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INNOVATIONS IN TELEVISION FIELD: TRANSITION TO THE DIGITAL TELEVISION

The article is about significance of innovations and innovative process. It is investigated that the development of the innovative activity acquires a great importance for management innovations at the enterprise; the pre-conditions of the innovative are determined and the innovative implementation to the telecommunication market are studied. The role of the digital television as a new type of broadcasting technology, where the transmission, processing and storage of television signal takes place in a digital form and the actuality of innovative introduction in the telecommunication market is proved. The article provides analyses of advantages of digital technology over the analogue one. It is proved that due to active innovative activity the achievement of the commercial success of the organization is possible.

Keywords: innovations, innovative process, competitiveness, telecommunications, digital and analog television.

Raising of problem. Efficient functioning and competitiveness of organizations require development of company's capacity elements such as high quality logistical, structural-functional, social, labor, etc. Modern business activity is impossible without the ongoing analysis of the market, the highlighting of the major trends of its competitors and also without experience and investigation of the innovation potential of the company.

The aspiration of businesses entities to economic development always comes up against necessity of accepting innovation challenges. In the conditions of growing competition, the dynamism of the markets, of the constant changing of social and economic situation and the progressive development of new technology, active innovation at enterprises increasingly determines the success of entrepreneurial activity and accordingly, the process of innovation management acquires peculiar importance. New ideas and products, new technologies and organizational solutions help to enterprises to overcome crisis and ensure them the financial stability.

Analysis of recent researches and publications. For the last years such categories as "innovative development" and "innovative process" are widely reflected in the studies of Ukrainian scientists S.M. Illiashenko [1; 2], N.V. Krasnokutskaya [3], L.L. Antonyuk, A.M. Poruchnik, V.S. Savchuk [4] and foreign studies of P.F. Drucker [5], D.S. Evstafieva, N.N. Molchanov [6], A.K. Kazantsev, L.E. Mindeli [7]. The analysis of published studies on this issue gives grounds to say about that fact that a complete system of opinions regarding the category of "innovative process" has not been yet formed and its place in the entrepreneurial activity hasn't been yet established.

Various scientists define the concept of innovation, depending on the object and the subject of their research. For example, B. Twiss defines innovation as a process in which an

invention or idea becomes economic content. F. Nixon believes that innovation is a set of technical, industrial and commercial activities, leading to the appearance on the market of new and improved industrial processes and equipment. Schumpeter interprets innovation as a new scientific-organizational combination of production factors, motivated by entrepreneurial spirit. The analysis of the various definitions of innovation leads to the conclusion that its specific content consists of changes, and the main function of innovation is changing.

Previously unsolved issues as a part of general problem. Nowadays a number of issues of theoretical and practical character in the implementation and activation of innovative processes are unsolved and disputable, that determines the feasibility of further research in this direction.

The purpose of the article is to investigate the process of innovation in the telecommunications field of Ukraine.

Main material. The indispensable qualities of innovation are scientific and technological innovation and industrial applicability (Figure 1). Commercial implementation of innovation comes out as a potential feature, achieving of which requires certain efforts.

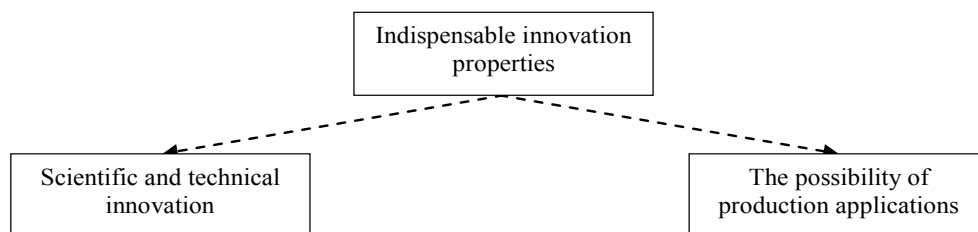


Figure 1 – Innovation properties

Scientific and technological innovations must be new, able to meet the market demand and bring profit to the manufacturer.

Mr. Kazantsev provides the following definition of the innovation: innovation is the final result of innovation process, which has received the implementation of a new or improved product, which is sold on the market, new or improved technological process, which is used in practice. Thus, the final result of innovation is a commercial success [7].

Of course, for success in innovation can't be reached without reasonable idea. Generally Peter Drucker identifies seven sources of innovative ideas [5]:

- unexpected event (for the enterprise or industry) – an unexpected success, unexpected failure and unexpected outside event;
- incongruence – mismatch between the reality according to our concept of it (the way it should be) and it's real condition;
- innovation, based on the needs of the process (under needs of process the shortcomings and “weak spots” that can and should be eliminated are meant);
- sudden changes in the structure of the industry or market.

The next three sources of innovation should be called as the external, since they occur outside of business or industry:

- demographic changes;

- changes in perceptions, dispositions and values;
- new knowledge (both scientific and non-scientific).

Creating of the concept, development and launch of a new product is a process. It begins with the generation of ideas and ends with the commercial success of a new product in the market if everything goes well.

The innovation process is a complex of consistent work from getting a new theoretical knowledge to using the goods by consumers [6].

The innovation process includes non-production sphere, the sphere of material production and operation. It is a system of steps, stages and types of works, and so it has a composite structure [3]. The need for innovation process is formed under the influence of contradiction – the ratio between the actual and desired situation in the society development. The innovation process starts with a desire to change the situation or improve it.

Planning and developing of the strategy is a prerequisite for the success of innovation. The company may be in a crisis, if it is not able to anticipate changing circumstances and react to them. The choice of strategy is the most important component of the cycle of innovation management. In the conditions of market economy it is not enough for the manager to have a good product; he should closely observe the emergence of new technologies and plan its implementation in the company to keep pace with competitors.

Nowadays improving corporate management becomes a key strategic objective of development and functioning of any enterprise. Due to the fact that almost all the extensive ways of improving the management have been exhausted, the only remaining way to survive in the competition intense methods to improve the management and innovative solutions in the entrepreneurial activity.

Any successful company in its development reaches a stage when for saving of the indexes of business development and maintaining a high level of service, raises an urgent problem either of a significant expansion of its employees, or the quality automation of business processes. In the first case it is only a temporary solution of the problem, in the second one is a significant expenses and labor inputs which would be justified only if properly constructed system is able to develop efficiently together with company in the future [1].

Modern enterprises that operate in a difficult social-economic environment should always create and implement a variety of innovations for ensuring of the efficient operation in a market economy. The necessity of innovation activity is due to the general regularity of development and progress of individual and social reproduction. The exit from the economic crisis of any enterprise is impossible without the implementation of innovation and investment activities aimed at production updating on a fundamentally new competitive basis.

The emergence of innovation in the economical aspect has two main starting points [4]:

1. Market demand, meaning the existing demand for a particular product or service.
2. Invention, i.e. intellectual people's activity in creation of a new product aimed to meet the demand which is absent on the market, but may appear with the emergence of this new product. This is actually a formation of a new market.

Innovation is characterized by the following main features:

- science and technology innovation;
- ability of the innovation to materialize in the new technically perfect industrial goods, tools, and objects of labor and technology, and organization of manufacture;
- ability to commercialize innovation itself and (or) the results of its implementation, i.e.

the innovation should be introduced to the market in order to become actually an innovation;

- fragility of innovation caused by following of competitors;
- ability to meet the specific needs of consumers, meaning that innovation must be perceived by the market and sold in the market;
- an effect (economic, technical, social) required to fulfill the reproduction of innovation process.

Nowadays the implementation of innovations in the telecommunications market is actual. In Ukraine, Volia company holds a leading position in the field of innovation, offering its subscribers the latest world-class services. During the reporting period, the company expanded the geography of its services, which were introduced before, and at the same time they offer a completely new solution for the market.

One of the most popular innovative trends in the telecommunications market is the transition from analogue CCTV to digital format.

An international agreement, providing the transition to digital broadcasting, instead of the using analogue one, has been concluded in 2006 in Geneva. According to this document, there will be no international agreements supporting analog broadcasting after 2015.

Thus according to this document Ukraine should abandon analogue broadcasting and switch to digital in 2015.

Actually “digital” has a lot of advantages. For example, the digital system allows to allocate frequencies frugally and also it is easier in remoting control. For an ordinary consumer the best advantage is a significant improvement of the signal quality.

Digital TV differs from analogue mainly by the nature of the transmitted data, which is transmitted in digital form. The scheme of processes occurring looks like this: firstly video and audio are encoded by selected codec and then are packaged into a particular type of data stream which is transmitted in the form of electromagnetic wave or an electrical signal cable. After this waves or signal are with the help of a special device, decrypted and are passed exactly as what they were on the screen. Thus, while the analog signal may lose value during data transmission through different kinds of obstacles, the digital projects them completely without distortions.

In 2008 it was agreed that Ukraine will gradually introduce the digital TV standard called DVB-T. In May 2009 transmission started on a permanent basis of a digital television programs in Kiev and Kiev, Zhitomir and Odessa regions.

Digital terrestrial television has the following advantages over analogue one.

Firstly, the picture itself will be better, and the obstacles in the air can be forgotten.

Secondly, there will be many additional services, such as “TV Guide” – thus the need to buy TV time will disappear. In the “teletext” it will be easy to find out announcements of transfers, read the news, and advertise as well. In short, the TV-set would not be largely differ from the computer that has access to Internet.

In the third, the number of channels will increase. Even in the minimum social package more than thirty national TV channels will be available. Most of the population of Ukraine will definitely like such innovations.

In fact that to watching digital TV one needn't change an old TV is also essential. You just need to find out if a particular TV-set has a DVB-T tuner, actually most of them are equipped with modern equipment.

Thus, the transition to digital broadcasting residents of small towns have the same

opportunity to receive information, as the inhabitants of megacities.

Ukrainian companies gradually show the world that the country has all the features and the ability to become one of the market leaders in precision technology, and the entire transition to “digital” only confirms this fact. Now the population has a wide choice, along with the general Ukrainian TV channels people can also watch specialized, channels dedicated entirely to fashion, to sport or fishing. Information awareness of people will rise significantly. In addition, there are all prerequisites for close integration of the Internet and television.

By the decisions of the National Council of Ukraine on Television and Radio Broadcasting 28 national and 84 regional broadcasters have obtained licenses.

Since September 2011 test broadcasting had been continuing, and began since November-December 2012 broadcasting in the newest digital standard DVB-T2. It stipulated for creation of a complete infrastructure and addressing the issue of access to programs broadcast in digital format. An important issue in the introduction of digital broadcasting in Ukraine now is the ensuring of public access to the digital signal, because the vast majority of TV sets are unable to receive digital TV signal format (DVB-T2 MPEG-4). Therefore, it requires special reception means for receiving digital TV signals – so-called, receivers or set-top boxes. According to the world experience the problem of providing the population with the specified devices solves the state.

Conclusions and prospects for further research. Nowadays the effectiveness of innovation is the foundation of economic growth as an individual enterprise or industry, as a region or country as a whole. The very they allow the enterprise to realize significant benefits in a competitive environment and take a dominant position in its niche by creating a new product, implementation of technical process or economic and organizational techniques to improve production, improve the quality of use and living standards.

That is to say, the biggest commercial successes are achieved by economic entities operating on the principles of innovation. Ensuring of a steady stream of innovations into production, their implementation is the most important function of management of most native companies.

Ukraine, having signed the agreement in 2006, of member states of the International Telecommunication Union “Geneva 2006”, has committed itself the introduction of digital terrestrial broadcasting. The transition to digital terrestrial broadcasting is a logical part of the scientific and technological progress and also is a result of the international obligations of Ukraine, according to which the state must make the transition from analogue to digital broadcasting already on 1 January 2015.

For adapting of the current Digital reception for TVs the viewers shall buy set-top box (receiver or teletuner).

Digital terrestrial television has the following advantages over analogue one:

- the possibility of receiving to the usual indoor antenna in the difficult conditions of city development;
- much better image quality;
- high-quality sound;
- large number of channels which are taken off the air, as well as additional features such as: multilingual support, Electronic Program Guide on the TV and so on.

Digital TV appears progressively in our lives, replacing analogue one. High quality of pictures, high-quality signal are just what in recent years lacked ordinary people. However, at

the moment, there are certain issues without solution of which Ukraine's transition to digital TV broadcasting can cause some problems with access of viewers to television information after turning off of the analogue transmitters, and in the further fate of broadcasters who having current analogue licenses will be deprived of the right to broadcast.

Therefore, it is advisable to define the problem of further implementation and development of digital television technology as a standard of high-definition television.

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А.В. Сержук, І.В. Козлова. Інновації телевізійного простору: перехід на цифрове телебачення

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Інновації телевізійного простору: перехід на цифрове телебачення

У статті проаналізовано значення інновацій та інноваційного процесу. Виявлено, що розвиток інноваційної діяльності є необхідним в управлінні інноваціями на підприємстві. Авторами визначені передумови впровадження інновацій та проаналізовано здійснення інновацій на телекомунікаційному ринку.

Ключові слова: інновації, інноваційний процес, конкурентоспроможність, телекомунікації, цифрове та аналогове ТБ.

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Инновации телевизионного пространства: переход на цифровое телевидение

В статье проанализировано значение инноваций и инновационного процесса. Выведено, что развитие инновационной деятельности является необходимым в управлении инновациями на предприятии. Авторами определены предпосылки внедрения инноваций и проанализирована реализация инноваций на телекоммуникационном рынке.

Ключевые слова: инновации, инновационный процесс, конкурентоспособность, телекоммуникации, цифровое и аналоговое ТВ.

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