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## INNOVATIVE TENDENCIES OF HUMAN CAPITAL ASSETS DEVELOPMENT IN THE HIGHER EDUCATION SYSTEM

### Abstract

The importance of formation and development of the human capital assets in modern economy of knowledge is analyzed in the article. It is recommended to understand the margin of professional and social scope of duties (knowledge, skills, know-hows) as the human capital assets, accumulated during the social and economic activities, professional experience, creative and intellectual abilities, performance and personal development motivations, mobility, resilience, psychological and physical health, moral values, favoring the economic activity, increase in labor productivity, leading to the income increase of both a person and the society, a part of which he is.

It is specified, that the major features of the human capital assets are the ability to produce and increase income; accumulation and necessity of the continuous investments; physical deterioration and obsolescence; dependence on the ways of motivation and stipulation; high risks; time remoteness of return on investment; dependence of the return on the investment process intensity and on the length of life of the human capital assets holder and his employable period etc.

Many formal and informal social institutions affect the process of the human capital assets formation, in particular: the system of compulsory school and professional education, additional study within the lifelong education concept, family, society, and state.

The use of intellectual working becomes more urgent along with the introduction of new technologies, operation of automatic equipment. In view of this, the requirements for the educational system, which in turn affects the formation of the breakthrough human capital assets, change. It is recommended to understand, as the qualitative human capital assets, such human capital assets, defined by not only high intellectual and creative abilities, the presence of the required by economy professional competence, high mobility level, resilience, but also invested with important for innovative economy features, such as: entrepreneurial spirit and proactive attitude, responsible attitude to work and personal labor, independence, tenacity, aiming for something new creation and the readiness to be an innovator, the ability and readiness to work in sphere of hi tech knowledge, science and innovations.

It is proved, that the human capital assets formation should come through the following steps: the potential capacity definition and primary development of the human capital assets; formation of the qualitative human capital assets, meeting the requirements of modern economy; usage of human capital assets and its further development according to the modern educational concept. The major innovative tendencies of human capital assets development in the higher education system were studied.

**Keywords:** human capital assets, higher education, formation of innovative capital assets, innovative tendencies of development.

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## ІННОВАЦІЙНІ ТЕНДЕНЦІЇ РОЗВИТКУ ЛЮДСЬКИХ КАПІТАЛІВ В СИСТЕМІ ВИЩОЇ ОСВІТИ

### Анотація

Досліджено важливість формування та розвитку людського капіталу в сучасній економіці знань. Запропоновано під людським капіталом розуміти запас професійних і соціальних компетенцій (знань, навичок, умінь), який накопичений в ході соціальної та економічної діяльності, професійного досвіду, творчих і розумових здатностей, мотивації до праці й саморозвитку, мобільності, адаптивних здатностей, психічного і фізичного здоров'я, моральних цінностей, які сприяють економічній активності, підвищенню продуктивності праці, ведуть до збільшення доходів, як самого індивіда, так і суспільства, частиною якого він є.

Встановлено, що основними властивостями людського капіталу є: здатність виробляти та збільшувати доходи; нагромадження та необхідність постійного інвестування; фізичний та моральний знос; залежність від способів мотивації та стимулювання; висока ризикованість; віддаленість віддачі від інвестиції у часі; залежність віддачі від інтенсивності процесу інвестування та від тривалості життя носія людського капіталу і його працездатного періоду тощо.

На процес формування людського капіталу впливає безліч формальних і неформальних соціальних інститутів, а саме: система обов'язкової шкільної та професійної освіти, додаткове навчання в рамках концепції навчання протягом усього життя, родина, суспільство, держава.

Із впровадженням нових технологій, використанням автоматизованого обладнання все більшої актуальності набуває використання інтелектуальної праці. В цьому контексті змінюються вимоги до системи освіти, яка, в свою чергу, впливає на формування якісно нового людського капіталу. Запропоновано під якісним людським капіталом розуміти такий людський капітал, який характеризується не лише високими інтелектуальними і творчими здібностями, наявністю затребуваних економікою професійних компетенцій, високим ступенем мобільності, адаптивності, але й наділеним важливими для інноваційної економіки якостями, такими як: заповзятливість і активна життєва позиція, відповідальне відношення до роботи та результатів своєї праці, самостійність, наполегливість, прагнення до створення нового та

*готовність бути новатором, здатність і готовність працювати у сфері високотехнологічних знань, науки й інновацій.*

*Доведено, що формування людського капіталу має проходити в такі етапи: виявлення потенціалу та первинний розвиток людського капіталу; формування якісного людського капіталу, що відповідає вимогам сучасної економіки; використання людського капіталу та його подальший розвиток згідно з сучасною концепцією освіти. Розглянуто основні інноваційні напрями розвитку людського капіталу в системі вищої освіти.*

**Ключові слова:** *людський капітал, вища освіта, формування інноваційного капіталу, інноваційні напрями розвитку*

The human capital assets started to play a special role in XXI century. During the age of economy, basing the knowledge, new knowledge, professional qualification of employees, developed abilities, aiming for innovations become main for its development. All this is directly linked to the problem of human capital assets formation and development.

One of the key features of the human capital assets is its ability to produce and increase income. From our point of view, the human capital assets is a margin of professional and social scope of duties (knowledge, skills, know-hows), accumulated during the social and economic activities, professional experience, creative and intellectual abilities, performance and personal development motivations, mobility, resilience, psychological and physical health, moral values, favoring the economic activity, increase in labor productivity, leading to the income increase of both a person and the society, a part of which he is

Human capital assets has stated features, which include:

- The ability to produce and increase income. Thus, the increase of investments to the human capital assets favors the increase of its holder income;
- The accumulation of human capital assets is during the process of attitude development, education, labor activity and personal health concerns;
- Physical deterioration and obsolescence. The physical deterioration is determined by the extent of the human organism aging, and obsolescence – by extent of knowledge and obtained education aging;
- The necessity of the continuous investment. The expenses for education and sports activities are regarded as investments, as they can be remunerated in future by the owner of the human capital assets by means of employable period increase and the received income;
- Time remoteness of return on investment, thus, the earlier the investment to the human capital assets is started, the faster these investments begin to return;
- The dependence of return on the investments to the human capital assets, on the investment process intensity and on the life length of the human capital assets holder and his employable period [5];
- Qualitative and long lasting investments result in higher and longer effect;
- The investments to the human capital assets are materially profitable for both society/state, and a separate person;
- The investments to human capital assets can be simultaneously conducted by the state, households, educational establishments/employer and the very owner of the human capital assets;
- The success of investments to human capital assets depends on the ways of stipulation and motivation of a person;
- the education and valuables level of the human capital assets, as a rule, depends on the mentality, traditions and culture, followed in the family and society;
- The risk of investments to the human capital assets. Such risk is associated with the fact, that it is almost impossible to foresee the result of the human capital assets formation or guarantee the desired result [6].

Therefore, taking into account everything aforesaid, the human capital assets become capital assets only because of the investments to it. However, investments to the human capital assets provide the return not immediately, but in some period. Respectively, the formation of the human capital assets is “a long and phased process” [3].

A lot of formal and informal social institutes affect the formation of the human capital assets process: the system of compulsory school and professional education, additional study within the lifelong education concept, family, society, and state.

The existing stereotypes, moral norms, culture, values and information, coming from the nearest environment of a person (his colleagues and family members, mass media (incl. the Internet), advertisements) also affect the formation of the human capital assets [4]. Whereby different social institutes affect the formation of human capital assets on their own way to different extent at different phases of its formation. For example, at the primary phase the family institute has a great effect, at the following phases – the society and educational establishments, etc.

Social institutes are also subject to the changes. The state affect them (as one of the social institutes), as well as the economy state. “Worldwide tendencies of XXI century show that the increase of economy development level in the modern conditions depends first of all on the quality of the human capital assets, which is determined by the reached knowledge level, qualification, work skills, potential abilities of the country’s population, the ability to provide innovation development of the production forces” [1].

Social institutes of family and society create the environment, with the effect of which the attitude development, general cultural values, moral norms and behavior standards are formed. The cultural environment lays foundation

of innovative skills and the addiction to innovations, because they can be viewed as defined examples, behavior standards.

The cultural environment is the basis of the human potential development. It is an image of the society's mentality. Thus, except the investments to education and health (which are often mentioned by different scientists) it is necessary to form a healthy, innovative mentality of society and family, and, as a result, it is necessary to invest to mentality (or culture). The very mentality affects the human labor values and innovations, which are the most important factors of economy transformation, economic and legal institutes' modernization [5].

It is determined, foreign and domestic scientists – economists have not agreed on what “the human capital assets” is. But we agree with the statement, that “the question “What is the human capital assets?” can be answered from at least two points of view – a separate citizen and the state. For a citizen, for instance, the human capital assets is a current cost of all future wages. For an individual investor the human capital assets, as knowledge, is the best protection against escalation” [8]. Moreover, respectively, the educational factor is an inherent part during the formation and development of the human capital assets. As far as the education itself provides a person with three major possibilities: to be an intelligent personality, competitive at the labor market and be able for responsible civil choice [8].

So now the formation of such human capital assets, meeting the economy requirements, based on the knowledge, is now necessary for our state. Along with the introduction of new technologies, the usage of automatic equipment, the usage of intellectual work becomes more crucial. In view of this, the requirements for the educational system, which in turn affects the formation and development of qualitatively new human capital assets change. The qualitative human capital assets is a human capital assets defined by not only high intellectual and creative abilities, the presence of the required by economy professional competence, high mobility level, resilience, but also invested with important for innovative economy features, such as: entrepreneurial spirit and proactive attitude, responsible attitude to work and personal labor, independence, tenacity, aiming for something new creation and the readiness to be an innovator, the ability and readiness to work in sphere of hi tech knowledge, science and innovations.

The process of development of human capital assets starts from the present and congenital features of a person. Taking into account the fact that education can be lifelong conducted; we think that the formation of human capital assets should come through the following steps.

Step 1. The potential determination and the primary development of the human capital assets. Knowledge is mostly introduced during the childhood. Respectively its development or capacity building starts at this step. One of the methods of capacity determination and its primary development is holding and participation in school academic competitions. Academic competitions are competitions among schools at regional and state levels, requiring the maximum concentration, organization and knowledge and skills demonstration within a specified sphere from the participants.

Academic competitions are the possibility or chance for the human capital assets development. Such term as “effective (quality) time” (Quality time · QT) is used in Europe and USA. The effective time is such time, which is spent with maximum productivity or fruitfully and provides benefit and profit in the future [4]. Academic competitions, intrinsically, are “the effective or productive time”. As G. Becker noted, the time amount, spent for children development, is determined as the crucial contribution to the future welfare and prosperity of children, which is the contribution to the future human capital assets [3]. The academic competitions is an investment of the family, state, organization and the most often the person himself to the development and formation of future human capital assets.

Step 2. The formation of the quality human capital assets, which meets the requirement of modern economy. The major goal of this step is to prepare the high-level professionals, who will be possible to use innovative scientific advances for the solving of complicated problems in any sphere of economic activities.

Step 3. Usage of human capital assets and its further development according to the concept “Lifelong education”. The dynamism of world development, acceleration of social, economic, and technological development require the actualization of the received knowledge after study. The continuous development and improvement of human capital assets can be provided with the scientific and innovative activities of higher education establishments because of the development of continuous educational system, which includes the organization of different training courses, probation, conferences (that is advanced training) basing the higher education establishments, in scientific laboratories etc.

We think that the investments to human development, provided at three steps of human capital assets formation is an affective mechanism of the young people necessary skills of “innovative person” formation and the human capital assets development in general.

Therefore, taking into account the previously mentioned, the further formation and development of human capital assets in the higher education establishments require the following measures.

1. The development of the intense theoretic advanced courses. The advanced educational programs assist the preparation of highly trained professional, with high intellectual level, who are able to solve complicated, irregular tasks.

2. The transparency of educational programs and advances of the sub department graduates. It is necessary to provide the access to information about graduates of departments and sub departments. As a result, it is necessary to develop the sites with valid information about the employment of the graduates, their career development, etc.

3. Independency. Thanks to the independence of the higher educational establishments, the tutors and administration of the sub department should personally affirm and correct the educational plans and educational programs according to the practical sector of economy and to the demands of modern market. This significantly eases the highly trained professionals preparation tasks.

4. Involvement of the tutors to the practical activities of the enterprises. Involvement of the tutors to the practical activities will provide the maintenance of the essential knowledge of the tutors and the adaptation of personal educational programs to the practical activities of the economic entities.

5. Involvement of the prominent professionals of enterprises to the subject teaching. The managers and employees of the prominent enterprises should be invited for teaching. The periodic holding of such events will provide the continuous actualization of teaching and educational programs, as well as the topics of the thesis researches. Such cooperation will contribute to elimination of the beach between the theoretic basis of knowledge and their practical usage sphere, as well as allow preparing the professionals for the modern economy requirements.

6. The usage of new technologies in education. The lessons should be developed basing on the active cognitive position and be based on the technology of the personally oriented education. Each student is involved to the educational process and during the lesson solves the task of practical kind, showing personal creative skills. Such technologies will contribute to the improvement of the education (preparation) quality, as they help the mastering of professional competence, development of creative and mental skills, enterprising, that is contribute to the formation of the qualitative human capital assets.

7. Provision of laboratory and practical lessons. The value of professionals is in the high level of their professional competence. The competence can be reached only by continuous trainings and practice. Thus, the professionals' preparation should be based on the practical knowledge obtaining. Laboratory and practical lessons are the artificial environment, which is maximum close to real practical environment of knowledge obtaining. They allow building and obtaining the professional competence, mastering, and then are crucial elements of educational process.

8. Carrying out innovative mini projects, holding of apprenticeships and scientific activities. The innovative mini projects are the short term, small tasks-researches within innovative projects, which are held by the higher educational establishment's employees. Thus mini projects can be realized at both sub department, and affiliated enterprises, scientific centers. Not only research advisors of educational programs, heads of sub departments or laboratories are the initiators of innovative projects, but the students themselves. These mini projects are experimental, and are carried out by the students independently and determined by their completeness.

The apprenticeship and scientific activities are integrated to the educational process and respectively can start since the second educational year at Bachelor's program and during the first year at Master's program. The students choose independently the apprenticeship's place and determine the direction of scientific activities according to their personal interests. The usage of apprenticeship in the educational process and carrying out of scientific activities by the students allow practical using of obtained knowledge, improving the personal mastership and obtaining certain professional work experience.

9. Creation of prosperous psychological climate. The psychological, emotional climate affects the educational process, information learning and new knowledge obtaining. That is, the psychological climate affects the person's productivity and determines the representation of his intellectual, creative and innovative abilities.

10. The conditions for personal fulfillment creation. The demands in personal fulfillment are the same demands of a person, as the existence demands. In addition, personal fulfillment contributes to person's spiritual growth, his potential development and continuous improvement, and, what is major, the development of such features as responsibility, curiosity, diligence, insistence, proactivity, creativity, morality etc.

There is no doubt that the human capital assets is a basis of economic growth and economy modernization. The economy development is performed thanks to new knowledge, technologies, which can be obtained only by the highly trained professionals. Respectively, education is a basis for human capital assets formation and development, which invests to increase of human health capital assets, his social and economic welfare, as well as contributes to economic development of both a separate person, and the state in general.

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## ЗМІСТ

- 6 **Абсаямова Яна, Михненко Галина**  
РОЛЬ ІНТЕЛЛЕКТУАЛЬНОЇ МОБИЛЬНОСТІ В ПРОФЕСІОНАЛЬНІЙ САМОРЕАЛІЗАЦІЇ  
СОВРЕМЕННОГО ПРЕПОДАВАТЕЛЯ ІНОСТРАННОГО ЯЗЫКА ТЕХНИЧЕСКОГО  
УНИВЕРСИТЕТА
- 9 **Анпілогова Тетяна**  
ЗАЛУЧЕННЯ СТУДЕНТІВ ДО НАВЧАЛЬНОЇ ДІЯЛЬНОСТІ
- 12 **Арістова Наталія**  
КОМПЕТЕНТІСНИЙ ПІДХІД НА ФОРМУВАННЯ ПРОФЕСІЙНОЇ КОМПЕТЕНТНОСТІ  
МАЙБУТНІХ ФІЛОЛОГІВ
- 16 **Баглай Роман**  
УПРАВЛІННЯ ДОСТУПОМ КОРИСТУВАЧІВ БАНКУ НА ОСНОВІ ХМАРНИХ ТЕХНОЛОГІЙ
- 26 **Барабаш Олена, Корнієнко Дмитро, Антонюк Максим**  
ФОРМУВАННЯ СИСТЕМИ ЕКОЛОГІЧНОГО МЕНЕДЖМЕНТУ НА ПІДПРИЄМСТВІ ХІМІЧНОЇ  
ПРОМИСЛОВОСТІ
- 29 **Барабаш Олена, Кухтик Наталія**  
РОЗРОБКА СИСТЕМИ ЕКОЛОГІЧНОГО МЕНЕДЖМЕНТУ НА ПІДПРИЄМСТВІ ХІМІЧНОЇ  
ПРОМИСЛОВОСТІ ЯК ОСНОВА СТАЛОГО РОЗВИТКУ
- 33 **Білошапка Вікторія, Продан Мирослава**  
ДОВІРА НАСЕЛЕННЯ ДО БАНКІВ, УМОВИ ЇЇ ФОРМУВАННЯ ТА ПІДВИЩЕННЯ У СУЧАСНИХ  
УМОВАХ
- 39 **Бондарчук Наталія, Васільєва Леся**  
ІННОВАЦІЙНІ ТЕНДЕНЦІЇ РОЗВИТКУ ЛЮДСЬКИХ КАПІТАЛІВ В СИСТЕМІ ВИЩОЇ ОСВІТИ
- 44 **Бунтова Наталія**  
ВЕКТОРИ УДОСКОНАЛЕННЯ ПІДГОТОВКИ ФАХІВЦІВ ІНДУСТРІЇ ГОСТИННОСТІ  
ДЛЯ ЗАБЕЗПЕЧЕННЯ КОМПЛЕКСНОЇ ІНТЕГРАЦІЇ УКРАЇНИ У МІЖНАРОДНІЙ ОСВІТНІЙ  
ПРОСТІР
- 48 **Давиденко Тетяна**  
CASE-STADY У ВИКЛАДАННІ ІНОЗЕМНОЇ МОВИ
- 51 **Дворянчикова Світлана, Юган Наталія**  
НАВЧАННЯ КРИТИЧНОГО МИСЛЕННЯ В УКРАЇНСЬКИХ ВИШАХ: ОСВІТНІ ТРЕНДИ  
ТА ВИКЛИКИ ВІРОВАДЖЕННЯ
- 57 **Горлатова Олена**  
ОСВІТА В КРАЇНАХ ЗАХІДНОЇ ЄВРОПИ ЕПОХИ СЕРЕДНЬОВІЧЧЯ
- 60 **Гриценко Ірина**  
ПСИХОЛОГО-ПЕДАГОГІЧНІ ХАРАКТЕРИСТИКИ ПРОФЕСІЙНОЇ СУБ'ЄКТНОСТІ МАЙБУТНІХ  
ФІЛОЛОГІВ: ЗМІСТ І СТРУКТУРА
- 65 **Гунченко Оксана, Стефанович Павло**  
УПРАВЛІННЯ РИЗИКАМИ У СИСТЕМІ УПРАВЛІННЯ ОХОРОНОЮ ПРАЦІ
- 70 **Ішенко Тамара, Кузьменко Діана**  
РОЛЬОВА ГРА - ОДИН З ІНТЕРАКТИВНИХ МЕТОДІВ НАВЧАННЯ СТУДЕНТІВ-ЕКОНОМІСТІВ  
АНГЛІЙСЬКОГО ДІЛОВОГО МОВЛЕННЯ У ВИЩИХ ЗАКЛАДАХ ОСВІТИ
- 73 **Іванова Олена**  
МОДЕЛЮВАННЯ ІНФОРМАЦІЙНИХ ПРОЦЕСІВ ТУРИСТИЧНОГО КЛАСТЕРУ
- 77 **Хоменко Олена, Загоруйко Неллі**  
ПЕРСПЕКТИВИ РОЗВИТКУ ЕКОЛОГІЧНОГО ТУРИЗМУ В ЧЕРКАСЬКІЙ ОБЛАСТІ В КОНТЕКСТІ  
СТАЛОГО РОЗВИТКУ РЕГІОНУ
- 81 **Колодяжна Алла, Мушкудіані Олександра**  
МОТИВАЦІЯ СТУДЕНТІВ-ІНОЗЕМЦІВ ПІДГОТОВЧИХ ФАКУЛЬТЕТІВ ЩОДО ФОРМУВАННЯ  
ІНШОМОВНОЇ КОМУНІКАТИВНОЇ КОМПЕТЕНЦІЇ
- 84 **Корінна Людмила**  
ПЕДАГОГІКА ПАРТНЕРСТВА ЯК БАЗОВИЙ ПРИНЦИП ОНОВЛЕННЯ СИСТЕМИ  
ОСОБИСТІСНОГО ТА ПРОФЕСІЙНОГО РОЗВИТКУ УЧАСНИКІВ ОСВІТНЬОГО ПРОЦЕСУ