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# Innovation Transfer: Ideas and Developments in the Interpretation of Supply and Demand Functions

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**Abstract:** In this article it is considered features of the market of innovations, questions of formation of supply and demand on innovations and factors of influence on them. On the basis of the carried-out analysis offers and recommendations about improvement of the market of innovations in our country are submitted.

**Keywords:** innovation, market of innovations, primary and secondary market of innovations, demand for innovations, supply of innovations, market equilibrium.

One of the most important tasks of today is to further improve the mechanism of introducing scientific and technical achievements into production in order to modernize the economy of the Republic of Uzbekistan and ensure its competitiveness. Because in the process of globalization, our national economy is steadily developing towards the formation of a knowledge economy, like in advanced countries. The quality vectors of this process [1] are the system of innovations, improvement of the business environment, increase in the quality of education, and wide introduction of information and communication technologies into the economy. It is known that the process of innovation transfer is the main tool that ensures the efficiency of innovative activity and the expected result from this activity. This requires the study of the innovation market, the mechanism that ensures the process of innovation transfer, the determination of its specific features, the research of the different aspects of the demand, supply, competition and price formation that drive this market from other goods and services markets. It is even more important to study these issues in the conditions of limited demand for new technologies and inventions in the domestic market, low demand for the results of commercially promising scientific and technical activities by the real sector of the economy, incomplete formation of the market for innovative products [2].

The innovation market is a special type of dynamic market that is emerging and requires the exchange of goods and services that are the product of intellectual labor. Scientific ideas, news, works of art and literature, and various information are traded between sellers and buyers in this market.

The trade of scientific and technical developments occupies a large place in the market of innovations. In practice, goods and services such as new ideas, patents, licenses, know-how technologies are demanded and offered. The demand in the innovation market is made by all subjects of the economy: households, enterprises and the state, as well as foreign consumers. Households demand product innovations and services created on the basis of technological innovations in the secondary market. Taking into account that enterprises, like households, use innovative products in the implementation of their economic



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activities, they, like the state, show their demand by purchasing products and technologies in the primary and secondary market, that is, in the market of technological innovations (Fig. 1).

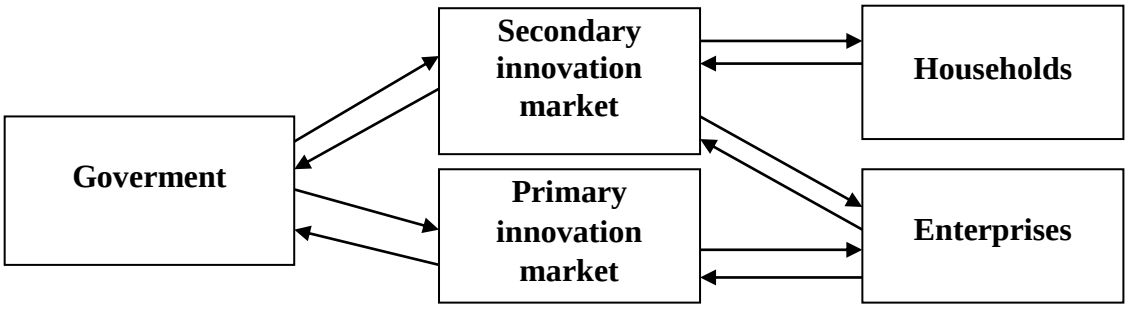


**Fig. 1.**

*Source: Developed by the author*

Household purchases of goods and services in the secondary innovation market serve to stimulate demand for technological innovation in the primary innovation market.

The offer by enterprises can be explained as follows (Fig. 2) with the strategic objectives of the demand for technological innovations.

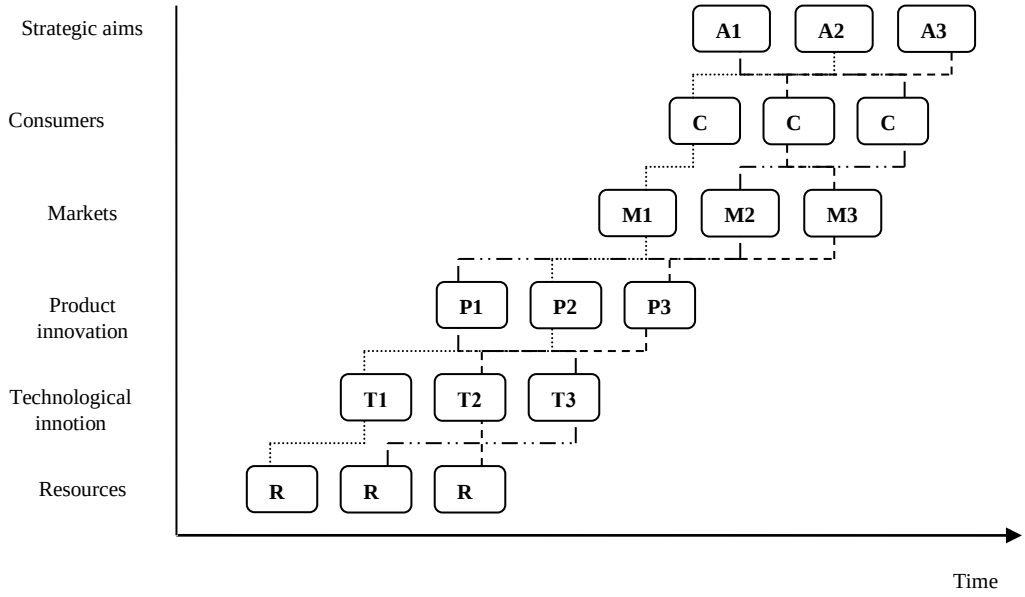


**Fig. 2.**

In this: Strategic goals: A1-entering the world market; A2-improving the image of the organization; A3-Leadership in the network.; Consumers: C1-joint enterprises; C2-small business and private entrepreneurs; C3-state enterprises; Markets: M1-foreign market; M2-regional market; M3-domestic market; Product innovation: P1-new product creation; Differentiation of P2-product; P3-product branding; Technological innovation: T1-creation of new technological lines; T2-modernization of current lines; T3-creating know-how technologies; Resources: R1-scientific and technical personnel; R2-material resources; R3-financial resources.

*Source: Developed by the author*



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The market for innovations, like any market for goods and services, has a demand function. Unlike other production functions [3], the proposal function is represented by the functions of foreign scientists F. Makhlup [4] and Paul Romer [5] (ideas production function). The demand function for innovations is a function that depends on their market price, production costs, market conditions, and market structure.

Taking into account the division of the innovation market into the primary and secondary innovation market, taking into account the demand side's participation in the innovation being created, free and bound demand functions can be distinguished in this market. The free demand function occurs in the case where the sales relationship between the buyer and the seller is carried out on a ready-made innovation. In this case, the demander, that is, the consumer, does not directly participate in the process of creating innovation.

And in the connected demand function, the consumer participates in the creation of innovations. This demand function is in the case of a contract model, where the requesting party participates in the entire process of innovation creation. In practice, the creation and application of these functions requires the collection and analysis of a large amount of information, and it is beyond the scope of this study. as a result of which the income obtained is higher than the income obtained in the market of the same goods and services without applying the innovation.

If we dwell in detail on the factors affecting the demand in the innovation market, the following can be included among them:

1. The cost of innovation. In the innovation market, the price is the most important factor influencing the volume of demand. As mentioned above, there is an inverse relationship between the price of goods and services offered in the secondary market of innovations and their demand.

2. Cost of substitute innovation. Changes in the price of substitute product innovations in the market of secondary innovations lead to changes in the demand for these products. No two technological innovations can be the same in the primary innovation market. Because the right to own this innovation belongs to the owner of the patent or certificate confirming this right, and other persons cannot own it.

3. Consumer income. Rising consumer incomes increase the demand for innovation. In the innovation market, the demand for technological innovations is directly related to the demand for product innovations. The income from the sale of goods and services forms the demand for technological innovations.

4. Number of consumers (buyers). The number of consumers is also one of the factors influencing the demand. The more consumers, the greater the demand for innovation.

In some literature [6,7], the large number of consumers and the existence of competition between them is recognized as the main factor that creates the demand for innovations. The presence of competition requires enterprises to produce improved or completely new goods and services. This forms the demand of enterprises for technological innovations.

Availability of international product advertising and information in the innovation market is also considered as one of the factors affecting the demand for innovations. These factors create demand for goods created in one country, and also demand in the country where the goods are not produced.

If we comment on the representation of the supply function in the innovation market, we believe that the supply of innovations is both free and bound. An increase in the cost of innovation stimulates the supply of innovation and causes it to increase.

In addition to price, the following factors affect the supply of innovations:



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1. The number of highly qualified scientific and technical personnel. Since the creation of innovations begins with the creation of ideas, their volume directly depends on the number of highly qualified employees in the field of scientific research.

2. Financial support of innovative activities by the state. The provision of tax incentives, grants and subsidies to enterprises that create innovations and introduce them to production stimulates the supply of innovations [2].

3. The level of development of the patenting system. Strict protection of the rights of the authors of ideas by the state guarantees the income they receive as a result of the realization of these ideas. This encourages the proposal of new ideas.

4. Number of producers (sellers). The relationship between the number of producers of innovations and the number of innovations is directly proportional, and the greater the number of producers, the greater the supply of innovations.

In the innovation market, the state of equilibrium between supply and demand occurs at the point of intersection of supply and demand curves in the conditions where the free demand function applies. The innovation fairs held in our country are the first steps towards the formation of the innovation market in this area.

Determining the price of innovations in the innovation market is relatively more complicated. In general, the cost of innovation can be determined between the total cost of innovation and the maximum profit from the sale of goods and services created as a result of the introduction of this innovation into production. When the connected demand function applies, the supply and demand graphs form a single point, and this point constitutes the price of the innovation.

From the above points, the following suggestions and recommendations can be made for the development of the innovative market in our country, the supply of innovations and the further revitalization of the demand for them.

1. To increase the standard of living of the population, to ensure the growth of incomes that remain at their disposal. It increases the demand for goods and services in the domestic market and serves to form the demand for technological innovations for enterprises.
2. Further improvement of measures to create a competitive environment in the economy;
3. Expansion of tax benefits for enterprises engaged in the creation and commercialization of innovations, as well as radically renewing production funds;
4. Continue to financially support scientific and technical personnel engaged in innovative activities;
5. Further improvement of the patenting system.

In conclusion, it can be said that the effective organization of the innovation transfer process is directly dependent on the level of development of the innovation market, which is the mechanism for implementing this process.

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