

## **OPEN INNOVATION AS A STRATEGIC MODEL OF MODERN BUSINESS**

*Nataliia Revutska, Assistant Prof.*

Taras Shevchenko National University of Kyiv, Ukraine

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### **Abstract**

The paper considers the characteristics of two models of innovation management in business: a “closed” and “open” innovation models. The traditional model of closed innovation suggests that it is created, used and developed within one company. The company concentrates all innovation processes within business, oversees its implementation and uses the results of own research and development. Formation and development of a knowledge-based economy requires shifting to a model of “open” innovation. This is due to the need of involvement in the process of new knowledge creating a wide range of professionals, academics and research centers from different countries and areas. Therefore, the possibility to organize a full cycle of innovation within a company is becoming increasingly difficult in an environment where innovation life cycle is reduced. Companies with “open” innovation transfer innovative processes to professional research laboratories, research centers and independent scholars. Inside the company stays a development department whose main task is the selection of the most promising start-ups, research proposals and their rapid commercialization. The concentration of innovation efforts of different participants of innovation chain development, the creation of conditions for the rapid completion of all stages of the invention into production will ensure successful development of “open” innovation model in the long term.

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**Keywords:** Business model, open innovation, strategic alliances, outsourcing

### **Introduction:**

The basis for the formation of a sustainable competitive advantage in business today is the need of effective innovation management and its transformation into a valuable market resource. In particular, the role of this strategic resource is increasing in the “knowledge” economy. However, the key problem of “knowledge” economy is not only the creation of new knowledge but also their applications in business. The processes of innovation management include concerted action of creation, protection, distribution and use of knowledge. It is necessary to choose an optimal model of innovation strategic management in modern business. The relevance of this problem is also related to the attraction of business to use partners’ forms of interaction. Complementary effect from such interaction is best developed in the management of innovation. The experience of business in recent years shows that it is difficult to hold leadership for long period of time only because of uniqueness and innovation that has only internal origin. Therefore, a change in the vector direction of internal (between different business units) and external (between the company and other contractors) knowledge transfer is observed. However, in some areas the external partners (customers, suppliers, competitors, etc.) can act as a valuable source of new knowledge generating that can be the basis for innovation.

To ensure effective functioning and sustainability of company growth, it is necessary to reduce the main stages of the innovation process: an innovative idea - the commercialization

of new products - investments in perspective radical innovation. At the same time, new forms of synergetic interaction between business, research centers and individual researchers appear. In particular, the spread of the global outsourcing model led to the increase of service and components providers' role not only as performers but also as co-innovators [1].

The purpose of this paper is to study the basic elements of the open innovation business model as the strategic perspectives of modern business.

Each company has its own characteristic of knowledge and innovation management model taking into account the specifics of its activities, the scale of production, organizational characteristics and corporate culture. In recent years there have been significant changes in the technology of forming a new model for managing innovation. The traditional model of the research and development (R & D) departments has been the most common for a long time. The company attracted leading experts, engineers and researchers who carried out a complete closed cycle of research and development processes. Thus, the characteristic of the traditional model of innovation management was that they are created, used and developed within a single company. This model of innovation management was effective because the company could concentrate all processes within business, monitor its implementation, and use the results of their own research and development. Schematic model of closed innovation is shown in Fig. 1.

But over time, the functioning of R & D departments has led to rapid growth of company's costs, while the output is not always possible to commercialize. In addition, the cost of new projects is significantly increased and their life cycle is much reduced. The need to attract new professionals resulted in enlargement of business as only big and thriving companies can afford powerful R & D. But gradually the company faced the situation that massive R & D budgets of technological leaders are not a panacea for the appearance of an ambitious "newcomers" who, not having the same resources and personnel, are gaining significant market share.

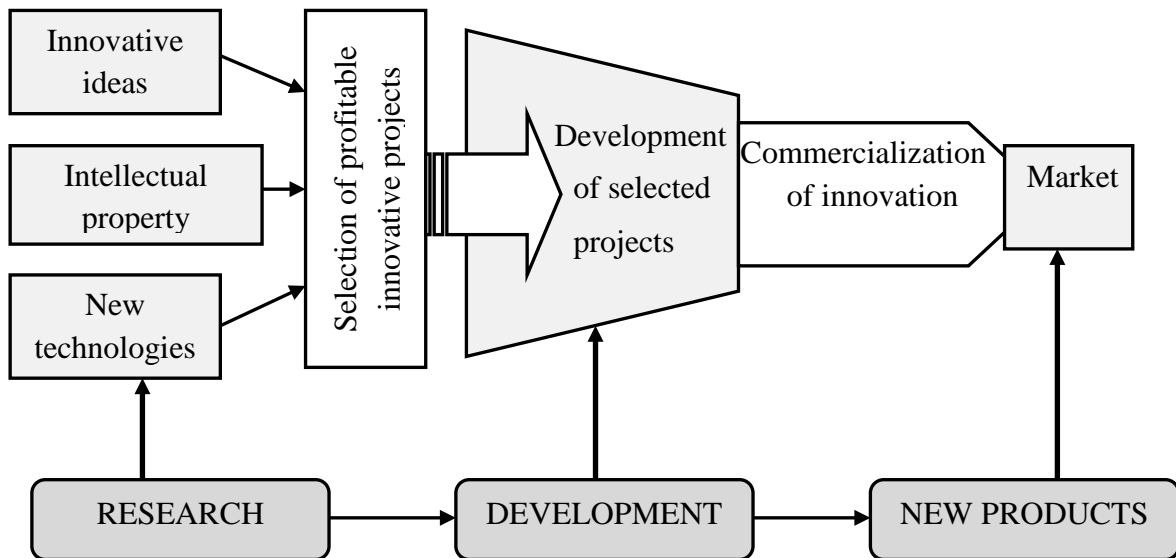


Fig. 1. Scheme of "closed" innovation business model(Compiled by the author based on [2])

In practice, there have been appearing companies, which in a short time by implementing a fundamentally different model of innovation, have gained leadership, and have formed a new group of knowledge economy's company. A striking example of the successful implementation of this model is the company Cisco Systems, which, having its own R & D department for a short time managed to oust the market leader of network equipment - Lucent Technologies Company. Managers of Cisco Systems formed a new model of knowledge and innovation management - open to the outside market. The company buys at

the market a result of development in the industry and invests significant financial resources in promising start-up projects. Cisco Systems has in its structure a department of acquisitions & development which ensures the open innovation model of the company. Thus, in the last 10-15 years, knowledge management model that was based on the internal research and development department transformed a full cycle into an open model of knowledge management and innovation. Its feature is that the company delivered professional processes to research laboratories, research centers and independent specialists. Inside the company there is the development department whose main task is the selection of the most promising start-ups and research proposals and their rapid commercialization. American researcher H. Chesbrough called this model as “open innovation” [2].

The model of knowledge management which corresponds to the concept of “open innovation” is characterized by two-level direction: internal vector involves bringing the company promising technologies from external developers and external – selling on market the results of corporate R & D in the form of start-ups, the rights to technological developments, which for any reasons are not claimed by the company (Fig. 2).

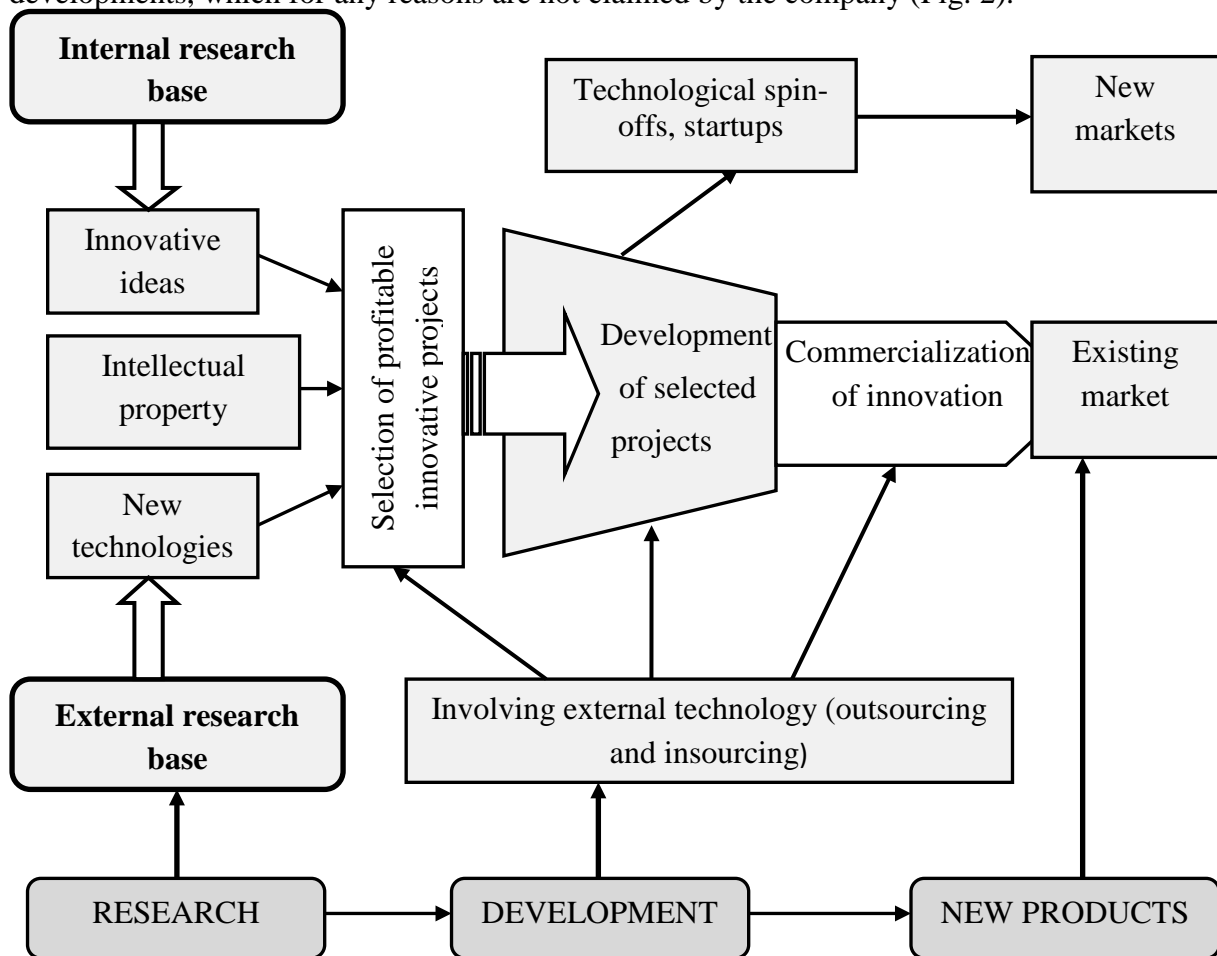


Fig. 2. Scheme of “open” innovation business model(Compiled by the author based on [2])

One of the tools of the open innovation model introduction is the use of Internet technologies. In particular, the practical realization of such a model is undertaken by Procter & Gamble. The company works with more than 1.5 million researchers worldwide through Internet communications except 9000 staff in research and development inside the company. It provided increased productivity of the company by 60%. The company organized and operates connect & develop department (“connection” means to work together to create new products with customers, distributors and other parties [3].

Another example of innovation openness is the acquisition by Facebook an image sharing application Instagram. The increased activity of users in the exchange of photos showed that the competition from other image-oriented social networking sites is increased. The growing dissatisfaction of the most users of Facebook mobile versions requires to search a quick solution to this problem. The acquisition of Instagram has allowed Facebook to save time and enhance competitive position without the need to independently develop similar application. Innovation through acquisition quickly get a tangible result.

The principle of strategic interaction as an external vector of new innovation management model involves “open” process of research and development, creation and promotion of the common market innovative products and technologies on the basis of interaction with its external contractors: suppliers, customers, competitors, innovation intermediaries and other innovative oriented business entities associated with it horizontally.

There is a whole community of scientists and amateurs called InnoCentive. It brings together more than 160 thousand talents, helping corporations around the world. Companies like Boeing, DuPont and Procter & Gamble publish on community pages tasks and issues that cannot be decided by their internal services, and any of its member or group of members can take up their decisions. The fee for a successful amateur decided task ranges from \$ 10,000 to \$ 100,000. According to statistics, more than 30% of the proposed tasks have been solved by the community. It is one-third of those tasks that could not be handled by the internal experts, with their experience and special education [3].

An example of such competitions in Ukraine is “Innovation Breakthrough 2013”. Its mission is to promote the development of innovative activity in Ukraine, to unite interests of investors, inventors and enterprisers for the successful implementation of new products and services. The aim of the contest is to increase the economic effectiveness of the business fields through the introduction of innovative ideas to Ukrainian investors [4].

In conditions of modern business almost no one can be successful and prosperous individually and independently. Knowledge, skills, innovation and professional staff are spread around the world. Experts are divided on many, often little-known tech companies or start-ups. In order that the company can be successful in the creation and commercialization of innovations, it is necessary to know and be able to use these global resources, narrowly specialized skills and widely encyclopedic knowledge, to be a functional part of the community for an open and a new process.

Comparative characteristics of “open” and “closed” models of knowledge management are given in Table 1.

*Table 1 Comparison of “closed” and “open” models of innovation management*

<b>Source of knowledge generation and innovation</b>	<b>Business function</b>	<b>Closed model</b>	<b>Open model</b>
Internal	Human capital management	Attracting the best talents in the business. Creation of internal research and development.	Permanent staff develops and selects startups. The results of research are acquired on the internal market or company involve the best specialists for them on a competitive basis.
	R&D management	Closed and full cycle “research-development-implementation (commercialization)”.	Short cycle “development – implementation (commercialization)”. Involving knowledge of high value from the external market.

	Business competitiveness management	Owning of the research and development result ensures primacy in the market for a long time period.	Market leadership ensured the selection of promising start-ups and their rapid commercialization.
		Leadership in innovation provides leadership in the market.	Leadership in results innovation value provides leadership in the market.
	Intellectual property management	Strict control over intellectual property and legal rights on it.	Open operations with intellectual property and rights on it. Generating new knowledge on the base of use of intellectual property by other companies.
External	Relationships management	Vertical cooperation with major research centers and laboratories.	Horizontal cooperation of different partners with modern Internet instruments.

An important condition for effective implementation of cooperation in the field of knowledge management is the infrastructural support of innovation. The elements of this infrastructure include:

- Innovation intermediaries;
- Centers for development of new products and technologies;
- Elements of financial support for innovation (venture capital funds);
- Coordinator of innovation (incubators);
- Advisory and educational centers.

An important tool for effective functioning of “open” innovation model is patent protection. Besides the fact that it is a legal instrument, patent protection becomes a powerful source of cash flow generation of innovation rents in “open” business model.

According to the World Intellectual Property Organization (WIPO), profits of companies owning many patents, in average of 5-8% are higher than the profit of resource concerns. For example, in 2012, the largest healthcare company Novartis AG earned more than \$ 4.9 billion on patent royalties, that is nearly a third of its budget. Almost all large companies in developed countries (IT-sector, medicine, telecom - that is knowledge-intensive areas) try to transfer the assets in the sphere of intellectual property. For example, at the end of 2012, the Intel Corp declared about willingness to spend one and a half times more on invention and innovation to increase the share of intellectual property by 65% of all assets [5].

Formation of open innovation models in business is positive for the economy in general, as it provides the positive process of modern and innovative technology transfer on the domestic market.

According to analysts of the European Commission, the gap between countries that have made a bet on innovation and resource-dependent countries will grow. The European Commission believes that by 2050 year such counties will be completely outside of the modern progress. In the past few years, competition around new technologies has escalated. Asian economies, led by China will try to catch up with developed countries in the area of innovation. In 2011, China registered 1.63 million patents, increasing this index for 2012 by 33 %. At this rate China will overtake the U.S. in the number of inventions already in 2025 [5].

The developed countries are trying to retain the intellectual leadership. In 2012, when the U.S. and the EU have begun to publish the doctrine of innovative development, it became

clear that the main source of funding is shifted toward the formation of research centers. In the United States is planned to establish scientific conglomerates that combine a whole regions and institutions in the same network. In the EU is planed to strengthen the financing of individual universities and organize them on the basis of the experimental laboratory. It is the concentration of innovative efforts of different participants in the innovation process and creating the conditions for the rapid completion of all stages of the invention to produce and ensure successful development model of open innovation in the long term .

### **Conclusion:**

The processes of creation and functioning of a modern knowledge economy cause the appearance of new knowledge management models of innovation. The transformation of companies in the open innovation business model is perspective from the standpoint of strategic development. They benefit from the rapid commercialization of their ideas and are able to enhance their experience through the dissemination of these innovations, among other companies in the market (startups and spin-offs). They also can obtain economic benefits from innovation rents due to patent protection and sales licenses. The business model of “open” innovation in Ukrainian business has great prospects in the field of pharmacology, chemistry and other areas where companies are able to produce innovative ideas which development is possible through direct market entry. Exactly foreign market should be a source of creative ideas, developments and offers, saving financial resources for the company. In addition, the model of “open innovation” provides the functioning of advanced outsourcing market. University education centers play an important role in the process of open innovation models creation; those centers may be involved in the chain of formation and commercialization of knowledge and innovation.

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