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THE EFFECT OF HUMAN CAPITAL INVESTMENT ON ORGANIZATIONAL PERFORMANCE

The article defines the significance and the place of human capital investments in business management. Their influence on organizational performance indicators is investigated, the calculation of the correlation between investment in personnel, gross profit and labour productivity is provided. The benefits of investing in personnel as well as the obstacles hindering its successful implementation are summarised.

Keywords: human capital investments; organizational performance; vocational training; productivity; effectiveness.

Любов Г. Липич, Лариса О. Ющишина, Анна М. Мохнюк ВПЛИВ ІНВЕСТИЦІЙ В ЛЮДСЬКИЙ КАПІТАЛ НА ФУНКЦІОНУВАННЯ ОРГАНІЗАЦІЇ

У статті визначено значення та місце інвестицій у людський капітал в управлінні підприємством. Досліджено їх вплив на показники діяльності організації, проведено розрахунок кореляції інвестицій у людський капітал, валового прибутку та продуктивності праці. Узагальнено переваги інвестицій у персонал, а також перешкоди, що заважають їх успішному впровадженню.

Ключові слова: інвестиції в людський капітал; діяльність організації; професійне навчання; продуктивність; ефективність.

Табл. 3. Літ. 11.

Любов Г. Липич, Лариса О. Ющишина, Анна М. Мохнюк ВЛИЯНИЕ ИНВЕСТИЦИЙ В ЧЕЛОВЕЧЕСКИЙ КАПИТАЛ НА ФУНКЦИОНИРОВАНИЕ ОРГАНИЗАЦИИ

В статье определено значение и место инвестиций в человеческий капитал в управлении предприятием. Исследовано их влияние на показатели деятельности организации, проведён расчёт корреляции инвестиций в человеческий капитал, валовой прибыли и производительности труда. Обобщены преимущества инвестиций в персонал, а также препятствия, мешающие их успешному внедрению.

Ключевые слова: инвестиции в человеческий капитал; деятельность организации; профессиональное обучение; производительность; эффективность.

Introduction. Dynamic changes in the environment, globalization and rapid growth of intangible assets value force organizations search for new ways of their performance improvement. The latest research papers have highlighted the priority given to investing in skills and innovation as the crucial factor of increasing company's competitive strength. For organization, relevant information on returns on investment in personnel is a helpful instrument for effective decision-making.

Literature review. A large number of theoretical and empirical studies provide the assessments of the return on investment in human capital (for both organizations and individuals). For example, M. Hugget and G. Kaplan (2011) developed a theory for calculating bounds on both the value of an individual's human capital and the return on an individual's human capital. A. Kartik, F.F. Ionescu and U. Neelakantan

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(2015) state that early investment in human capital results in a sustained growth of expected future earnings. K. Koerselman's and R. Uusitalo's (2013) wrote that the university graduates earn substantially more than those of lower education levels. Undoubtedly, employees benefit from investment in their professional skills, but let us consider the organizations' interest in this context. A number of scholars investigate the link between investment in personnel and organizational performance. For instance, J.V. Durkovic (2009) highlights that personnel is the only company's resource that may affect the use of own potential, as well as that of other production factors. Thus, this author proves that investments in human capital increase both employees' value and the value of organization as a whole. G. Ballot, F. Fakhfakh and E. Taymaz (2006) provide an explanation on how the benefits from human capital investments are shared by organization and its workers. R. Almeida and P. Carneiro (2006) suggest interesting calculations for the internal rate of return on company investments in human capital. The researchers made a conclusion that the growth in the amount of training per employee of 10 hours per year provides productivity growth at the level of 0.6%. Moreover, if marginal productivity of labour were constant, an increase in the amount of training per employee by 10 hours would result in foregone productivity costs of at most 0.5% of the output (Almeida and Carneiro, 2006). In addition, K.M. Murphy and R.H. Topel (2014) point out the relation between investments in human capital and the expected returns. They explain that greater incentives to invest in human capital, due to higher price of skills, also raise the returns of using human capital intensively, while the opportunity to use skills intensively increases the returns on investment. Undoubtedly, this issue is of great scientific and practical significance. At the same time a lot of crucial aspects of human capital investment are underinvestigated. Definitely, the core difficulty consists in estimating effectiveness of human capital investment and its impact on key performance indicators.

Problem statement and research objective. Human capital is an effective investment for many individuals, organizations and the economy overall, certainly giving higher returns than investments in physical capital. Regardless of this, the observed amounts of investments in personnel are quite small, especially in Ukraine. A large number of organizations are just trying to become competitive in today's knowledge economy. The key factor in achieving that effectiveness appears to be investment in human capital. The goal of this article is to investigate and determine the significance and the place of human capital investment in business management, to analyse the problems and prospects of its implementation, draw appropriate conclusions. Thus, the impact of human capital investments on enterprise performance is the object of our study. Therefore, the objectives are to determine the effects of human capital investments on different organizational performance indicators; to highlight the benefits of investing in personnel as well as the obstacles hindering its successful implementation.

Key research findings. In this paper we use the definition of human capital, provided by OECD (2001) – as knowledge, skills, competencies and attributes embodied in individuals that facilitate the creation of personal, social and economic well-being. Considering human capital investments, the matters we pay attention to are education and professional training.

According to The Human Capital Report provided by the World Economic Forum (2013) Ukraine takes the 63rd place among 122 countries in for the Human Capital Index 2013. Switzerland (1st), Finland (2nd) and Singapore (3rd) top the ranking. The Index measures the countries by their ability to develop and deploy healthy, educated and able workers through 4 pillars, by which Ukraine ranks 45th (Education pillar), 55th (Health & Wellness), 67th (Workforce & Employment) and 96th (Enabling Environment).

The results show there is a lag between workforce quality and the demands of Ukrainian economy. It is likely that the significance of human capital investments is being underestimated as a factor of competitive workforce preparation in Ukraine. We imply that possible problems that hinder human capital investments in our country are:

- 1) organizational drawbacks between employers and employees;
- 2) the lack of information on the effectiveness of human capital investment;
- 3) difficulties in identifying all the expenditures treated as human capital investment;
- 4) the link between investment in personnel and efficiency growth is not always obvious;
- 5) long payback period for human capital investments;
- 6) high risk rate of investments in people;
- 7) small experience in personnel investments;
- 8) uncertainty in returns on investment in human capital;
- 9) incertitude in employees' loyalty after investment programme completion;
- 10) difficulties in assessing the impact of investment in human capital on organization performance;
- 11) complications in referring gained results to the relevant investments;
- 12) different resource limitations (time, finance and expertise).

Thus, to increase human capital investments at domestic enterprises and in organizations we need to consider all the abovementioned issues.

At this point it is important to investigate the effect of human capital investment on organizational performance. A majority of studies find that investment in personnel has a positive and significant effect on organization performance (Table 1). It is interesting to note, that 52.51% of all the estimated effects are positive and significant; 86.89% of the studies found a positive and significant effect of human capital investments at least once in their estimations. Only a fifth of the estimated effects are negative and less than a tenth are negative and significant (European Centre for the Development of Vocational Training, 2011).

When distributing the effects per performance indicator positive and significant effects are obtained for quality, productivity, profitability, employment growth, multidimensional performance indicators, but not for company costs (European Centre for the Development of Vocational Training, 2011). Definitely there is 100% significant positive effect of human capital investment on innovative processes of the organization (Table 2).

To sum up, investment in personnel affects not only productivity but also a wide range of other organizational performance indicators.

We now turn to the problem of distribution of human capital investment throughout different groups of personnel. Definitely, the company should invest in

the development of all the hierarchy levels of personnel. T.R. Crook et al. (2011) mentions that when investments in human capital are made across multiple hierarchy levels, performance implications are much stronger than when investments are made at just one level.

Table 1. Distribution of the estimated effects, based on (European Centre for the Development of Vocational Training, 2011)

Effect found	Observations		Studies	
	Number	% of the total	Number	% of the total
Negative significant	18	6.95	4	6.56
Negative insignificant	43	16.60	20	32.79
Positive insignificant	62	23.94	28	45.90
Positive significant	136	52.51	53	86.89
Total	259	100.00	105	172.13

Table 2. Distribution of effects per performance indicator, based on (European Centre for the Development of Vocational Training, 2011)

Effect found	Negative		Positive		Total
	Significant	Insignificant	Insignificant	Significant	
Productivity	2.49	15.11	19.70	62.70	100
Quality	0.00	11.46	17.71	70.83	100
Profitability	13.92	14.50	20.12	51.46	100
Innovation	0.00	0.00	0.00	100.00	100
Company costs	0.00	25.00	75.00	0.00	100
Employment growth	0.00	0.00	33.33	66.67	100
Multidimensional	0.00	22.73	0.00	77.27	100
Total	3.70	14.09	17.35	64.85	100

As a demonstration of correlation between investment in personnel and such performance indicators as gross profit and labour productivity for PJSC "Dubnomoloko", the numerical results are given in Table 3.

Table 3. The link between gross profit, labour productivity and personnel investment, calculated by the authors

Indicator	2007	2008	2009	2010	2011	2012	2013	2014
<i>ths UAH</i>								
Gross profit	485.80	691.7	1193.8	23190	49071	3095	21733	20978
Labour productivity	149.33	151.1	190.2	227.73	501.44	861.96	787.01	732.44
Investment in personnel	0	21.2	180.35	134.58	7.56	108.3	94.47	111.29
	2007/ 2006	2008/ 2007	2009/ 2008	2010/ 2009	2011/ 2010	2012/ 2011	2013/ 2012	2014/ 2013
<i>%</i>								
Gross profit	-	42.38	72.59	1842.5	111.60	-93.69	602.20	-3.47
Labour productivity	-	1.19	25.88	19.73	120.19	71.90	-8.70	-6.93
Investment in personnel	-	-	750.71	-25.38	-94.38	1332.5	-12.77	17.8

The results show the relationship between gross profit and investment in personnel. The increase in investment in the base year causes the increase in gross profit in the next year. For example, investment growth in 2009 by 750.71% results in 1842.5% growth of gross profit the next year. The decrease in investments provokes the

decrease of gross profit or a slowdown in its increase. For instance, in 2010–2011 we observe the investment by 25.38% and 94.38% that determines the diminution of gross profit increase rate in 2011 (from 1842.5 to 111.6) and also a dramatic decrease of its amount in 2012 (-93,6%). When focusing on the link between labour productivity and investment in personnel, the tendency is quite similar, if not considering some exceptions, as in 2011–2013. Finally, we can state there is a significant relation between the investigated indicators and investments in personnel. However, it is obvious that under market economy human capital investment is not the only factor influencing gross profit and labour productivity. There is a strong possibility that advantages of human capital investments can affect other performance indicators. For example, vocational training is likely to influence innovative activities through implementing new production, marketing or management technologies. Progressive techniques and competences acquired after off-the-job training tend to be disseminated to other workers.

There is a definite possibility that investment in personnel enhance workers' motivation and loyalty, and as consequence labour productivity and overall performance. It is probable that employees view investments in their competence as an award and believe they must repay by acting in the interest of the organization and what is more, by doing something extra than their usual work. Taking into account organization's interest, emotionally intelligent workers with good moral qualities are likely to demonstrate their business ethics and are less disposed to do something contradicting corporate culture. Different types of trainings and emotional support given by employers bring up the corporate spirit and strengthen loyalty in employees.

Finally, by improving professional skills of workers, investments in training and development influence the product quality positively. Unfortunately, productivity growth caused by investments in personnel is not completely reflected in workers' wages. On the other hand, if human capital investments have more significant effect on product quality and productivity than on wage costs, it will improve competitiveness.

Thus, we propose evaluating the impact of human capital investment on organization by considering the following indicators: productivity, output, profitability, quality of products and services, staff turnover, motivation, employees' qualification and loyalty, corporate culture, innovative activities and their effects.

Conclusions and future research prospects. In conclusion, we are convinced that human capital investments have a positive significant impact on organizational performance. Therefore, we suggest considering effects not only on productivity and profitability of the enterprise but also on such indicators as personnel motivation, moral and loyalty, innovation processes, quality of products and services. The methods of evaluating the impact of human capital investment on organisational performance as well as the influence of investments in different categories of personnel on organizational performance are considered as an up-to-date issue for further research.

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