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Competition in modern information economy

Creation and distribution of information technologies make changes in the competitive mechanism. Both an enterprise capable to do without any new technological achievements and any industrial competition between such enterprises make up the sphere of primitive mass services, today.

Under modern conditions, it is necessary to differentiate competitive market advantages of the companies applying information technologies (on the one hand) and a competitive situation of the companies operating within standard production (on the other)[1].

In the former case, information technologies being applied allow to automate planning and accounting in a firm as well as to react to the market situation and intra corporate changes adequately. The following competitive advantages with regard to using computers and information systems are most often noted in the relevant literature:

- an expansion of and quality improvement in a customer service due to the economy of office employees' time (time reduction for recording data and increase in the information accuracy);
- service personalization (the interactive mode gives a chance to consider the clients' requests in the best possible way);

1 *Voronov Yu. P.* Elektronnaya kommertsiya: problemyi mirovyie i rossiyskie. M.: EKO. 2001. № 1.

• a possibility to receive accurate data followed by making proper management decisions.

It is to be particularly noted, that making competition Internet-like can bring about the scenario when it is not the producers of top goods who always win, but rather those who in the best possible way explain the idea of the product to a potential buyer.

The main characteristics of firms' activity in an information competitive environment are as follows:

1. An information economy's activity results in an increase rather than decrease in the firm's profitability. The fundamental law in terms of operating networks is known as *the law of the increasing return*. Intensive initial investments are to be made into the necessary scientific research, development and equipment, but the production capacities increase right after launching this production, which comes cheap. As the number of the produced hi-tech goods increases, the costs of production decrease, which results in a profit growth.

2. Unlike an industrial economy where any increase in returns is a result of the efforts of certain firms, a network economy enjoys *an increase in returns as a result of the efforts of all the network's members* (agents, users). In the latter case, this increase in returns is distributed between all the members (unequal distribution of the increased returns is possible). Anyway, competition becomes more intellectual and suggests creating a special mechanism of cooperation.

3. The laws of demand and supply do not work, particularly because many non-material goods such as consulting services, professional training, education, entertainments are created by both producers and consumers together.

4. The company creating knowledge-intensive products is capable to gain profit because of *externalities of a wide circulation of a product*[2].

Consider an example that has become a textbook one –

2 *Styuart T.* Intellektualnyiy kapital. Novyiy istochnik bogatstva organizatsiy. M.: Academia, 2015.

the Windows operating system of the Microsoft company. Programmers aim to develop applied programs mainly for the Windows system because it is extremely popular. In their turn, a large number of the latest applications (applied programs) make the Windows more attractive for buyers of computers. Thus, there is a rapidly developing positive feedback effect. An availability of a large number of consumers and programs makes sales and service companies more powerful. In practice, that it is very difficult to force out these firms from the win positions even in the case of an availability of an essentially better product.

A textbook example is the QWERTY keyboard. Nobody needs any other keyboard with a different arrangement of letters making typing faster. Unwanted products disappear, without having been widely used. The story of such inventions as PowerPC, OS/2 and other platforms and operating systems, etc., shows that the market have rejected more productive and competently created products.

A complete version of the competitive model of information economy is described by K. Shapiro and H. Verian. These authors formulated the basic principles for the firms competing in an information economy. Understanding of these principles is a key aspect of forming an effective competition policy.

The basic principle of a firm's competitive behavior in an information environment is *unstoppable innovative activities*. No company can afford to stand still, no matter what is concerned – the development of microprocessors, telecommunication services, software engineering or other information designing. Besides, the stability of companies' position depends on making the period between coming up with the idea and introducing the product to the market as short as possible. Here, the updating rate is something that essentially influences the firm's market standing and becomes the mode of their daily business activities.

High rates of changes that are impossible to avoid allow for

concluding about the aggravation of a competitive struggle. In a society the dominant characteristic features of which are an unlimited variety of benefits and the fragility of their value, the economic environment becomes tough and ruthless. It is obvious that high rates of changes in products and business models reduce the planning horizon: only a planning period of no more than 5–12 months makes sense for firms representing some information sector.

Another principle of the competitive strategy is *intellectual property rights*. Alongside the traditional forms of protection, other methods of protection against piracy in the Internet are becoming important: the antipathy of patents, cross-licensing, production secrets, careful protection of source codes of the programs, etc.

A variety of versions meant for different customer groups can also deliver many benefits and increase gross profit margins (for example, an improved version of any software product for new users, a full version for specialists, a business version for networks of a certain location, etc.).

In a traditional economy, a large-scale production of goods to supply them for free would hardly promote the evolution of the firm. In an information economy, the principle "to start up with being ever-present and inescapable" earns high profits. This way, the Netscape company distributed the first 40 million copies of their software product for free. The SUN corporation provided the Java programming language for free. These companies developed, at first having established the standard, and then, – selling the updated or expanded versions. Basic changes in the scale of the economic activity (able thanks to the development of networks) positively influence the competition level and explain, for example, why the largest violent "Microsoft" aims to take electronic commerce under control. Even one hundredth part of the cent earned from each transaction can result in huge profits[3].

3 Shapiro S., Varian H. Information Rules: A Strategic Guide to the Network Economy. Harvard Business School Press, 2008.

Providing one's own production with complement goods is of no less importance for taking stable competitive positions. The cooperation of Microsoft and Intel is one of the most striking examples of this type of partnership. Collaboration of firms producing complementary goods usually promotes competition, increases innovative capacities.

The extension of networks' role in modern economy makes interoperability standards one of the competition principles**.** The computer market is characterized by no more than two large players or two competing ideologies per one of its spheres today (e.g., Intel and AMD, Internet Explorer and Netscape Navigator, Windows-like OS and Unix-like, Palm and WinCE). Other developers or products are doomed either to disappear or to occupy a small niche within which it has no competitors for some reason (e.g., OS/2 supported by IBM). Two technologies are considered to be able to coexist only when they, though being considerably different, complement each other (for example, flash and html). In other cases, the market aims to reach some common standard. In this sense, the confrontation of such hardly distinguishable software suits as Internet Explorer and Netscape Navigator providing identical opportunities for work on the Internet – is indicative. A modern user does not notice any loading differences (it's a matter of 2–4 seconds) between the programs, he or she does not care about the professional correctness of the developed program, he or she is not interested in the code-length. However, as it is getting more and more obvious today, Internet Explorer sells better in the market.

Alongside the intensification of the competitive confrontation, it is convergence and cooperation which appear to be the leading tendencies in an information economy: global standards are set, technologies and products become universal. For this reason, separate exclusive decisions grow in popularity very quickly. Hi-tech firms constantly ally themselves, set standards together, sign license and cross-license agreements

to ensure a continuous operation of the product cycle in the system. The main players of this market segment participate in setting standards. Before entering the market, the new technology is to be thoroughly "fine-tuned". One of the examples of the joint developments is the Bluetooth technology that has integrated more than one thousand companies and engineers.

An essentially new ideology cannot be introduced in this market without integrated supporting efforts of the equipment producers and software suppliers. It is easy to predict the market future of the producers that don't want to meet these requirements. A small producer's attempts to independently control even a very small market niche, after having blocked some unique technology from other developers, are likely to culminate in the product's getting unpopular.

The Apple company can be an example. Many things (e.g., its competitive price, graphic interface available in the first models of the mid 1980s, and color screen – in the later models, built-in sound synthesizer, almost no defects of internal hardware compatibility) helped this platform to become the market leader that all the developing computer industry of that time were ready to look up to. However, the early 1970s' license withdrawal for the build of "Apple mac", which was done by third-party firms, a desire to control all hardware inventions, a small range of the peripheral equipment slowed down and nearly stopped perspective projects, as a result of which "Apple" will hardly be ever able to become the leader in the sphere of the development of personal computers. However, the company have recently been vividly demonstrating a focus on the user (their platform support for many peripheral PC devices, diversification of the computer component parts, introduction of different unique accessories). These trends helped the firm to almost entirely win back the polygraphic and prepressing industrial segments.

Open compatibility standards also change the nature of competition. Clients appreciate a popular product more than

an unpopular one. Approved standards facilitate the expansion of the network's external effects, reduce technological risks that consumers face (otherwise, consumers would be afraid to choose an unsuccessful technology and to get in trouble). Genuinely "open" standards will never make consumers be confined to one seller. *Approved standards shift the competition course:* non-inconsistent systems compete for the market, consistent products compete within the market and make it to a great extent a price-related competition.

In certain cases, "openness" is a part *of the market strategy of the firm.* It is mainly characteristic of the firms developing the software. The best shareware examples are Linux and Netscape Communicator. Business models based on shareware (open source software – OSS) provide new companies and individual producers with opportunities for growth. The open source is a powerful tool in a competitive struggle. An open source threatens those firms the main income source of which is payments for the client access and fees for proprietary software licenses. The open source forces traditional software producers to reduce prices for the products if they don't want to lose their share in the market. Besides, some other methods are also used: better software products, deliveries of both proprietary software and open source software, transition to an open source platform and other possibilities of profit earnings.

In any information economy, monopolies are still powerful. J. Schumpeter pointed that monopolism is inevitable in the innovation sphere. He believed that major companies have such advantages as resources and favorable conditions for innovations.

In fact, in terms of supply, distributing information involves a powerful large-scale economy, and at the same time production of new goods requires significant fixed R&D expenses. In terms of demand, the network effect favors popular goods and established networks. Many researchers pay attention to the fact that the spending system of an information

network economy (almost zero marginal costs for a production expansion) does not allow a lot of competitors to survive in one segment of the market; that's why only the most powerful producers survive. All these things taken together create a base for a market power[4].

50–70% of the total sales and over 90% of all the profits are said to usually belong to the market leaders of their own software, especially in sectors of operating systems and infrastructure middleware. However, if you want to become that powerful, you have to overcome high barriers; but if you want to maintain your power, you have to constantly expand the assortment, improve the quality of your products and reduce prices. Besides, you should be ready for your income's being not really high. As K. Arrow pointed out: "As knowledge is somewhat like a public benefit... a period of a monopoly's existence cannot be very long, but can be quite short in comparison with the period of a monopoly's operation in the sphere of a product production; and therefore the value of knowledge which the producer gains can be small".

It is undoubtedly to be recognized that *the competitive mechanism demonstrates a symbiosis of a perfect market's characteristics* (within a worldwide network there is a single (uniform) market environment making enormous information arrays equally available for all the agents) *and monopolies' rise due to the network effect.*

Monopolies in an information sphere find themselves under the conditions of a very tough competition. That is why they are constantly searching for the most effective solution to the production and managerial problems.

On the one hand, the market is inevitably monopolized, but, on the other hand, monopolies start demonstrating perfect competitors' behavior. J. Schumpeter, an outstanding Austrian economist of the beginning of the 20th century, introduced a monopoly-related *theory – the theory of "creative*

4 Kelli K. Novyie pravila dlya novoy ekonomiki // URL: http://www.wired.eom/wired/5.09/newralespr.html.

destruction" according to which the monopoly can stimulate technical progress and an economic growth rather than stop them, as wishing to meet the expenses, it stimulates implementing innovations.

On the contrary, the American economist P. Romer thinks that under the conditions of information technologies, monopolies play a negative role because they start gaining advantages from resisting innovations to preserve its monopolistic positions.

If we treat monopolism as a kind of control over prices and sales volumes in the market, it turns out to be effective if it has to do with transactions concerning information benefits, as it helps to maximally use ever-increasing returns: one large producer is more preferable than many small ones as here is provided a product standardization (necessary for the network's benefits) as well as the network's external effects. However, if we are talking about *a new-product monopoly* (K. Kelly uses the English-language term "monovation" to signify this type of monopolism), this kind of monopoly is dangerous and undesirable. It is known that monopolistic dangers have nothing to do with the fact that monopolies can raise prices (as similar actions are unacceptable for monopolies), but rather with the fact that they can slow down the innovation process, which becomes even more obvious under the conditions of high rates of innovations' distribution. The idea *of the antimonopoly regulation under the conditions of a new economy* is to prevent monopolies of this kind through avoiding excessive information protection, assigning the right of ownership of a number of information objects to the state as well as through taking other measures.

A short lifecycle of information products aggravates competition, which causes the oligopolistic market structure of industries of information technologies.

For example, in the USA, there were eight companies in one sector before the liberalization of the communication market. After 1996, only four of them remained, while dozens of their competitors stopped functioning. The same state of affairs is

characteristic of the market of Internet-portals. It is known that an oligopolistic market sometimes provides consumers with better and cheaper products, establishes single industrial standards that appear to be "friendlier" for consumers. All these things make any business more effective. However, it is also known that a decrease in the number of market agents eliminates competition and results in unreasonably high prices. Thus, in the USA, as a result of the liberalization and subsequent consolidation of the communication market, the tariffs turned to be a third as high.

Focusing on consumers does not always serve as an incentive for the activity of such corporations. Specialists think that the Microsoft Corporation did not consider the interests of ordinary users while producing new versions of their operating system. The unsatisfactory Windows 95 version was replaced by Windows 98 which required additional investments but did not introduce anything essentially new: it had the same shortcomings and problems with the software installation. The shortcomings of the Windows interface are confined to its inability "to adjust" to a certain user's needs, a lack of a number of necessary functions, etc.

In these cases, what can help is *a market demonopolization*. Recognizing the importance of "Microsoft" in global distribution of computer technologies, it is necessary to agree that an adequate decision would be to make "Microsoft" open their software source, just like it happened to the architecture of IBM PC twenty years ago. It would make a number of systems arise, these systems would compete with each other, but at the same time would fit together at the program level. That would also make software producers consider users' interests.

Takeovers and merges constantly take place in an information sector and aim at increasing their share both in the global or local markets. Conglomerates and merges are economically advantageous as the fixed costs in this sector are very high, and the maintenance costs of each new client are minimal.

On the one hand, merges often follow the general developmental strategy of the information and computer industry. This strategy implies that corporate clients should follow the line of minimizing the number of suppliers as well as working with large companies with a good reputation, capable to provide them with a wide choice of the equipment, software and services. However, merges in an information industry (including those which are often referred to as "a deal of a lifetime") often do not produce the desired results. The survey of the consulting company "Booz, Allen and Hamilton" showed that in the period of 1997–1998 two thirds of the American merges did not reach the desired effect because of inefficient planning and bad implementation of these transactions. Similar processes also happen in other countries. For example, in Japan's electronic industry, five leading electronic companies ("NEC", "Toshiba", "Fujitsu", "Mitsubishi Electric" and "Hitachi") have been suffering significant losses lately. However, these gigantic companies have recently been showing a tendency for making alliances with each other, which could be treated as their method of struggling against their South Korean and Taiwan competitors. Conglomerations like those are considerably increasing in number and are characteristic not only of the main segment, but also of adjacent areas. However, such alliances are recognized to not always be effective.

Consider the telecommunication sphere as an example. We should take into account that the development of the telecommunication sector depends on its infrastructure the creation of which requires a great deal of time. Thus, telecommunication companies have to be as accurate as possible when predicting changes in market conditions. In recent years, most of these predictions were wrong. The system of fixed communication service is characterized by a considerable capacity excess provided by operating companies that invested just a little money in it at the period of the Internet proliferation. It resulted in a tough competitive struggle and facilitated cost savings all

around. That's why, an increase in the Internet-traffic did not result in an increase in income of the operating companies. It is clear that now operators focus on attracting new clients and are not interested in the network extension.

It affects companies producing telecommunication equipment: only in 2011, the "Nortel" and "Lucent" companies (two largest producers of telecommunication equipment) reduced about 90 thousand workplaces each. Mobile network operators also made a number of mistakes while trying to predict the level of the demand for their services. After having provided the market with the services of communicating typical verbal conversations, the operating companies invested heavily into new communication services by means of the "third generation" cellular networks (3G). However, in most countries of the world, the level of demand for these services turned out to be much lower than expected. Vague perspectives of mobile operators had a negative impact on their suppliers who expanded capacities hoping for macro-contracts of equipping the new 3G networks. In the context of the decrease in demand for the equipment of cellular networks, the Ericsson and Motorola companies had to dismiss over 40 thousand employees.

Operators of both stationary and cellular communication can solve this problem through triggering such mechanisms as bankruptcies and takeovers. However, bankruptcies as they are can't help to deal with the problem of excessive capacities. Any bankruptcy of most typical companies stops the production process. In the case of a telecommunication operator, their infrastructure stops developing. Large-scale consolidations are hardly possible because of a considerable lack of potential buyers in the market. Merges and takeovers are not always a legal matter. For instance, in 2000, the WorldCom Company's attempts to integrate with the operator of an international telecommunication "Sprint" were protested by the antimonopoly agencies that were afraid that a big violent telecommunication firm would appear. In particular, according

to the current rules, if one 3G company merges with another, one of them will be stripped of its license for which it has recently paid a lot of money.

In the Internet-market, the most perspective solution is when large companies merge with smaller ones. Large companies takeover those firms that are taking stable positions in the market or have gained a reputation of highly professional structures. It makes large companies acquire new characteristics, and, therefore, opportunities to expand their cooperation with their partners and clients. As for small companies, they are assured of taking new positions in the market or at least of preserving their standard positions[5].

Such long-standing rivals as MS and lnprise (Borland) intend to make an alliance on the basis of a cross-licensing contract according to which the latter will get 125 million US dollars which it is in need of now. MS will access Inprise's 100-million-dollar patent technologies and will buy 10% of its shares for 25 million US dollars; in exchange for this, Inprise has to meet the necessary conditions: to introduce the Windows-2000 OS support into their products, to purchase a number of MS's licenses.

It is important to understand that the basic reason of integration, consolidation and mergers of firms as well as for creation of joint ventures and projects is companies' desire to increase their income (or, sometimes, to preserve the current income level), which is nowadays extremely difficult to do if you work on your own. In foreign practice, the term ***the win - win - strategy*** has become popular. This term signifies *companies' coexistence that is based not on competition, but on interaction* as a result of which both partners benefit (this strategy is widely propagandized by the Intel corporation). The business lexicon has enriched itself with the verbal hybrid ***"coopeiition"*** (that is a little unusual for the Russian language) based on the English words "competition" and "cooperation"

5 Kolganov A.I. Sotsium XXI veka: ryinok, firma, chelovek v informa-tsionnom obschestve / Pod red. A. I. Kolganova. M.: Ekonomicheskiy fakultet, TEIS, 2009.

and meaning cooperation (rather than struggling) with competitors, which has become one of the most outstanding innovations of today's economy[6].

One of the executives of the Sun Microsystems company was asked a question about the way their company interacted with the Intel corporation – whether they competed or cooperated with it. He answered that the Sun was a supplier and at the same time a buyer for the Intel, a competitor and a partner, a rival and a colleague. It is an example of how usual concepts of competition and cooperation can completely change their meaning in today's economy.

Production of any goods suggests certain costs. First of all, an information economy gives an opportunity to see sharp changes in the structure of the production costs. For instance, with regard to traditional industrial goods, most costs have to do with the expenses for raw materials and labor force. As for the production of chips, costs for raw materials and labor force make up only 1% and 12% (respectively) of all the expenses while R&D costs reach 70%.

Information and knowledge being the most important resources of an information economy become the main production cost elements. The amount of the production costs starts to a great extend to depend on non-material investments: costs for scientific research, patents and licenses, software, personnel retraining, etc.

The main characteristics of information costs are as follows:

• information costs, as a rule, do not depend on the scale of production;

• in spite of the fact that information costs are constant, they cannot precisely be calculated as it is impossible to quantify the information amount used by the firm for the time being;

• it is necessary to take into account the fact that the more information the company uses as a production factor, the

6 Skryilnikova N.A. Informatsionnaya ekonomika: kontseptsiya i sotsialno-ekonomicheskie transformatsii. Tomsk: TomGU, 2002. 280 p.

more returns form the information scales it will get;

• in the long run, information costs are getting lower and lower.

The process of searching for new information can soon be optimized in such a way that costs for this search will appear much lower than its useful effect. IT-achievements reduce the costs for collecting and distributing information and make goods cheaper because the production of these goods is substantially based on information costs. Consider the technological process of electronic book publishing as it is easy to predict the outcome of its development. Electronic book publishing will some day change the whole economic process of the industry. Costs for book publishing will sharply decrease as a result of economizing on materials, labor costs, production and implementation. Readers will be provided with a wide range of books. Retail prices for books will sharply fall, and the sales volume will sharply increase.

New ITs facilitate production of modified products, which no higher costs than in the case of a mass production: a personalized production is becoming cost-efficient due to the fact that the updating process of the used equipment if getting easier (reprogramming and change of modules).

The market of information technologies is characterized by using a combination of price and non-price competition methods.

For instance, an aggressive pricing policy of the Dell company that sets the lowest prices in the market of computers and sells the equipment to consumers without intermediaries has led to the situation when production of personal computers does not practically earn any profit today. Therefore, though, for example "IBM" is still supplying personal computers, it has already practically stopped producing low-price goods, having switched to producing powerful computers for major corporate clients.

A rapid expansion of computer equipment is connected with the acceleration of its execution speed, reduction in pric-

es for it, improvements in their software combined with an interface which is getting friendlier and friendlier to consumers. Here is an example of the spiral development of computer market conditions. Performance improvement of modern computers (more than 1 billion operations per second) makes them in demand; at the same time, a tough competition forces producers to reduce prices. A fall in prices increases demand even more. Alongside getting prepared for the serial production of some model of the microprocessor, producers have to start working at the creation of its next generation. A market introduction of a new microprocessor reduces demand and prices for the previous models, the latter's being a restraining factor of raising prices for a new product. In general, producers constantly reduce prices for their products, aiming at facilitating the capital circulation, as high rates of production require huge expenses. As a result, consumers win: more and more advanced computers are available to them for the same money[7].

Competition in this economic sector will continue to have a stiff character, and possibilities of regulation in this sphere are still minimal.

In 1950–1960s, the development of the market of electronic chips could be classified as a classical business model. New markets started to develop, both in the military sector and in the civil one, and this process was facilitated by the chips weight and size reduction. This period was followed by the domination of monopolistic firms in the market, the latter's being the first to introduce a new product characteristic or to improve the quality of their technologies. By 1994, the sphere of microelectronics had been marked by the phenomenon of overproduction. In 1995, when the sphere of microelectronics was suffering a period of recession (the sixth one), the newly opened World semiconductor organization (in an attempt to stop infinite fluctuations in the development of the semiconductor industry) manifested the idea of managing the produc-

7 Oleynik A.N. Institutsionalnaya ekonomika. M.: INFRA-M, 2015.

tion capacities of the industry according to the principles of the OPEC organization[8]. However, microelectronic firms had certain internal reserves (scientific background, defense orders, their own marketing schemes), which was the reason why they refused to cooperate in this way. As the investments tend to accumulate (the minimum startup capital needed to organize a new production in the sphere of microelectronics is to be no less than one billion dollars) and the project time is long (about two years starting from the decision-making moment), it is mathematically impossible to get an ideal supply-demand balance. Extreme competition in the fast developing industry of semiconductors diminishes chances to regulate the investing process according to the OPEC-like principles. It is doubtful that corporations like "ST Microelectronics", "IBM" and others should postpone their plans for the production expansion and modernization to grant time to their the competitors to outrun them in the technology of chips production.

Using a price individualization as a price-competition method in the sphere of e-trading shows that the one who wins is a competitor who does not just decrease prices, but provides a better system of discounts corresponding to the buyers' requests. Another thing which is to be taken into account in the sphere of e-trading is delivery dates. For instance, the Amazon.com firm competes with another electronic company, which is "Buy.com", but their prices are hard to compare as the former assigns a 48-hour time for the purchased goods delivery, while in the case of the latter firm the delivery time is several months.

In 1995, the IBM Company paid 3.5 billion US dollars to buy out the Lotus Development Company the balance sheet assets of which were valued at no more than 230 million US dollars. Even a bigger gap was obvious in the case of Netscape firm: though the firm owned the funds of 17 million dollars

8 Fomenko O.V., Ternovaya L.O. Prizrak «Dead-line» (Energeticheskiye, pravovyye i politicheskiye problemy stanovleniya novogo tekhnologicheskogo uklada). M.: «Interdialekt+», 2006.

and had a little more than 50 employees, at the beginning of 1997, the market price for the firm was nearly 3 billion dollars. These examples show that it is not physical factors which turn out to be the real *basis for a market-value appraisal of companies* but rather *an innovation potential* which helps to become more competitive.

Competition in the R&D field is a widespread type of non-price competition. It is characterized by a number of features (high uncertainty, availability of positive and negative outer effects, etc.) which do not allow the market mechanism to manifest itself as it is.

In recent years, a *purposeful collection of information about the competitors' opportunities and intentions* ***(competitive intelligence)*** is gaining importance in the company operation. Competitive intelligence helps to estimate the advances made in the R&D sphere, the character of new technologies, the degree of legal protection of IP objects. The patent information is a unique method of assessing the competitors' scientific and technical opportunities, their most important subject areas where their business activity promotion is possible. It, in turn, allows the firm to competently develop its own innovation strategy[9].

What is important here is a creation of a multi-level mechanism stimulating science, production, management and marketing interactions. A competitive struggle changes in such a way that it is an intellectual property which becomes of crucial importance. Firms compete now, first of all, not for sales markets, but for "creative teams" that are to do the following functions: to create innovations, to competently select technological concepts, to reduce and spread the risk in strategic alliances and other forms of organizations, to search for financing sources, etc. It will help firms to perform an effective innovation process.

9 Voznesenskiy I.S. Informatsionnyye tekhnologii v biznese: riski i vozmozhnosti // Etnosotsium i mezhnatsional'naya kul'tura. 2016. № 5 (95) S. 33 – 40; Skryilnikova N. A. Informatsionnaya ekonomika: kontseptsiya i sotsialno-ekonomicheskie transformatsii. Tomsk: TomGU, 2002.

Competitive advantages in the IT sphere are also facilitated by a special managerial style aiming at encouraging employees' non-routine behavior and firms' non-typical activities. All the management models that are known aim at unifying and standardizing people. *Information economy has led to a sharp increase in the number of exclusive workplaces. The idea of no man's being indispensable used to be very popular in the organizational hierarchy, but nowadays it has almost lost its significance in developed countries.*

Библиографический список:

1. Вознесенский И.С. Информационные технологии в бизнесе: риски и возможности // Этносоциум и межнациональная культура. 2016. № 5 (95). С. 33-40.
2. Воронов Ю.П. Электронная коммерция: проблемы мировые и российские // ЭКО. 2001. №1. С. 71-72.
3. Келли К. Новые правила для новой экономики // URL: http://www.wired.eom/wired/5.09/newralespr.html.
4. Колганов А.И. Социум XXI века: рынок, фирма, человек в информационном обществе. – М.: Экономический факультет, ТЕИС, 1998.
5. Кузнецов Д. Ветви эволюции // Компьютерра. 2002. № 3. С. 26-28.
6. Олейник А.Н. Институциональная экономика. – М.: ИНФРА-М, 2000. 416 с.
7. Скрыльникова, Н.А. Информационная экономика: концепция и социально-экономические трансформации. – Томск:, 2002. 280 с.
8. Стюарт Т. Интеллектуальный капитал. Новый источник богатства организаций. – М.: Academia, 1999.
9. Фоменко О.В., Терновая Л.О. Призрак «Dead-line» (Энергетические, правовые и политические проблемы становления нового технологического уклада). М.: «Интердиалект+», 2006. 242 с.
10. Shapiro C. Information Rules: A Strategic Guide to the Network Economy. – Harvard Business School Press, 1998.

References

1. Voznesensky I.S. Information technology in business: risks and opportunities // Ethnosocium and interethnic culture. 2016. № 5 (95). P. 33-40.
2. Voronov Yu.P. E-commerce: global and Russian problems // IVF. 2001. № 1. P. 71-72.
3. Kelly K. New Rules for the New Economy // URL: http: //www.wired.eom/wired/5.09/newralespr.html.
4. Kolganov A.I. 21st Century Society: Market, Firm, Man in the Information Society. - M.: Faculty of Economics, TEIS, 1998.
5. Kuznetsov D. Branches of evolution // Computerra. 2002. № 3. P. 26-28.
6. Oleinik A.N. Institutional economy. - M.: INFRA-M, 2000. 416 p.
7. Skrylnikova, N.A. Information economy: concept and socio-economic transformations. - Tomsk:, 2002. 280 p.
8. Stuart T. Intellectual capital. A new source of wealth for organizations. - M.: Academia, 1999.
9. Fomenko O.V., Ternovaya L.O. The ghost of the "Dead-line" (Energy, legal and political problems of the formation of a new technological structure). M.: "Interdialect +", 2006. 224 p.
10. Shapiro C. Information Rules: A Strategic Guide to the Network Economy. – Harvard Business School Press, 1998.