification can be different and depend on what risks they have to overlap. Let's consider in Table 1 the examples of diversification trends based on specific risks.

Table 1. The areas for reducing the innovative activities risks through diversification

| The risk type  | The reasons   | The risk factors  | The compensation methods  |
|--|---|---|---|
| The development direction is wrongly selected  | The incorrect evaluation result obtained during the study; false marketing  | Incomplete or poor scientific and technical information; experts' mistakes in choosing the methods of research results implementation; lag of applied science development from research results         | Diversification of scientific and technical information sources; expanding contacts between researchers and consumers of innovation |
| Failure to obtain the necessary materials due to suppliers' failure to fulfill their contractual commitments | A supplier's failure to fulfill his/her responsibilities (unforeseen circumstances, financial problems) or the supplier's rejection from his/her responsibilities (or change of conditions)   | Instability of a country's economic situation, sharp fluctuations in prices and exchange rates, differences in income dynamics of different population groups, lack of legal and contractual conditions | Supplies diversification and suppliers' expansion   |
| Impossibility of manufacture products realization  | Decrease in the population's needs for this products type, goods-substitutes appearance on the market, products moral deterioration, decrease in the level of potential consumers' income, lack of reliable information about the necessary market segment in an enterprise | Technological and technological progress, high-tech products replacement with simple ones, foreign products import  | Diversification of manufacture, sales structure   |

Source: authors' own development

As it can be seen from the Table 1, the direction of diversification directly depends on what risk it has to compensate. Thus, in order to minimize the non-fulfillment risks by suppliers of their contractual obligations it is expedient to introduce diversification of supplies and for risks from manufactured products – diversification of production and sales structure. In general, diversification can be used for any part of an enterprise's innovative activities.

Figuratively innovative activities diversification can be classified according to the degree of novelty of innovation itself – the more unique innovation; the more tangible it will differ from the usual enterprise's activities. At the same time, one highlights:

- innovative activities fundamental diversification;
- innovative activities applied diversification;
- innovative activities improved diversification;
- innovative activities modificational diversification.

In addition, the innovative activities diversification can also be characterized by the indicators that characterize the innovation that underlies it: the direction of innovation, complexity of development, content of innovation development, scope of distribution, etc.

There are many types of innovative activities diversification strategies that allow for each enterprise to find such development model that would satisfy most requirements and needs of this enterprise to increase its stability to changes in the market.

The four main diversification types are distinguished in theory:

- vertical – existing products types expansion within manufacture;
- horizontal – products range expansion (manufacture of products that were not previously in the enterprise, but using existing technologies);
- concentric – manufacture directions expansion (taking into account the existing capabilities of the enterprise);
- conglomerate – new activities development that is not related to existing types of manufacture, technology, markets.

These diversification types are divided into two characteristics:

- By production-branch index – related and unrelated (depending on the association of innovation with the main enterprise's activities).
- By marketing index – existing and new consumers.

The main diversification types are presented in Figure 1.

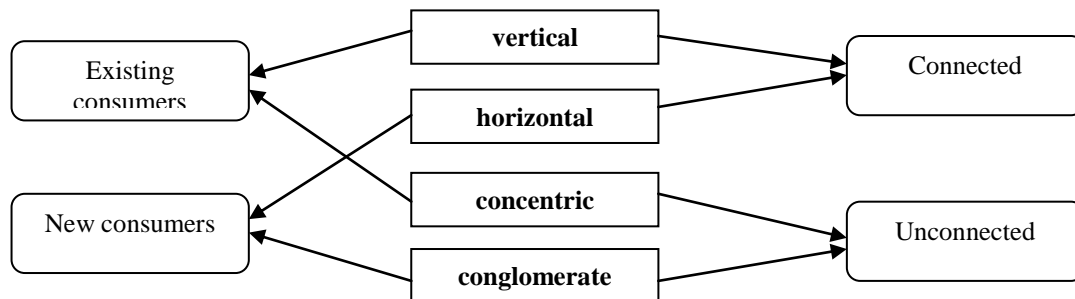


Figure 1. The main diversification types

Source: authors' own development

As it can be seen from the Figure 1, the most difficult is conglomerate diversification.

By applying the diversification types to an enterprise's innovative activities, it is possible to get that innovative development on the basis of related diversification will have the form of work on scientific and technical developments, or in other words, on new product types from elements already existing. In this case, innovative activities diversification will be expressed through the introduction of new technologies (e.g., the use of information systems), own R&D and the manufacturing process optimization [1].

In the Table 2 the examples of the correlation between innovative activities and diversification types are presented.

Table 2. Correlation between innovative activities and diversification types

| The diversification type | Innovative activities  |
|--------------------------|--|
| 1                        | 2  |
| Vertical                 | Manufacturing process optimization   |
| Horizontal               | Creation or improvement of new products types related to an enterprise's R&D and their further introduction into the existing technology |

Continuation of Table 2.

| 1            | 2  |
|--------------|--|
| Concentric   | Manufacture modernization and technological equipment of an enterprise in order to create innovative products    |
| Conglomerate | Transition to innovative activities, their organizational structure development and omanagement system formation |

Source: authors' own development

It should be noted that innovative activities conglomerate diversification is inherent in most large enterprises, as it requires significant investment in brand new areas of activities that small and medium-sized enterprises are unable to implement. In addition, this strategy is considered the most risky, but if successful with the help of a company will be able to significantly stabilize its position and avoid significant financial losses.

The following benefits of conglomerate diversification can be distinguished:

- the dependence on fluctuations in the industry is reduced, as new activities are unrelated and do not have common elements in the market;
- the ability to choose the most promising industries, that is, maximize the efficient use of enterprise resources through the transfer of funds from less promising industries to more promising ones;
- enterprise's stabilization of profit, as the decline in one industry, as a rule, is blocked by growth in another [3].

Some scientists also distinguish such types of diversification as:

- centered – similar to the horizontal one, but the difference is that resources and opportunities are borrowed from existing business, which are in a central position;
- diagonal –integration with an enterprise from another industry, which finds itself in a common technological chain;
- mixed (combined) – consists of vertical and horizontal diversification elements.

The grouped types of innovative activities diversification are presented in Figure 2.

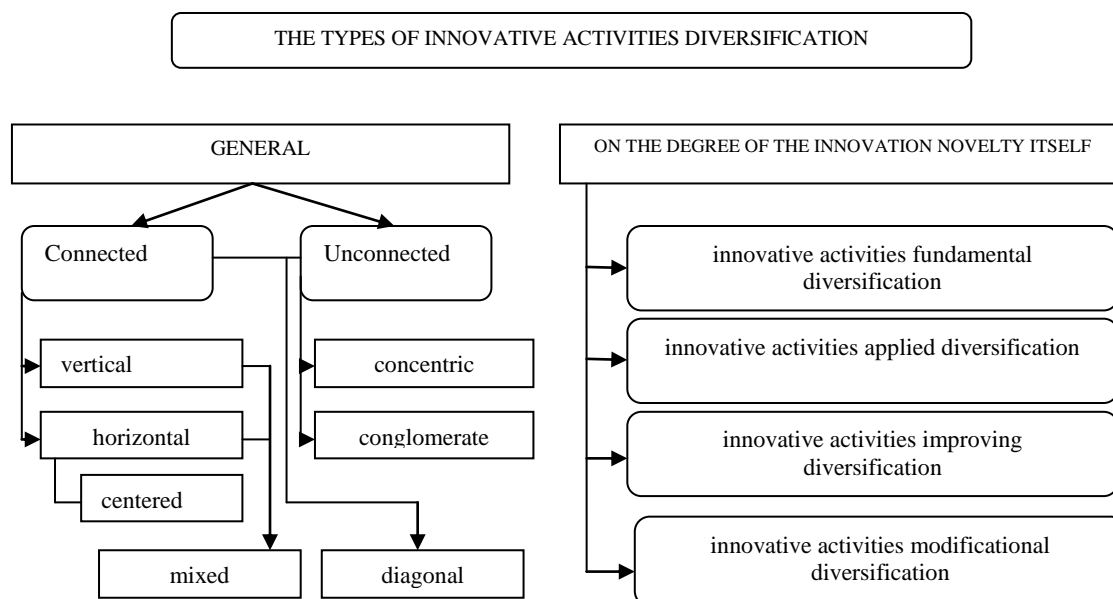


Figure 2. The grouped types of innovative activities diversification

Source: authors' own development

Innovative activities diversification is often defined as the capital and labour distribution among various unrelated venture projects. At the same time, the level of risk is determined by the localization degree of the venture project. By diffusing the venture projects areas, risk can be minimized so that even with significant loss of some projects, they can be cut off thanks to other projects that will be successful and profitable.

Unfortunately, in practice, only large economic entities and financial entities such as trusts, conglomerates, large industrial enterprises and others have a real opportunity to distribute investments on various independent projects. Most venture companies do not have enough money to invest in different projects at the same time.

Innovative activities diversification has a number of regularities: dynamic stability, transformation, an enterprise's stabilization profitability, imbalance elimination in the structure of the organization. At the same time, diversification in itself is a regularity of existence and an enterprise's innovative development [4].

Innovative activities diversification can be characterized by its synergistic effect, which is that the total profit from innovative activities diversification is greater than the sum of the income from individual areas of



innovative activities. This effect is achieved by reducing overall costs and investment, saving time on product manufacturing etc.

### Conclusions

As a conclusion it can be said that in modern scientific literature there is no unified approach to determining the types and directions of innovative activities diversification, is one of the main tools for reducing risks at an enterprise.

In general, it is advisable to use diversification as a method of reducing innovative risk only if the risk is not systematic, that is, the risk associated with particular activities or a product (service) type. Systematic risks cannot be avoided by activities diversification, as they arise for all market participants and cover all industries: changing investment climate of a country, cyclical downturn, etc.

Further, it is necessary to deepen the study in the innovative sphere of diversification and develop unique types of diversification, which should be practical value not only for large enterprises, but also for medium and small business structures.

### Abstract

In today's economy business diversification is increasingly relevant and it allows an enterprise to reach several markets at once and thereby increase the security of its operations. The types and directions of innovative activities diversification are not clearly identified in scientific sources.

The purpose of this article is to determine the conditions, directions and types of innovative activities diversification.

Innovative activities diversification increases an enterprise's competitiveness in the global market, which is reflected in the reduction of innovative risks, reduction of costs in related industries and overall economic growth. Innovative activities diversification is aimed at reducing an enterprise's risks.

Innovative risks can be defined as the possibility of losing money that was invested in the development or production of new types of goods or services, the introduction of new types of technologies and techniques that have not reached the expectations. Small and medium-sized enterprises have the greatest risks.

Innovative risks that can be minimized through diversification: the mistake of choosing an innovative project; insufficient funding for innovative projects; marketing risks; non-performance of business contracts; increased competition.

It is possible to distinguish directions of risks reduction of innovative activities through diversification: wrongly chosen direction of development; failure to obtain the necessary materials due to suppliers' failure to fulfill their contractual obligations and the inability to sell the manufactured products.

Innovative activities diversification is often defined as the allocation of capital and effort between different unrelated venture projects. The risk level of is determined by the degree of the venture project localization. In practice, only large economic entities and financial entities, such as trusts, conglomerates, large industrial enterprises and others, have a real opportunity to distribute investments on various independent projects.

Use of diversification as a method of reducing innovative risk is advisable only in case that this risk is not systematic. Systematic risks cannot be avoided by diversifying activities, as they arise for all market participants and cover all industries: changing investment climate of the country, cyclical downturn, etc.

Further, it is necessary to deepen the study in the innovative sphere of diversification and develop unique types of diversification, which should be practical value not only for large enterprises, but also for medium and small business structures.

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