

## HUMAN CAPITAL AS A KEY ELEMENT OF STRATEGY FOR SUSTAINABLE DEVELOPMENT OF INDUSTRIAL ENTERPRISE

**Problem statement.** The Ukrainian industry is going through a difficult stage of adaptation to new business conditions, which are characterized by tough competition for constant sales markets. The industrial potential of Ukraine is very powerful, which is confirmed by the existence of industrial production in each region. Any production needs resource support. The main resource of them is the labor resource, which is characterized by labor potential with the socio-psychological characteristics of the behavioral economy. This makes it difficult to manage it, focused on sustainable development of enterprises. In the works of many authors, labor resources are increasingly considered as human capital, which is the most valuable assets and, in accordance with the strategic goals of the enterprise, provides the desired income and creates competitive advantages. Now days human capital is one of the most important components of the resource potential of the enterprise. Today management of enterprises has a need for a system of indicators that will be able to describe and forecast the growth of the value and productivity of workers in a strategic aspect. Quantitative indicators of human capital are mostly aimed at measuring labor costs, the volume of opportunities for workers and time in the short term period. The addition of these indicators with qualitative characteristics (the level of professional training of an employee, the correspondence of a position, the accumulated experience, the intellectual potential of an employee, the level of professional mobility, the employee's interest in the results of his work in accordance with the company's strategy) will allow enterprise managers to concentrate their efforts on values, knowledge and reactions of people in accordance with the strategy.

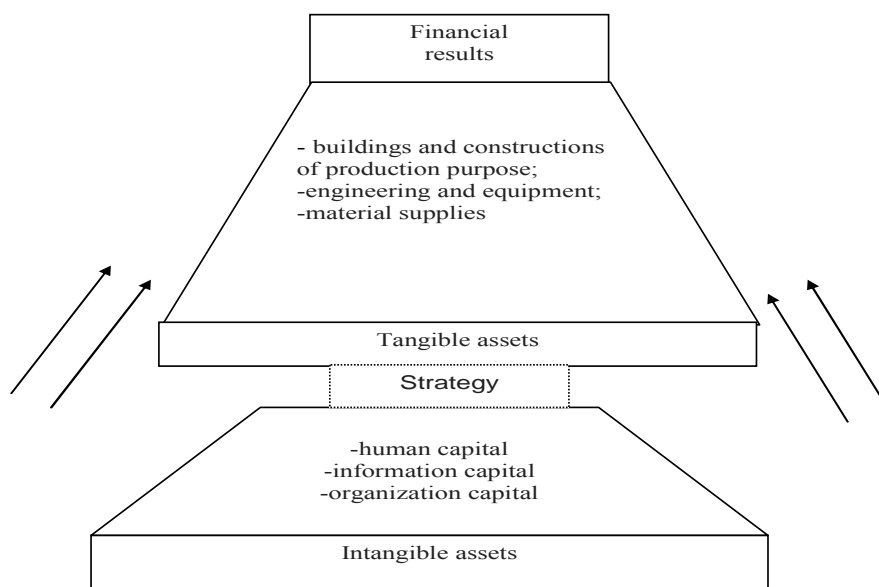
**Analysis of recent research and publications.** Many scientific papers are devoted to solving theoretical and methodological problems of human capital management. Among the scientists involved in solving such problems are O.I. Amosha, O.F. Novikova, V.P. Antonyuk, S.S. Aptekar, V.M. Geets, O.A. Grishnova, O.L. Eskov, R.I. Kapelyushnikov, M. Krytsky, V.I. Kutsenko, E.M. Libanova, O.D. Tsirienov and others. But the formation of the theoretical and methodological basis of labor potential management aimed at ensuring the sustainable development of industrial enterprises based on the adoption of sound management decisions, the realization of which is oriented on a positive financial result, has not yet been completed.

**The aim of the article.** Determination and substantiation of the relationship between the level of human capital of industrial enterprises and the effectiveness of their activities for the formation of the information basis for the adoption of management decisions, the implementation of which is aimed at ensuring the sustainable development of industrial enterprises.

**Presenting the main material.** The rapid growth of the importance of intangible assets from the end of the last century to the present day, first of all, is due to changes in modern markets associated with the globalization of the economy, increased demand dynamics, individualization of consumption and, as a result, increased demand for innovative products and services. As a result, the main factor of production in the modern economy is information and knowledge, and assets that have an intellectual basis become the highest value. Just twenty years ago, the value of intangible assets in a typical organization was about 38%. Over the past twenty years, this figure has almost doubled and today intangible assets account for more than 75% of the value of the enterprise [76, p. 24]. Intangible assets significantly differ from fixed assets, real estate and equipment in that they do not have a direct impact on financial results, but they have significant competitive advantages: 1) intangible assets such as the experience and knowledge of key employees, the relationship with customers are almost impossible to copy, in contrast to tangible assets; 2) intangible assets acquire great value at the end of a long period of time, while tangible assets suffer wear after prolonged exploitation.

Strategic compliance is the main principle of creating value from intangible assets. The Balanced Scorecard (BSC) helps to bring intangible assets: human, information, organizational capital in line with the strategy. The process of creating value from intangible assets is shown in Fig. 1. Human capital occupies a special place among the three types of intangible assets.

World experience shows: countries that give priority to forming of human capital labour for greater successes with the rates of height of economy, reduction of inequality in allocation of profits and softening of problem of poverty. A human capital can be measured both quantitative and by quality indexes. The quantitative indexes of human capital are mostly sent to measuring of charges of labour, volume of possibilities of workers and time in a short-term prospect. Addition of these in-



**Fig. 1. The process of creating the value of intangible assets [1]**

dexes quality descriptions (level of professional preparation of worker, accordance held a position; accumulated experience; intellectual potential of worker; level of professional mobility; the personal interest of worker is in the results of the labour), allow to the leaders of enterprises to concentrate the efforts on values, knowledge and reactions of people in accordance with strategy. Quantitative data are called to establish the actual result of that or other process of enterprise, at that time as quality – allow to assume reason of this result. Effective management an enterprise it is impossible without innovative development of human capital that is the major factor of competitiveness of enterprise. Without regard to successes of separate enterprises with the plan of realization in the innovations of human factor in Ukraine absent complex going near the decision of question of providing of enterprises shots in unity with basic strategic directions of activity. For the decision of strategic problems of management a human capital it is necessary:

– it is forming of mechanism of the personal interest of workers in the achievement of high performance

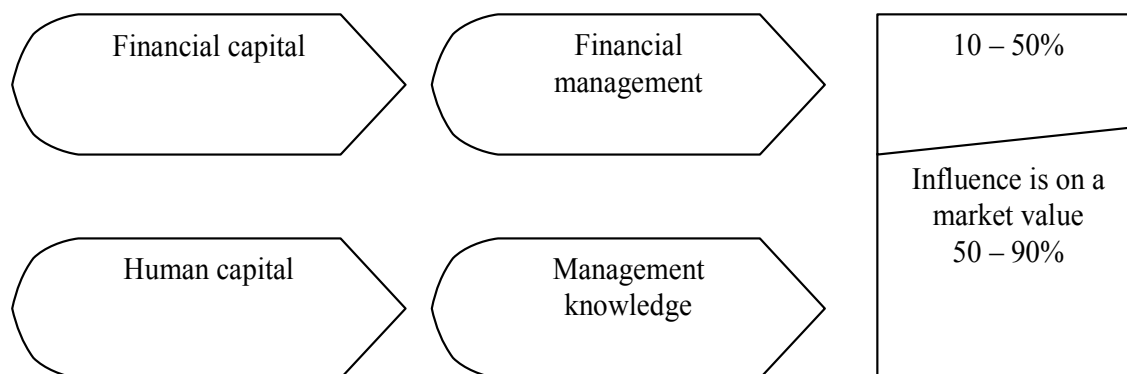
indicators by introduction of innovations in the system of encouragement and social guarantees;

– it is creation for the workers of enterprises of socio-domestic terms (possibility of receipt of accommodation, making healthy, development of personality);

– it is forming of the system of training of (retraining) personnels due to enterprises or state;

– it is avouching for workers that passed professional studies on a production, increase of digits and professional increase.

Only on such conditions it is possible to expect loyalty of workers and, accordingly, high results of labour. Within the framework BS the estimation of human capital comes true on next criteria: – workers are the most essential asset of enterprise; – strategy of management human capitals is inseparable from general strategy of enterprise; – the maximal use of human resources is based on opening of creative potential of worker. Complementing the traditional financial reporting, the balanced system of indexes comes forward as an instrument of ground of necessity of selection of facilities to certain subdivision of enterprise for investing in a human capital (fig. 2).



**Fig. 2. Influence of human capital is on the market value of enterprise [2]**

On the modern stage of economic transformations the problem of estimation of human capital in the cost of enterprises obtains all greater actuality. This problem plenty of works of foreign and home authors, the analysis of that shows the variety of present approaches and methods, is sanctified to. Enterprises gradually realize important connection between a human capital and financial results, copulas that is not able to take into account traditional book-keeping methods : the "Effective estimation of personnel allows correctly to organize the system of motivation and studies of personnel, form skilled reserve, assists the improvement of communicative connections, that in a final result influences on productive successes of workers" [3, c. 21].

It is possible to distinguish next reasons of necessity of estimation of human capital:

1) estimation of human capital gives an opportunity to set forth strategy of enterprise. Determining and estimating the assets, enterprise forms the same for itself additional competitive edges;

2) measuring of human capital is a necessary condition at forming of key performance indicators enterprises that is important for administrative control after the observance of corporate strategy;

3) using the indexes of non-material assets and human capital, in particular, an enterprise can from plans of development and motivation of personnel;

4) indexes of human capital are the instrument of communication of shareholders and proprietors, by

means of that they get state information, volumes and loud speaker of human capitals of enterprise;

5) on condition of the exact measuring not only material assets but also non-material, in particular, human capital, managers are able to remove a break between the market and balance value of enterprise;

6) enterprise capable to estimate the human capital promotes the reputation at the market.

Without regard to foregoing arguments in behalf on the estimation of human capital, a standard book-keeping does not take into account the indexes of this intangible asset, examining him as part of charges of enterprise. It is conditioned by two reasons: firstly, a record-keeping is directed into an enterprise, him primary purpose - to save property of enterprise; secondly, he carries retrospective character. Financing future, leaning against the fact sheets of past periods, substantially brakes the process of creation of cost and influences the not best character on the competitiveness of enterprise. Forming of human capital of enterprise takes place both at the level of separate employee and enterprises on the whole.

At the level of employee he includes knowledge, personality qualities, capabilities, professional skills, talents, and at corporate level - infrastructure, relations in a collective, ability to work in a command and other. For a decision the brought tasks over of the system of strategic budgetary management the indexes of human capital, that answer strategic aims the Closed joint-stock company of "NKMZ" (table 1), are formed.

Table 1

**Indexes of human capital and strategic aims the Closed joint-stock company of "NKMZ"**  
[authorial development]

Constituents of human capital	Indexes of human capital	Strategic aims the Closed joint-stock company of "NKMZ"
1	2	3
1 Biophysical capital		
State of health	$P_1$ – amount of hospital folias on 1000 persons in a year, things	$BSC_1$ – to provide the best organization of labour
	$P_2$ – an amount of days of illness is on a 1 sick-leave authorization for a year, things	$BSC_2$ – to work out the models of workplaces
Age	$P_3$ – middle age of workers, years	$BSC_3$ – to provide social security of members of collective as the greatest social indexes in an engineer
	$P_4$ – specific gravity of age categories of workers, %	
	$P_5$ – coefficient of variation, %	
Explained	$P_8$ – motivational potential	$BSC_4$ – realization of belonging every worker is to "Planet of NKMZ" $BSC_5$ – confession of corporate values by every worker $BSC_6$ – to provide accordance of the personal aims of employees of corporate strategy

1	2	3
Necessities and values	$P_9$ – importance of labour values	$BSC_7$ – questioning of employees is about an organizational culture on innovations and changes
2 Intellectual capital		
Level of education	$P_{10}$ – amount of years of studies (on the categories of personnel)	$BSC_8$ – to carry out 100 % retraining
	$P_{11}$ – amount of types of education (on the categories of personnel)	$BSC_9$ – to define requirements to knowledge and abilities of workers
	$P_{12}$ – specific gravity with the corresponding level of education % (on the categories of personnel)	$BSC_{10}$ – to inculcate the system of the automated estimation of knowledge
Qualification	$P_{13}$ – specific gravity is for DC, %	$BSC_{11}$ – review of present scientific and technological possibilities, conducted by workers
	$P_{14}$ – category, middle digit, specific gravity, %	$BSC_{12}$ – to attain higher qualification of personnel
	$P_{15}$ – an amount of professions is on a 1 person	$BSC_{13}$ – to provide any profile ordering fulfillment $BSC_{14}$ – to define the groups of strategic professions
Competence	$P_{16}$ – amount completed course of studies on 1 person	$BSC_{15}$ – to provide the presence of strategic competence on key positions of subdivision
	$P_{17}$ – an amount of seminars (external studies) is on a 1 person	$BSC_{16}$ – to carry out a 70 % certification
3 Social capital		
Social status	$P_{24}$ – worker, engineer, office worker, leader, specific gravity, %	$BSC_{23}$ – to provide social security of members of collective as the greatest social indexes in an engineer
Marital status	$P_{25}$ – it is married / specific gravity is not married, %	
Experience of work	$P_{28}$ – middle experience of workers, years	$BSC_{24}$ – to explain specialists for the achievement of aims
	$P_{29}$ – specific gravity of categories of workers is with middle experience, %	

On the basis of the individually worked out indexes of efficiency, next comparison of to the plan and actual data leaders get information, that allows to them to do the estimation of efficiency of realization of strategies in the basic areas of considered Balanced Scorecard. In our case it is indexes of instability of demand, appearance of competitive firms and products, price advance on raw material, legal risks et al. Balanced Scorecard on the basis of the individually worked out indexes of efficiency settles all these problems, undertaking a management key processes, strengthening a feed-back (influ-

ence of environment is on the factors of activity of enterprise) by means of translation of vision in strategy, expansion of communications and connections of enterprise with an environment, conducting business-planning. It is well-proven that similar operations the prepared specialists that will use креативный style and innovative possibilities of labour activity as forms of display of human capital in practice can execute.

**Conclusions.** On the whole it is possible to mark that the use of strategic indexes of human capital gives an opportunity to improve quality current and strategic planning on an enterprise, to do him the effective

element of control system. Formalization of strategy of the effective use of human capital of enterprise is reasonable to carry out by means of the balanced system of indexes that are an interlink between formulation of strategy and her embodiment. A human capital plays a key role all four aspects of activity of enterprise, because on a competence and skills of workers realization of aims of other constituents depends in the system of steady development of enterprise.

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**Ровенська В. В. Людський капітал як ключовий елемент стратегії сталого розвитку промислового підприємства**

У статті розроблено систему стратегічних показників ефективності людського капіталу промислового підприємства та доведено, що їх використання дає можливість підвищувати якість поточного й стратегічного планування на підприємстві, робити його ефективним елементом системи управління. Обґрунтовано формалізацію стратегії ефективного використання людського капіталу підприємства здійснювати за допомогою збалансованої системи показників, що є сполучною ланкою між формулюванням стратегії і її втіленням. Людський капітал відіграє ключову роль у всіх чотирьох аспектах діяльності підприємства, тому що від компетентності й навичок працівників залежить реалізація цілей інших складових у системі сталого розвитку підприємства.

*Ключові слова:* людський капітал, сталий розвиток, стратегія підприємства, стратегічні показники, збалансована система показників, нематеріальні активи.

**Ровенская В. В. Человеческий капитал как ключевой элемент стратегии устойчивого развития промышленного предприятия**

В статье разработана система стратегических показателей эффективности человеческого капитала промышленного предприятия и доказано, что их использование дает возможность повысить качество текущего и стратегического планирования на предприятии, сделать его эффективным элементом системы управления. Обоснована формализация стратегии эффективного использования человеческого капитала предпри-

ятия осуществляются при помощи сбалансированной системы показателей, которая является связующим звеном между формулированием стратегии и ее воплощением. Человеческий капитал играет ключевую роль во всех четырех аспектах деятельности предприятия, так как от компетентности и навыков работников зависит реализация целей остальных составляющих в системе устойчивого развития предприятия.

*Ключевые слова:* человеческий капитал, устойчивое развитие, стратегия предприятия, стратегические показатели, сбалансированная система показателей, нематериальные активы.

**Rovenska V. Human capital as a key element of strategy for sustainable development of industrial enterprise**

The article has developed a system of strategic indicators of the effectiveness of the human capital of industrial enterprise and it is proved that their use makes it possible to improve the quality of current and strategic planning in the enterprise, making it an effective element of the management system. It is substantiated the formalization of the strategy of effective use of the human capital enterprise by means of the balanced scorecard, which is the link between the formulation of the strategy and its implementation. The human capital plays a key role in all four aspects of the enterprise, since from competence and skill the realization of the goals of the remaining components in the system of sustainable development of the enterprise depends.

*Keywords:* human capital, sustainable development, strategy enterprise, strategic indicators, balanced scorecard, intangible assets.

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