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## INFRASTRUCTURE OF INNOVATION IN THE WORLD

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For development of knowledge-consuming enterprises development of innovative infrastructure is of great importance, namely, of innovative-technological centres, new technologies, technological clusters and new technologies, also incubators (hereinafter referred to as “Technological Cluster”) and so on. An idea of creation of technological clusters in the close future has occurred in Georgia.

Table 1

### NUMBER OF TECHNOLOGICAL CLUSTERS IN THE WORLD

Country	Number of technological clusters
Totally in the world	600
Europe (except CIS states)	260
USA	140
China	130
Russia	80
Ukraine	8

Table 2

### NUMBER OF INNOVATIVELY ACTUAL ENTERPRISES IN 2005

Country	Number of innovatively active enterprises %
Ireland	79
Denmark	71
Germany	69
Germany	69
Austria	67
Greece	29
Portugal	26
Russia	11

Data shows that knowledge consuming enterprises have huge potential of using human potential, which makes the half of national wealth of the country. At the same time, high level of natural capital makes it possible to use incomes made out of them to invest in the innovative domain.

USSR owned huge scientific potential, though most part of state scientific resources was accumulated in the defence sector. In 1990 USSR had 1694,4 thousand scientists and engineers employed in scientific-research and experimental-constructional works (mostly of defensive importance. For comparison, same data in the **USA** amounts 9949,2 thousand persons, in **Japan** – 638,8 thousand, in **Germany** – 165,5 thousand, in **France** – 1151 thousand, in **Italy** – 74,8 thousand, in **South Korea** – 56,5 thousand men. Within modern conditions almost in every post-communistic state this potential is significantly lost.<sup>37</sup>

Number of annual scientific publications in post communistic states on each scientist in the world, is one of the lowest indexes – 5.4 articles. For comparison, this index in China is 5.5, in India – 16; saying nothing about such countries, as Great Britain (58). The expenditures on subscription on scientific literature in post communistic states on single science are 11 Euros per year. In India – 54, in China – 120, in Poland – 430, in Sweden – 578, in Great Britain – 727.<sup>38</sup> Many qualified specialist from various regions of the county leave the country every year. Out of the so-called “Outflow of Brains”, following are of the greater importance:

- weak material base;
- insufficient attention towards the field of scientific-research and experimental-constructional works from the side of the society;
- low probability of self-realization of own business;
- reduced possibilities of getting into scientific-research team recognized by the society of the world;
- inadequate reimbursement of labour;
- weak integration of state and private enterprises with fundamental sciences;
- small sector (or absence) scientific-research and experimental-constructional enterorises (as governmental, so private);
- uncertainty of social-economical perspectives.

Given data proves necessity of orientation of innovative development of state policy and strengthening positions of scientific-technical domain for the purpose of increasing competitiveness of knowledge-consuming products.

<sup>37</sup> Using Intellectual Property in Innovative Entrepreneurship. Author analyst of reference L.G. Kravets. M.: INITS of Rospatent, 2004. pg. 90.

<sup>38</sup> <http://www.nasled.ru/prensa/obozrev/> Red Book of Commodity Markets. A. Seleznev, Obozrevatel. No. 4, 2008.

Though, political and economical instability, and inconformity between economical globalization and political isolation is being increased. This can not give rise to negative results. Basic kinds of foreign danger can be formed in the following way:<sup>39</sup>

- in the developed countries reduction of the number of young population, immigration of high-qualified specialists and growth of mobility, which, in its turn, influences upon formation of staff through market;
- changes in distribution of incomes of people, which influences upon investments.
- Thus, specific difficulties for knowledge-consuming enterprises can be formed in the following way: <sup>40</sup>
- absence of perspective programs of development (for 10-15 years) in long-term period;
- defaults (and sometimes absence) of legislative base, which do not always conform with the norms of international law;
- improper and incomplete reimbursement of state order.

To our mind, for today goals of the first order of knowledge-consuming enterprises can be formed in the following way:

- Processing and realization of programs of innovative development, which conditions growth of competitiveness, reduction of risks and adaptation with the processes of external domain.
- Provision of effective management following background of minimization of mistakes related to hiring personal, and verification of motivation, reduction of inflow of the staff, stimulation of work within business-processes and taking into account responsibilities on the results of labour;
- Establishment and development of strategic staff “Core”, processing management of qualification and strategic management of knowledge. Here attention is paid on confrontation provoked by the conflict of interests of separate workers, groups and the company in general (main goal of the Management is effective utilization of these resources, development of corporative knowledge, provision of the heritage of professional experience and maintenance of progressive traditions of corporative culture); <sup>41</sup>
- On organization of effective management of intellectual capital, as orientation on basic factor of manufacturing competitive and knowledge-consuming production.

Solving the issue of providing manufacture of native competitive, knowledge-consuming production requires conduction of thorough analyze of the role and importance of intellectual capital to guarantee competitive priorities of knowledge-consuming products.

**Analyze of the Role and Importance of Intellectual Capital In Provision of Specific Priorities of Knowledge-Intensive Enterprises.** Development perspective of civilized states under the conditions of transferring to post-industrial production is related with solving the issues of economical growth, following one of the most important strategic factor, its maintenance, growth, correct utilization and successful commercialization. In whole world there is the process of formation and development of the industry of new field of social industry – so-called “information intellectual production”. Basic direction of increasing effectiveness in such situation technological provision of creative initiative from the point of processing and using resource-saving, energy-saving and other analogue technologies, main strategic direction is development of information-intellectual products and service market.

In this regard, economy oriented on formation and utilization of knowledge and intellectual capital, becomes main factor of social-economical development of the countries and separate regions.

**Intellectual capital in modern society is basic wealth. It defines competitiveness of economical systems, appears to be basic resource of growth and development, as because of its unique nature, factors define competitive priorities of the enterprises at the market.** Every subject of market relations, including commercial industry, state and social institutions and other organizations, is involved into the process of creation, transformation and utilization of intellectual capital. With its help economy of the country is more information-capacious, high technological and oriented on innovations.

Ability of economy to create and effectively use intellectual capital defines economical power of nation, as well as its welfare. Opening of the society to import new achievement, knowledge, ideas and information, as well as formation and utilization of active mechanisms of their effective utilization and it significantly defines successful social-economical development of national and global economy. Principal distinction of the economy based on the knowledge of post-industrial society from pre-economical formations includes in following:

**1. Objectified knowledge of products and service under modern conditions forms larger part of created value by the society.** This takes place mostly as a result of growth of knowledge-consuming goods and service. Consumer commodity becomes more and more knowledge-consuming (for example, in the domain of auto-production, household technique and electricity), extractive and agricultural production.<sup>42</sup>

<sup>39</sup> Mikhailova A.N. Changes in Organization, Policy and Fields of the personal: Basic Principles of Staff Management // Scientific-practical conference “Perspectives for future” – “Vremya Izmeneniy”. M.: MIET, 1998. pg. 69-75. Economy, Certification, Management. Digest of Research and Development Establishment of Economy “Interkoms”. 2001. No. 1-4.

<sup>40</sup> Kozirev A.N. and others. Problems of Methodology of Assessment of Information Systems // Intellectual Property. 2000. No. 8. pg. 38-47. Commercialization of Technology: Theory and Practice: guidance manual. M.: Monolith, 2002. pg. 269.

<sup>41</sup> Lukicheva L.I. Management of personnel. M.: MIET, 2000. pg. 116. Lukicheva L.I., Vishnevskaja G.I., Egorichev D.N. Effective Utilization of Intellectual Property – Reserve of Increasing Effectiveness of Management of Immaterial Assets of Enterprise. M.: Delo. 2007; Lekicheva L.I., Kvaralnoa V.A. and others. Elements of Management. M.: Finances and Statistics, 2002. pg. 351.

<sup>42</sup> Klimov S.M. Intellectual Resources of Organization. SSU.: IVESEP: Znanie, 2000. pg. 168; Klimov S.M. Strategic Management of Intellectual Resources of Organization. SSU.: Union “Znanie” of St. Petersburg and Leningrad province, 2011; pg. 157. IVESEP: Znanie, 2000. pg. 168.

2. **At the international markets intellectual commodity and service begin domination at the markets.** For example, licenses, which amounted more than quarter of American export in the first years of post-war period, and in 2000 it compiled its half.<sup>43</sup> By expert's evaluation, market of intellectual commodity and service today is being increasing five times more than traditional markets.<sup>44</sup>

3. **Under modern economical conditions activities related with production, reservation, transfer and utilization of knowledge under modern economical conditions becomes of initial importance.** In this activity special role is gained by knowledge and education, character and importance of which is being rapidly changed. In the developed countries more and more attention is paid to the concept: **“Education throughout the life”**, according to which every specialist shall improve his/her qualification at least five-eight times during the process of their activity;<sup>45</sup>

4. **Characteristic feature of post industrial economy is domination of “workers’ knowledge” in relation with the group of industrial work.** Pursuant to some assessment, 1/3 of people employed in the economy of modern USA belong to “knowledge of workers”;<sup>46</sup>

5. **Globalization of market, growth of number of companies, transfer to the markets, new technologies, and increasing influence from the side of the shareholders – all these conditioned creation of hyper-competition.** In this regard, orientation on the consumers become main instrument in competitive fight, as well as complete consideration of its individual requirements and permanent improvement of business procedures.<sup>47</sup> As the first, so second strategy requests effective utilization of intellectual resources.

6. **For rates and scales of scientific-technical progress the fact, that changes in material base and labour resources of enterprise go behind the rates of technical abilities is characteristic.**<sup>48</sup> This is related to the fact that tough competition formed wave of innovations, increased number and variety of high technological goods and services. Though, together with this, it essentially reduced the cycle between their placement to the market and changing goods and services.

7. **Modern economy is also characterized with the growth of transactional expenditures,** related to obtaining information, study of the market, signing contracts and their fulfilment with control, protection of property rights and so on.

8. **Importance of information and communications in post industrial economy becomes important factor to provide competitive abilities of the enterprise.**<sup>49</sup> Integration of obtaining and processing processes of information gave rise to huge social, cultural and economical synergetic effect.

Named peculiarities give rise to significant growth of the role of management in the field of intellectual resources. Under the conditions of hyper competitiveness, modern enterprises are given ability of obtaining huge competitive priority and self-survival by effective using of information-intellectual resources.

Problems of formation and utilization of intellectual resources within the frames of strategic plans of enterprise and organization are in close relation with effective realization of innovative projects and programs. Realization of innovative process related with processing new technologies, as well as making industrial, financial, marketing and organization-technological and social-economical decisions, requests not only spending resources, but also special utilization of organization-economical instruments.

In this regard, intellectual capital, which consists of scientific-industrial, information-technological, marketing and other intellectual assets, is not only necessary resource for realization of innovations, but it also becomes main organization-management instrument to develop company and its competitiveness (Figure 1).



FIG. 1. Intellectual capital as resource and instrument of innovative development

<sup>43</sup> Aldoshin V.M. Entering Knowledge Intensive Business of High-Technological Companies (schemes, models and principles of building). M.: “INITS of Rospatent”, 2004. pg. 250.

<sup>44</sup> Kirichenko V. Security and Transfer of Right to the Objects of Intellectual Property upon Their Commercialization // Intellectual Property. 2004, No. 12. pg. 3-7.

<sup>45</sup> Klimov S.M. Intellectual Resources of Organization. SSU.: IVESEP: Znanie, 2000. pg. 168; Klimov S.M. Strategic Management of Intellectual Resources of Organization. SSU.: Union “Znanie” of St. Petersburg and Leningrad province, 2011; pg. 157. IVESEP: Znanie, 2000. pg. 157.

<sup>46</sup> Using Intellectual Property in Innovative Entrepreneurship. Author analyst of reference L.G. Kravets. M.: INITS of Rospatent, 2004. pg. 90.

<sup>47</sup> Steward T. Intellectual Capital. New Source to Wealth of the Company. New Post-Industrial Wave in the West. Anthology. Under edition of V.L. Inozimtseva. M.: Academia, 1999. pg. 497.

<sup>48</sup> Figelson V.V. Intellectual Property and Inter-Economical Activity. 2nd publishing, processed and annexed. M.:INITS Rospatenta, 2004. pg. 119.

<sup>49</sup> Arski U. M., Giliakvski R.C., Tusov I.S., Cherni A.I. Info-sphere: Information Structures, Systems and Processes in Science and Society. M.: VANITY, 1996. pg. 471.

Given proves express the nature of knowledge consuming fields especially well, where result of function of industrial subject depends directly on successive realization of scientific-research and experimental-constructional works within the bounds of innovative programs. It is to be mentioned that knowledge consuming fields in their work unite tightly economical and social functions.

Science is the base of development of knowledge-consuming industry and the level of science and knowledge consuming production defines scientific-technical development of the country.

For today almost 80% of world market of knowledge-consuming production is controlled by three countries – USA, Germany and Japan. Remaining quota belongs to about 15 developed countries of Europe and Asia.<sup>50</sup> Clear view about value of intellectual property at the global market is made by following data: brand of the company “Coca-Cola” is evaluated in 70 milliard US Dollars, of Microsoft – 65 billion US Dollars, IBM – 52, GE – 42, Nokia – 35, Ford – 30, McDonald’s – 25.<sup>51</sup> In such case we speak not about shares of the company, but only about its name.

Lower limit of capitalization of the company “Brand-Elite” shall compile not less than 1 billion US Dollars. It shall be mentioned that none of the companies of post-countries is included into 100 of the most expensive global brands. The most expensive brand according to the specialists is owned by “Gazprom”; it is evaluated with about 350 billion US Dollars. The value of intellectual capital of the USA amounted 86% pursuant to the data of 2007, while that of financial and material capital – 14%. There is different situation in the post-countries. With according to the official data intellectual property amounts less then 1% of total price of native assets.<sup>52</sup> Data of the value of immaterial assets for the company “Coca-Cola” amounts 94%.<sup>53</sup>

This is the reason why the issues of protection of intellectual property are of great importance by the industrial subjects of leading countries of the world. The quantity of applications entered into the patenting authorities is being rapidly increased. By the year 2008 their number was increased in 25%. 42% among them came on the USA, 13% - on Germany, 10% - on Great Britain, 3%- on the developing countries. On 2007 USA sold 39250 patenting applications, in Japan – 16774, in Germany – 13970, in Great Britain – 6090.<sup>54</sup>

Under modern conditions, China carries out policy on the issues of patenting, as inside the country, so abroad. For example, according to the number of national patenting, China occupied leading position in the world in 2007, and according to the registered trademarks, it overrun numbers of countries. In this regard, we can say that extremely strong competitor appeared at the global market of intellectual property.

Official statistics in Georgia do not include complete notes, characteristic characterizing the volume, dynamics and direction of development of national market of intellectual property.

Let us discuss several peculiarities and characteristic signs of the market of intellectual products.

**1. Characteristic of commodity.** At the market of intellectual products commodity is results of scientific research and processing, costs of constructional and technological documentation; as well as original technical decisions and software. Main consuming feature of intellectual commodity is the ability of making additional profit, by means of new knowledge, by using relatively effective methods of satisfaction of consumer’s request. According to the Academician **L. Chikava, Intellectual Capital is “peculiar kind of property, as it consists of quite specific valuables and expresses relations created out of owning, managing, utilization and owning of the results of intellectual activities of people, saying briefly, property right on intellectual properties in any domain”.**<sup>55</sup>

At the markets results of intellectual activities in the way of technologies are of great interest, namely: inventions, industrial samples, trademarks, computer software, Know-how, that is various objects of legal security, which essentially increase commercial value of goods. Upon selling technologies special importance is gained their transfer to consulting and engineering services, also together with distribution system and servicing of the production.

Intellectual commodity is characterized with following peculiarities in regard with other goods:

- Intellectual commodity is the product of natural monopoly of the producer’s intellect.
- Its total alienation doesn’t take place; it is alienated for small period of time, that is why it can be the object of several arrangements at the same time;
- It has no physical form;
- It can be sold several times, without damaging its content,<sup>56</sup>
- Commodity form has reduced character, as intellectual commodity turns into the Commodity not immediately, but after its utilization;
- Foundation to its price is individual expenditures of labor, as product of intellect is of unrepeated character;
- Most part of intellectual products consists of material carrier and ideal part, both parts are the objects of legal security,<sup>57</sup>

<sup>50</sup> Utilization of Intellectual Property in Innovative Entrepreneurship. Author analyst of reference L.G. Kravets. M.: INITS of Rospatent, 2004. pg. 90.

<sup>51</sup> Bogdanov N. Including the Issues of Intellectual Property into the field of Regulation of Global Trade Organizations/ Agreement TRIPC// Intellectual Property, 2004. No. 9-10. pg. 10.

<sup>52</sup> Moiseeva N.K. Branding in Management of Marketing Activity. M.: Omega-L, 2008, pg. 410.

<sup>53</sup> Bogdanov N. Including the Issues of Intellectual Property into the field of Regulation of Global Trade Organizations/ Agreement TRIPC // Intellectual Property, 2004. No. 9-10. pg. 10.

<sup>54</sup> Gurvich V. Intellectual Property – Inactivated Resource of Economical Growth // Political magazine, 2008. No. 24. Online-version; Teece D. Capturing Value from Technological Innovation: Integration, Strategic Partnership and Licensing Decision; Tushman M., Anderson P. Management Strategic Innovation and Change. Oxford University Press, 2009. pg. 287-306.

<sup>55</sup> Chikava L. Innovative Economy. Tb.: Publishing Company “Siakhle”, 2006. pg. 78.

<sup>56</sup> Rubinshtain Moshe A., Firstenberg Iris R. Intellectual Organization. Bringing Future to Present and Turning Creative Idea into Business Decision. Translation from English. M.: INFRA-M, 2007. pg. 192.

<sup>57</sup> Mokrishev V.V., Aldoshin V.M. Management of Exclusive Rights (Intellectual Property, Immaterial Assets) under

**2. Characteristic of Request.** Demand on intellectual products is defined by reality of their commercial utilization, for the purpose of making additional profit; this process is realized on the basis of protected results of intellectual activity, realization of made products, as well as in the way of selling utilization right on the objects of intellectual property on the basis of licensing agreement.

Sometimes separate objects of intellectual property can be purchased as well, which are always related with the strategies of issuing real production. For example: purchasing right to use invention patent may block distribution of competitive commodity to the market by the competitor.<sup>58</sup> In such case gaining special right provides continuance of manufacturing of the products at the market of existed technique and making additional income by blocking new technical decision.

Demand on intellectual property has less flexible character, as it enters the market, as a rule, without analogues. It is either independent, or is practically unchangeable product. Respectively, price policy lightly influences upon volume of distribution.

**3. Competitiveness factors of intellectual products.** Competitiveness of intellectual product can be defined with following factors;

- **Degree of legal protection** that is quality of providing monopoly rights at specific market. This latest means basic and secondary units, as well as existence of legal protection on the trademark;
- **With technical level of intellectual product**, which can conform with modern technical level or exceed it;
- **With the degree of innovation.** Intellectual product can have high degree of innovation i.e. satisfy unsatisfied demand on it, though it can have numbers of new characteristics or to be of the way of existed intellectual product existed at the market.
- **With peculiarities of purposeful market;**
- **By comparing their value with that of similar product**, i.e. with the price of similar technical characteristics;<sup>59</sup>
- **Expected severity of competition** (entering market by the competitors with analogue products are impeded by means of significant expenditures on researches and processing, or at the market there can appear competitors of reduced quantity manufacturing analogue commodities, or practically any company can create analogue production and enter the market in the shortest period of time);
- **With the abilities of potential widening of the market** i.e. with the potential of development included in the intellectual product.

**4. Peculiarities of the market of intellectual product are:**

- First stage of vital cycle, as native market is in the beginning conditions;
- High level of monopolization of the market;
- Difficulty of the market analyze is explained with the fact that for today statistics of licensed patent agreements is not high;
- Demand of low flexibility;
- High demands on further services of sales;
- Growth of services of market, namely of consulting and evaluation;
- Demands on conducting before-trade marketing analyzes;
- Using standards, as basic factor of competition. i.e. owning standards gives the company opportunity to occupy dominated position in the field and receive monopoly rights.

**5. Necessity of commercialization of intellectual property conditions** the fact that the companies meet the necessities of foreign market. This, in its turn, **demands dynamic development of intellectual property.** World Bank conducted study of development of this new sector of service – right and receiving of using intellectual property. Pursuant to the received data, its annual growth amounted 9.5%, while share of the market in the structure of global trade during last 10 years has been increased from 37% to 42%.<sup>60</sup>

Under conditions of market economy importance of law about intellectual property is being especially increased.

Intellectual property is protected with Georgian Constitution and rights on it are untouchable. Property rights on intellectual property are balanced with the property right on material items. As for moral rights, they are considered and recognized to be inseparable rights of the author that their protection doesn't depend on property rights.

**Bern Convention** provides the issues of special (property) and moral (personal moral) rights of authors. The issues of industrial property are regulated by Paris Convention (1883). Georgia entered into Paris Convention in 1994 on the basis of Declaration about continuing undertaken obligations during the times of USSR. Pursuant to Paris Convention, objects of protection of industrial property are: patents, useful models, industrial samples, trademarks, service signs, trade names, marking their origin or naming their place of origin, as well as prevention of unfair competition.<sup>61</sup>

Distribution of information for the purpose of obtaining and distribution of scientific-technological information becomes available to the society through systematized patent documentation at patent funds. "There are more than

Competition. M.: INITS, 2002. pg. 212.

<sup>58</sup> Aldoshin V.M. Entering Knowledge Intensive Business of High-Technological Companies (schemes, models and principles of building). M.: "INITS of Rospatent", 2004. pg. 250.

<sup>59</sup> Mokrishev V.V., Aldoshin V.M. Management of Exclusive Rights (Intellectual Property, Immaterial Assets) in Competition. M.: INITS, 2002. pg. 212.

<sup>60</sup> Aldoshin V.M. Entering Knowledge Intensive Business of High-Technological Companies (schemes, models and principles of building). M.: "INITS of Rospatent", 2004. pg. 250.

<sup>61</sup> Dzamukashvili D. International Law of Intellectual Property. Tb., 2000. pg. 42.

30 million patent descriptions, in which information of colossal quantity is accumulated in them. 80 percents of scientific-technical and technological information can be found only at patent documentation. For example, in the data base of “Derwent” information on 22 million patents out of 40 patent organizations of the world was kept during last years”.<sup>62</sup>

Necessity of regulating legal base of the market of the products of intellectual property is provoked also with activation of foreign capital in our country, which is being interested in the perspective of providing legal protection of their intellectual property. As a rule, they are to purchase special rights to get rid of possible competitors, as it is not to be hidden that native manufacturers often work with the technologies, which are not verified on patent pureness or are illegally copied from abroad.

Thus, under the conditions of dynamical growth and developments of the market of intellectual products only results of active strategic formations, developments and utilization can provide global competitiveness of native industry.

Let us discuss problems of managing reproduction of intellectual capital at knowledge-consuming enterprises and define directions of solving arising problems for the purpose of rising effectiveness of managing intellectual capital.

**Defining Trends of Increasing Effectiveness and Analyzing Problems of Managing Intellectual Capital Within the Conditions of Innovative Development.** Notwithstanding important experience of western scientists, intellectual assets are conditioned by permanently changeable terms of social production in the field of economical utilization, as well as necessity of adaptation of existed instruments and permanent improvement of processed methodological base.

If we speak about identification of intellectual capital, at the level of enterprise on the status of study of assessment and management fields, decision can be made about the fact that such studies are of quite high level. Invisibility of intellectual assets for the most part of enterprises speaks of their being unmanaged. Besides this, instability of economy and undeveloped character of market relations influence upon management process of intellectual potential for native enterprises. Mentioned condition excludes possibilities of making adequate direct western models of economical conditions.

Basic problems of managing reproduction of intellectual capital can be separated into two large classes:

1. Problems of formation and development of intellectual capital;
2. Problems of managing utilization and commercialization of intellectual property.

Let us discuss basic directions of those theoretical studies, which are related with solving separate problems of each class and define basic direction of increasing effectiveness of managing intellectual capital of knowledge-consuming enterprises.

**Peculiarities of the Management Objects of Intellectual Capital.** Most part of highest and middle ranges of native knowledge-consuming enterprises under modern conditions have already realized necessity of organizing management of intellectual capital of industrial subject. In this respect it is necessary to discuss peculiarities and problems of forming intellectual assets of knowledge-consuming enterprises, as well as to evaluate and select directions of increasing effectiveness of management of process. Author of this book offers solving raised questions pursuant to the mentioned domain from the point of processing and making managerial decisions. Thus management process is the process of making managerial decisions in relation with the raised problems. Let us discuss what are peculiarities of object and subject of management of formation and development of intellectual assets, as well as the peculiarities characteristic to managerial decisions themselves.

In the field under study, management object is the process related to creation and development of intellectual asset. Following peculiarities of management objects can be separated here (Figure 2.):

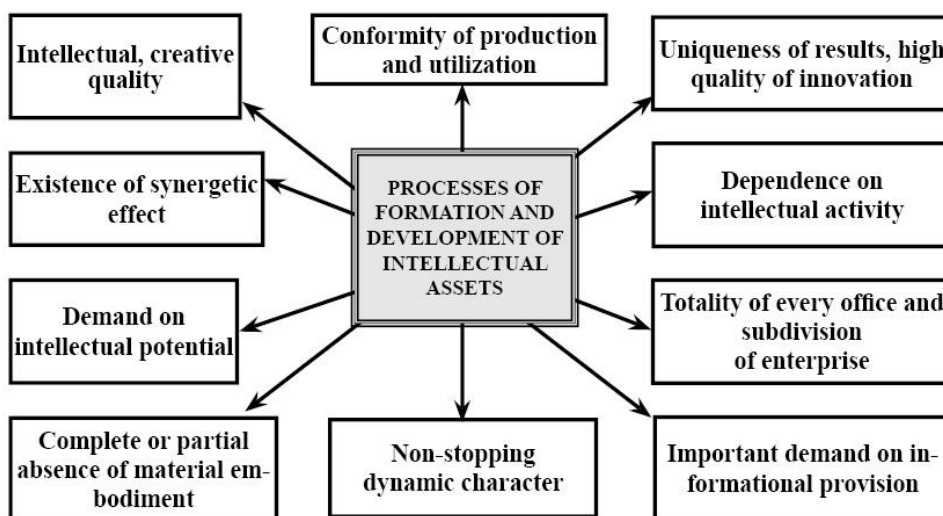


FIG. 2. Peculiarities of management object

<sup>62</sup> Chikava D. Innovative Economy. Tb.: Publishing Firm “Siakhle”, 2006. pg. 90.

**1. Intellectual creative character of formation and development processes of intellectual assets<sup>63</sup>** are expressed in the fact that their realization requires important expenses of creative energy of individual.

This is the energy which influences upon growth of effectiveness of the enterprise functioning through intellectual capital of the worker. Namely, in the competitive abilities of production (technical level, growth of its quality), as well as reduction of labor-consuming of the work and provision of resource and energy saving.

**2. Conformity of production and utilization within the frames of the processes of forming and developing intellectual assets.<sup>64</sup>** On the one hand a human goes deep into the industrial processes, while on the other hand, work at the working place means utilization of information and receiving knowledge, which are received by other people. As a result, border between entrepreneur and non-entrepreneur works, between industrial works and leisure and at last between production and utilization. Here transfer from pure production to the processes, in which important role is played by utilization takes place, as well as transfer from pure utilization to industrial activities.

**3. Uniqueness of high quality of innovation of the results of formation and development processes of intellectual assets<sup>65</sup>** is related to social-psychological peculiarities of individuals, as well as with different features of their mentality. Main direction of intellectual activity is invention, receiving unity of features characteristic to radical changes of object. Innovation guarantees unity of improved characteristics (features, data, parameters and so on), it supports growth of quality and competitiveness of the product (service), time factor, taking into account vital cycle of new commodity.

**4. Existence of synergetic effect.<sup>66</sup>** Union of intellectual potential of employees in the process of fulfillment of creative issue, is characterized with constructive synergetic effect, where

$$\begin{array}{ccccccc} \text{Personal} & & & \text{Personal} & & & \text{2 Personal} \\ \text{Intellectual} & & + & \text{intellectual} & & > & \text{intellectual} \\ \text{Potential 1} & & & \text{Potential 2} & & & \text{Potential} \end{array}$$

Synergetic effect can be destructive as well in case of corporative culture and negative influence of technologies, its intellectual surrounding, and psychological inconformity between the participants of information creative group.

**5. Demand of intellectual potential.<sup>67</sup>** Intellectual property of employees, as reserve of knowledge, experience and creative abilities (expressed in the way of means of free production in the process of formation and development of intellectual activity). Thus effectiveness of intellectual activities, in the first place, depends on intellectual potential of employees.

**6. Complete or partial absence of material realization of the processes of formation and development of intellectual assets<sup>68</sup>** is related with the fact that functioning of the brain is invisible to the eye; creative process has endogen character, as well as result made in the process of transferring to material carriers; though this material carrier loses its importance standing apart.

**7. Dynamic, unstoppable character of the processes of formation and development of intellectual assets.<sup>69</sup>** Dynamic character is expressed in the fact that the employee doesn't stop realization of creative objective together with completion of working day. It continuously thinks about this objective and tries to find the way of its solving. This process is unstoppable and includes total space in the lives of the persons and enterprise. Besides this, receiving creative results automatically gives rise to its dialectic development. That is why the process of creation of the new has continuous, permanently developed character.

**8. Important demand on informed provision.<sup>70</sup>** Discussed processes demand utilization of the flow of entering resources. In creative intellectual works existed knowledge, data and information are used in the way of resources. Additional intellectual product is received in the process of processing abovementioned resources, as a result of wasted energy. This latest together with respective informational provision requires high creative work.

**9. Consistence of every office and subdivision of enterprise.<sup>71</sup>** For today creative work consists of every office and division of enterprise; namely, technical department, which provide realization of scientific-research and experimental-constructional works, marketing, financial, staff and other offices of management. This is related with continuous process of creation of scientific, technical-technological ideas, study of markets and technologies of

<sup>63</sup> Melnikov O.N. Economy and Management of Entrepreneur Activities as of Function of Expenses of Creative Energy of the Subjects of Market, 2nd publishing, reviewed and annexed, M.: ID "MELAP", 2004. pg. 216; Roos G., Dvomsspm L., Roos J., Dragonett J. Intellectual Capital: Navigating the New Business Landscape. London Macmillan Press Ltd, 1997. pg. 117.

<sup>64</sup> Lukicheva L.I., Egorichev D.N. Inter-Company Management of Intellectual Assets. M.: Omega-L, 2004. pg. 124; Larsen H.T., Vouritsen J., Bukh P.N. Intellectual Capital Statements and Knowledge Management: Measuring, Reporting and Acting. Australian Accounting Review, 1999. 9(3). Pg. 15-19.

<sup>65</sup> Bromberg G.V. Intellectual Property: from Creation to Utilization. M.: INITS Rospatent, 2002. pg. 207.

<sup>66</sup> Ruus I. Paik S., Feristrem L. Intellectual Capital: Management Practice. Translated from English language. St. Petersburg. Supreme school of management, 2008. pg. 17.

<sup>67</sup> Bruking E. Intellectual Capital: Key to the Success in New Millenium. St. Petersburg: Piter, 2001. pg. 288.

<sup>68</sup> Ruus I. Paik S., Feristrem L. Intellectual Capital: Management Practice. Translated from English language. St. Petersburg. Supreme school of management, 2008. pg. 17.

<sup>69</sup> Teece David J, Managing Intellectual Capital: Organizational, Strategic and Policy Dimensions. Oxford University Press. 2000. pg. 300.

<sup>70</sup> Sargadov A. Human Capital: Source of Development // Ekonomika I zhizn. 1998. No. 1-2 extract / V.V. Glukhov, B. Korobko, T.V. Marinina. Economy of Knowledge St. Petersburg, Piter, 2003. pg. 528.

<sup>71</sup> Teece David J, Managing Intellectual Capital: Organizational, Strategic and Policy Dimensions. Oxford University Press. 2000. pg. 300.



analyzes, marketing instruments, procedures of managing financial flows, methodologies of financial analyses, technologies stimulating development of employees, methods and instruments of management, obtaining and processing information and technology of analyze and so on. Thus, increasing effectiveness of the work is achieved by means of involving of every office of the enterprise into production of intellectual capital, which brings to the enterprise significant financial and social effects.

**10. Dependence on intellectual activity.**<sup>72</sup> Results of formation and development processes of intellectual assets depends greatly not only intellectual potential of a person, but on its intellectual creative activity. This is the process of intellectual activity when transformation of intellectual potential and its information into additional intellectual product takes place.

Management subject of formation and development of intellectual assets are managers of every office and subdivision of the enterprise, as well as employees of marketing, patent, HR departments, workers of management departments of intellectual property and intellectual assets (at foreign enterprises), also superior management. Peculiarities of management subjects are: high qualification, economical and legal education, essence of management object and good knowledge of specification. Besides this, the ability of working without permanent control of higher management in new fields of ideas, science and technique is of great importance as well. One of the most important factors of successful work is personal abilities of a man: innovative aspects and initiative.

In the process of managing field of formation and development of intellectual assets, following decisions are made:

- about formation of informational intellectual surrounding;
- about definition of processing and directions of programs of creation of intellectual assets;
- about definition of demand on intellectual resources;
- about utilization of funds of knowledge;
- about increasing productiveness of intellectual labor;
- about development of inclination towards leadership and creative labor;
- about formalization and segmentation of procedures for coordination of every specialist involved in management of formation and development of intellectual assets;
- about determination of rights and responsibilities of employees (which influence upon creation and development of information – intellectual property of the enterprise);
- about formation of system of methodologies and methods of gathering, transferring, processing, maintenance and utilization of information;
- on provision of information security and processing activities of reduce availability on it;
- of provision of external environment monitoring;
- on preventing leakage of commercial information to external environment;
- about organization of legal security;
- on avoiding unfair competitiveness;
- about conducting analyze and evaluation of commercial price of created intellectual assets;
- on attraction of intellectual potential from external enterprises;
- on development of intellectual potential of enterprise through verifying purposefulness of investments of financial resources.

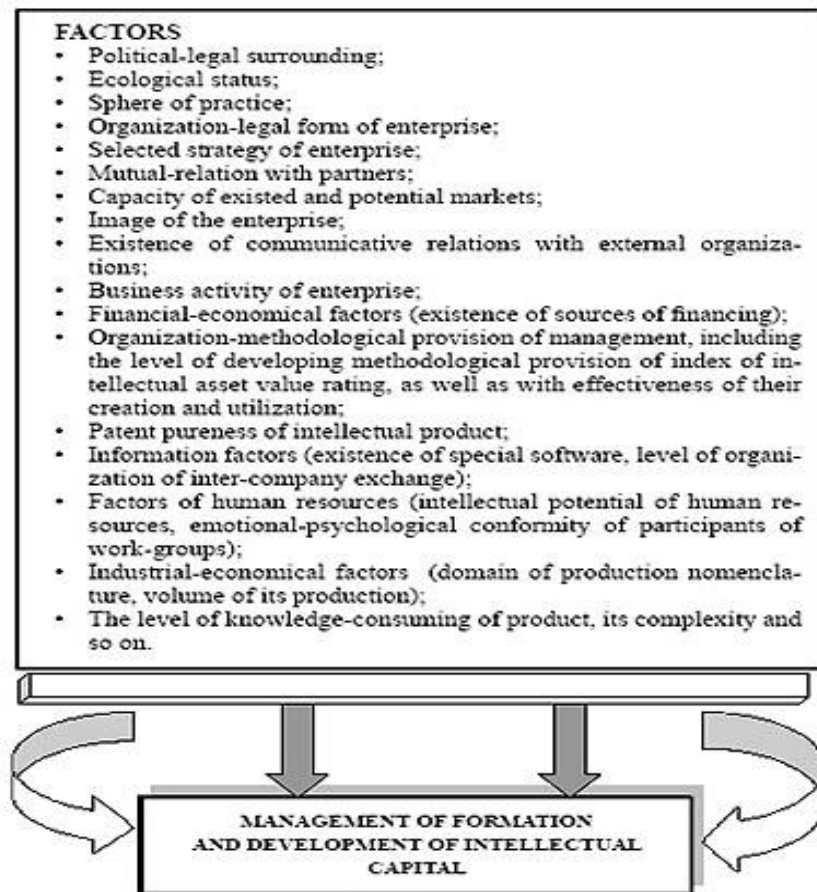
Peculiarities of making decision about management of formation and development of intellectual assets include in the fact that:

- it significantly depends on analyzing situation at the market, by taking into account tendency of request on their processing;
- according to the specifics of goods it is characterized with high demand on knowledge of legal and juridical basis of mutual relation with partners;
- they support intellectualization of labor activity; and increasing level of their knowledge consuming;
- it subordinates to hardly to standardization, as problems to be solves are not similar and standard;
- accent is made on changes in the composition of goods and service to be provided, improvement of their quality, as well as development and satisfaction of increasing demand on society and individuals;
- Has high degree of indefiniteness and risk;
- They influence greatly upon development and effectiveness of functioning;<sup>73</sup>
- Economical balance is ruined, enters oppositions and indefiniteness in dynamic development of economy;
- Are used at every level of management;
- Requests utilization of respective methodological provision, namely utilization of he method of defining individual bit in the process of formation and development of intellectual asset in definition of commercial cost of created intellectual products., also in monitoring of management of creation and development of intellectual assets of monitoring upon activation of monitoring activities.

Let us form the factors of forming and development of intellectual assets influencing upon management domain (Figure 3):

<sup>72</sup> Melnikov O.N. Management of Intellectual-Creative Resources of Knowledge Consuming Enterprises. M.: Machine Industry, 2004. pg. 324.

<sup>73</sup> Bromberg G.V. Intellectual Property: from Creation to Utilization. M.: INITS Rospatent, 2002. pg. 207; Bruking E. Intellectual Capital: Key to Success in New Millennium. St. Petersburg: Piter, 2001. og. 288; Sveiby K.E. Intellectual Capital and Knowledge Management, 1998; Teece Davud J. Managing Intellectual Capital: Organizational, Strategic and Policy Dimensions. Oxford University Prss. 2000. pg. 300.



**FIG. 3. Factors influencing upon management of formation and development intellectual capital**

Thus work of the managers in the way of management of commercialization of intellectual assets has creative and intellectual character, while making managerial decisions is directed towards firm innovative development of enterprise, which is one of the basic term for rising competitive abilities of enterprise.

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