

VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

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ECONOMIC ASSESSMENT OF HUMAN RESOURCE POTENTIAL IN TRANSPORT SECTOR

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Introduction

The Research Problem

Customers of transport/logistics sector usually require from service providers not the one service but the total package of logistics services. This results in the transport and logistics services' gross domestic product's share in the total Baltic countries' GDP structure growth, which is significantly higher than the EU average. In order to improve the quality of transport sector service, great attention must be paid to the specialists' of the transport sphere training. In particular, it is important to ascertain the market need for qualified specialists of transport management, since managers are the representative group of transport sector. On the other hand, the competitiveness of transport/logistic companies and national economy depends on the efficiency of managers' work. Solving the economic problems of the business, a lot of problems appear in assessing the human potential on a national or economy field scale, since the economic value of companies is measured mainly according to the criteria of material value rather than human potential. The problem mentioned is of great relevance to transport sector, as managerial competence of human resources conditions the efficiency of transport the most. However, the human factor in the context of transport activity was analysed not enough. These are the key reasons to identify the scientific problem analysed, which is the lack of theoretical models for assessing the real-life challenges in modern economic theories, according to which the economic assessment of human potential can be done.

The Relevance of the Paper

The growth of national economy is closely related to the investment in human capital, which is separated from the physical capital. Human resources are key elements determining economic growth. The study of human capital is not new, however it is little discussed in transport sector. Transport is one of the priority fields of the economy; therefore the developing national market demands transport management specialists who would be able to grasp free-market principles, understand modern economic theory and business practice, and communicate and cooperate with internal and foreign partners. The abilities mentioned require perfecting of professional competence and lifelong learning (nationwide benefits form 2 percents of gross domestic product). On the other hand, it can be stated that the economic value is created by human capital which is based on specialists' competence. Consequently, it is necessary to develop employment-related skills and entrepreneurship, as these skills ensure economic and social stability. Relatively few (8–10 percent) workers of transport/logistics

sector create high value added. Investments in human potential of transport sector, especially in specialists of transport management, increase the efficiency and productivity of work and faster technological change and innovation. All individuals themselves, the company and entire national economy achieve higher benefits. Hence, the economic analysis of human resource potential, particularly of specialists of transport management, market needs according to quantitative and qualitative criteria is highly important factor.

The Research Object

The object of the research involves the economic assessment of human resource potential, referring to the example of transport management specialists.

The Aim of the Research

The purpose of the research is to create the model for economic assessment of human resource potential in transport sector, according to qualitative and quantitative criteria. Apply it to investigate the differences in the significance of evaluation criteria of interest groups (students, teachers and managers of transport/logistics companies) and evaluate the need and competitive opportunities of transport management specialists in Lithuania, Latvia and Estonia.

The Tasks of the Research

In order to reveal the determined research purposes, the following tasks have been formulated:

1. To carry out the human resource potential's in transport sector as the object of economic research analysis.
2. To accomplish theoretical economic assessment of human resource potential.
3. To develop the research methodology and model designed to economic assessment of human resource potential in transport sector.
4. To study the transport management specialists market need in Baltic countries, using the methods presented.
5. To confirm the relevance of the theoretical model set up, using empirical studies.

The Methodology of the Research

This paper is based on the: analysis of scientific literature and summary of systematized information; primary and secondary information collection (respondent groups' survey, based on the combined survey's (CATI and CAWI)

methodology, and analysis); classification and processing (using SPSS program) of statistical data; hypothesis testing, based on the distribution of homogeneity criterion; multi-criteria evaluation.

The Scientific Novelty

The scientific novelty of the thesis: the aggregated model for economic assessment of human resource potential in transport sector is set up.

The following new results in economic science were obtained:

1. New methodology for calculation the total human capital (including the correction factor evaluating in the case of occupational accidents and diseases, loss or change of the job and tax changes) was suggested.
2. A new method for the economic assessment of competitive specialists training was proposed in dissertation, and the appropriateness of this method was approved, referring to the economic example of transport management specialists training system.

The Practical Value

The method for economic assessment of human resource potential composed can be used in researching specialists' market need, and the strategy chosen can be applied in the developing of competitive transport managements and stimulating the business sector.

Dissertation materials were used in organising three projects:

1. The project "National Integrated Transport Programme Feasibility Study" of the Faculty of Transport Engineering in Vilnius Gediminas Technical University.
2. The project of Vilnius College of Technology and Design, the creating of the new study program "Transport Logistics".
3. The project "The Creation of Practical Simulation Company for the Students of Transport Management" of Confederation of Lithuanian Industrialists) and the self-analysis of accreditation of two study programs of Vilnius College of Technology and Design.

Defended Proposition

1. In assessing the quality of the development of human resources, the evaluation factors of higher education, professional practice and personality must be linked into a single system.

2. Specialized assessment method must be used to the purpose of assessing transport sector human resource potential according to quantitative criteria.
3. In assessing the costs of human potential development, the investments in training facilities and teaching staff, as well as direct and conditional costs, must be evaluated.

The Structure of Dissertation

The dissertation comprises introduction, four chapters, general conclusions and 13 annexes.

The work is comprised of 155 pages, the text includes 39 numeric formulas, 28 figures and 35 tables. The dissertation was written referring to 220 sources of literature.

The first chapter explains the importance of transport sector for state development, competitiveness of other economic fields and key macroeconomic indicators (such as Gross domestic product (GDP), foreign trade, inflation and unemployment rate), and underlines the need for transport management specialists training and their need on market.

The second chapter consists of literature analysis and provides the methods for economic assessment of human resource potential, presents the theoretical quantitative and qualitative assessment for economics and management specialists training, and compares market requirements for the specialists of transport management, economics and management.

The third chapter suggests the methods for economic assessment of human resource potential in transport sector.

The fourth chapter analyses the results of qualitative and quantitative analysis of transport sector human resource market need in Baltic countries, and provides the recommendations for quantitative and qualitative assessment and competitive development of them, referring to the example of transport management specialists.

The final part of the dissertation provides the summary of the results.

1. Transport Sector Human Resource Potential as the Subject of Economic Research

Transport sector, particularly transport infrastructure, affects national economy and social development and encourages all governments to invest in this sector (The Influence of the Transport Sector... 2007).

Transport structure positively influences the quality of life by reducing the delivery and travel time of cargos, increasing traffic safety, maximizing

vehicles' work efficiency, providing more transportation alternatives for business and residents, increasing the property value, motivating community cohesion and economic development and making it more attractive for investments.

The results of the analysis of macro-economic indicators suggest that transport sector takes place 2 or 3 according to its contribution to total GDP. Over the past 10 years, foreign trade in three Baltic countries has significantly grown: in Lithuania – 3 times, Latvia – 5 times and Estonia – 4 times. Moreover, in spite of inflation changes, the value added of transportation, storage and communication and their contribution to national economy, was relatively stable and of continuous growth during the ten-year period in all three Baltic countries.

Over the period of past ten years, the unemployment rate in all three Baltic countries was driven by the similar economic changes; i.e. during the period of Russian Crisis, the unemployment rate has increased, after joining the European Union – reduced, etc. Meanwhile, the employment in the transport sector has not changed significantly, and, what is more, constituted 8–10 per cent (of total workforce) of those employed in the transport sector.

The fact that those who are employed in the transport sector (whose number is relatively smaller) generate larger GDP, proclaims the high competitive position of transport and communication system, comparing to other sectors of national economy; therefore, the analysis of the specialists' of the sphere mentioned (and especially of the specialists' of transport management) market need according to quantitative and qualitative criteria is of high importance.

The evaluation of various concept related to transport, estimates that the transport manager is not just a transportation manager, but his work also includes the organisation of the transportation of passengers and cargos, document management etc; thus, the following definition of the transport manager was formulated (and according to it the paper was written): transport manager is the person who plans, organizes and coordinates the activity of transport and logistics companies, departments and organisations. In addition, the sector of transport and logistics has its own specificity which, in addition to all the skills which are essential for managers, requires specific expertise; for example, transportation business' organisation and information management, order management, storage functions management, process of transportation of the logistic product management, etc. Consequently, the impact of the well-trained qualified specialist on the total national economy and its development is highly significant. Moreover, in assessing that transport is one of the priority sectors, and that the specialists of this sphere are working not only in transport

and logistics companies, but in the companies which provide service or practice in production as well, the identification of the specialists' of this field market need according to quantitative and qualitative criteria is highly significant.

2. Theoretical Studies of the Economic Assessment of Human Resource Potential

All the processes taking place on the market are inseparable from human resources; therefore, it is highly important to analyse the specialists training methods and their impact on competitive professional development. B. Leonienė (2004) argues that the individual is the owner of the absolutely liquid capital, which includes specific knowledge and expertise, and which is usually more valuable than the capital of organization holders. Consequently, the organisations which are knowledge-and innovation-oriented are forced to compete on the most important capital – skilled professionals (Jucevičius 1998). Theodore W. Schultz believes that every person is born with certain genes, which determine his innate abilities; therefore, the population quality differences across different countries depend not on innate, but on acquired skills differences. Each quality element acquired by any person since the birth and throughout the life, can be measured in monetary terms. If it is worth to pay that money, the incentive to invest in quality appears.

Employers all over the world are constantly emphasising the importance of general competencies in business management. According to Ginevičius and others (2009), the student, during the entire study period, acquires from the study subjects, in the best case, 500 competencies. Mintzberg (2004) concluded that “analysis has shown that two-thirds of the business management schools graduates only slightly use, or do not use at all, knowledge and skills acquired during their studies in business management, after their employment; most business schools are actually unable to give their student the management skills that would be essential at their everyday work.”

In assessing the qualification acquired by the specialist of transport management (in the chosen program), it is seen that the future specialist, according to the chosen specialty, acquires about 14–15 specialty-specific core competencies, while their final papers comprise 70 per cent of general transport management competencies; therefore, it is appropriate to calculate the qualification acquired using the following formula:

$$q_5 = \frac{\sum_{j=1}^n k_j}{10}, \quad (1)$$

here: q_s – the qualification acquired; k_j – the j level of competence in percentage; 10 – the approximate number of competencies according to the transport management specialty.

It is also appropriate to calculate how many students are economically beneficial to the country; i.e. to evaluate how many students are employed.

According to J. Bagdanavičius (2002), human capital, as a component of assets, generates revenue that can be defined as the discounted wages the worker received during the entire working life. Gains realized by the individual using the human capital are permanent individual incomes received by a human capital as a component of assets. In most cases, the indicators of human capital are grouped together according to its assets (funds), the level of aggregation and volume and value indicators. However, each element has its own characteristics and can be described by using the relevant indicators of human capital structure. In accordance with micro-and macro-economic functions of human capital, it is important to evaluate both the individual and the entire society in general. According to the aggregation and analysis levels, the following indicators of human capital can be distinguished: the characteristics of separate individuals and companies at the micro level; the characteristics of large corporations and regions at the mezzo level; characteristics of the composite human capital at the macro level; the characteristics of human capital on a global scale at the mega level. Theodore W. Schultz suggests that the real incomes of educated people, when their educational costs are properly taken into account, in the long run are caused by normal wages that is what labour market pays for simple massive employment services. That means that, over any long period, the real earning of those who have higher educations is the amount of the normal wage and the additional salary which is required to justify the acquisition of education. It is, therefore, useful to invest in human capital, until the profit rate of these investments is equal to the profit rate of the best alternative. Thus, the economic entity (the employee, family, company or country) should invest until the marginal benefit equals marginal costs.

3. Research Methods Applied for the Economic Assessment of Human Resource Potential in Transport Sector

The analysis of literature sources carried out, in particular, has identified three key groups of indicators to measure the specialists (higher education, practical experience and personality of the specialists), which influence the competitive training of specialists for labour market. However, at the same time, the analysis and practical experience has shown that the groups of

indicators to measure the specialists consist of many parameters which total synthesis is not measured, so it is appropriate, in this case, to form the matrix to measure the human resource potential in transport sector, and evaluate the significance of the indicators of each group and their inter-linkages.

Aggregated assessment of transport management specialists is suggested to accomplish on the basis of the following function:

$$A = \{U, D, S, R, IE\}, \quad (2)$$

here: U – a set of higher education indicators; D – a set of indicators of practical experience, S – a set of indicators of specialist's personal characteristics; R – a set of indicators of market need; IE – a set of external economic indicators (GDP, inflation, foreign trade, unemployment).

It is also estimated that it is useful to focus on two main steps of studies, to examine how much time the studies in the field of transport management take in different higher schools, and to evaluate the investments into professional training on the personal and national scale, as well as on the basis of evaluation the investments into the academic staff. As a result, it is possible to form a model of the education's value and divide it into two steps, as students usually choose bachelor and master studies (doctoral studies are not included as it is chosen by only a small part). Therefore, to evaluate the investments into professional training, the economic value of the training programme, the training facilities, teacher's training, the training period, price etc should be taken into account. Assessing the investments into competitive professional's preparation, it is suggested to calculate the value of the human resource potential training using the following formula:

$$TVS_{verte} = \sum_{i=1}^M P_r V_{i,j}^{\Delta t} - I_{TVS}^{\Delta t}, \quad (3)$$

here: $\sum_{i=1}^M P_r V_{i,j}^{\Delta t}$ – the value added that a professional makes in the economy sector

in question during the period t ; $I_{TVS}^{\Delta t}$ – costs of training the competitive professional during the period t .

In order to estimate the number of working specialists of transport management, it is suggested to measure the number of transport and logistics companies, the number of persons employed in transport, storage and communication sectors, the number of graduates of transport management studies etc, and, based on this data, accomplish the modelling and forecasting of the number of transport management specialists employed. However, it is important to remember that such projections should be made and reviewed for the short periods in the range of 5–10 years.

4. Empirical Research of the Economic Assessment of Human Resource Potential in Transport Sector

Market researches of transport management specialists of several years have shown that the major problem of transport management specialists is the lack of practical knowledge and personal skills. The content of the existing transport management study programmes satisfies approximately 42 percent of Lithuanian, 67 percent of Latvian and 66 percent of Estonian students of transport management. Respondents would like the study programmes to be constituted of 50 percent of mandatory and 50 percent of elective subjects.

The analysis of transport management specialists' position on the market, has shown that there are three main sectors (public, education, business sector), but they lack close cooperation between them when preparing specialists in this field. Hence, the opportunities for cooperation provided would ensure the conditions for the training of competitive transport management specialists and clarify inter-institutional commitments.

Survey of interest groups has estimated that transport management specialists lack the expertise and practical preparation the most; among the lacking subjects, the negotiating practice and business ethics should be mentioned. Most problems in business are inflicted by inability to detect, analyse and solve problems, inability to plan activities, little knowledge of company's practice and low level of foreign language skills.

The research results have showed that the practical training, which depends on personal characteristics of the specialist, is the common indicator of the working experience for Lithuanian respondents. The improvement of personal characteristics of the specialist has a direct impact on the development of practical training, and the improvement of practical training reduces the difficulties and problems in business. Latvian respondents consider that the level of negotiation skills growing better, a better understanding of business ethics, improvement of speaking practice and the development of working competence and practical training, are directly related to the removal of problems arising in business. Estonian respondents believe that the improving of negotiation and speaking practice, positively affects the inability to detect, analyse and solve problems. The qualitative market sector assessment for transport management specialists completed, has confirmed the methodology of qualitative assessment, based on the combination of higher education, professional expertise and personal characteristic.

Thus, in order to ensure the competitiveness of the transport management specialists, the students should be taught negotiation skills, the closer

relationship between studies and business should be ensured, the greater attention to the quality of the delivery of works should be paid, more practical knowledge should be provided, etc.

However, it is known that transport management specialists are required in other companies, which have the transport department established, as well; therefore, it is assumed that the need of such specialists in other sectors is about 3 percent. Consequently, the number of transport management specialists is estimated according to the number of transport companies (taking into consideration that there are approximately 4 TMS employed in each transport and logistics company) and the number of employees in the transport sector.

In the quantitative assessment, it is also appropriate to assess how many specialists of transport management were prepared during the period in question. After the assessment of the existing and hypothetical indicators and forecasts, it was identified that, by the year 2015, it will be still a big gap between prepared skilled and working specialists of transport management in Lithuania. Meanwhile, the investments in transport management specialists training may grow in 2–3 percent within the next five years, and the payback period of these investments may increase from 2–3 years to 3–5 years.

General Conclusions

1. The analysis of human resource potential in transport sector as the object of economic research has shown that the development of transport sector in Baltic countries is very strongly correlated with GDP (investment in transport infrastructure gives an additional increment of GDP, which is about 2,5 time higher than the amount of invested funds). Relatively few employees in transport sector create high value added (about 12 % of GDP) which demonstrates the importance of this sector to the national economy. In this sector transport management specialists are among the most important human resources, because they create the maximum economic benefits (approximately 80–85 % of companies' revenue).
2. The theoretical study of the economic assessment of human resource potential has estimated that, in order to evaluate the investments in human capital, the intellectual level of the manufacturing process, the differences in wages resulting from the level of education and qualification etc must be taken into consideration. It is beneficial to invest in human capital as long as the rate of return of these investments equals the profit rate of the best alternative.
3. On the basis of the researches carried out, it is suggested to additionally evaluate the total amount of human capital, taking into account the

likelihood of the occupational accidents and diseases ($k = 0,01 \div 0,068$), job loss or change ($k_{women} = 0,079$, $k_{men} = 0,097$), legal and physical entities tax changes (if exchange of taxes is 1 %, then $k = 0,01$, if 2 %, then $k = 0,02$ etc), as it directly affects individuals' incomes.

4. The methods, designed to the qualitative assessment of human resource potential in transport sector, were established. It provides an opportunity to modelling the comprehensive qualitative assessment of market need, based on higher education and connections between specialist's professional practice and personal characteristics.
5. Specialised methodology for quantitative assessment of human resource potential in transport sector, has made assumptions to accomplish the quantitative market assessment for transport management specialists, based on the ratio of the workers of transport sector and the specialists prepared, taking into account human resource potential and technical potential in transport sector.
6. In order to estimate the value of human resource potential's development, the investments in training facilities, teachers training etc were proposed to be taken into account.
7. On the basis of theoretical and empirical studies was found, that in order to prepare qualified specialists of transport management, it is necessary, to ensure the partnership of high schools and business sectors, to orient study subjects on market, to involve employers in the education process and to set up practical training companies at educational institutions, because the qualified professionals have a direct impact on the efficiency of the company's activity, the growth of GDP and the development of entire national economy.
8. Approximation of generated model has been shown by empirical studies (the average correlation coefficients of test parameters is 0,8).

List of Author's publications on the dissertation topic

Articles in scientific reviewed journals

1. Ledauskaitė, K. 2010. Baltijos šalių transporto vadybos specialistų kompetencijų vertinimas: studentų požiūrio tyrimas. *Mokslas – Lietuvos ateitis*, tomas 2, Nr. 2, p. 38–42. ISSN 2029-2341 print/ISSN 2029-2252 online. (Index Copernicus)
2. Bazaras, D.; Ledauskaitė, K.; Palšaitis, R. 2010. Comparable analysis of information and communication technologies in Lithuania and Finland. *Transport*, Volume 25, Number 1, p. 98–104. ISSN 1648-44142 print/ISSN 1648-3480 online. (Thomson ISI WOS)

3. Ledauskaitė, K. 2010. Transporto vadybos studentų aukštojo mokymo kokybės poreikis: dėstytojų požiūrio tyrimas. *Technologijos ir menas. Tyrimai ir aktualijos*, 1, p. 27–32. ISSN 2029-400X.
4. Ledauskaitė, K.; Janušauskienė, V.M. 2010. Kokybės valdymo sistema – Konkurencinio pranašumo garantas transporto įmonėse globalios rinkos sąlygomis. *Technologijos ir menas. Tyrimai ir aktualijos*, 1. p. 20–26. ISSN 2029-400X.
5. Prentkovskis, O.; Kliukas, R.; Vasiliauskas, A. V.; Daniūnas, A.; Marina, V.; Ledauskaitė, K.; Zemlickienė, V. 2009. Transport management: the popularity of study programmes among the applicants to Lithuanian universities evaluating the qualifications of graduates in the labour-market. *Transport*, Volume 24, Number 2, p. 154–169. ISSN 1648-4142 print/ISSN 1648-3480 online. (Thomson ISI WOS)
6. Ledauskaitė, K.; Bazaras, D. 2008. Actual attitudes of demands for specialists in transport sector. *Transport and telecommunication*. Vol. 9, no. 1. p. 29–33. ISSN 1407-6160.

In the Other Editions

1. Palšaitis, R.; Ledauskaitė, K. 2008. Determining the effectiveness of using information technologies in Lithuanian transport companies. *5th international scientific conference „Business and management‘ 2008“* [elektroninis išteklius]. 16–17 May 2008 Vilnius, Lithuania: conference proceedings [CD]. Vilnius: Technika, ISBN 978-9955-28-267-9. p. 701–705.
2. Ledauskaitė, K.; Palšaitis, R. 2005. Research of market demands for transport management specialists. *International Conference „Innovative Vocational Education and Training in the Transport Area“ IVETTA*. 24–25 February 2005. Riga, Latvia: proceedings. Riga: Riga Managers School, 2005. ISBN 9984-9820-0-9. p. 169–171.
3. Ledauskaitė, K. 2005. Specialistų ruošimo kokybinis įvertinimas. *8-osios Lietuvos jaunųjų mokslininkų konferencijos „Lietuva be mokslo – Lietuva be ateities“ medžiaga*. Vilnius: Technika, p. 336–340. ISBN 9986-05-849-X.
4. Ledauskaitė, K. 2005. Specialistų kokybinis ir kiekybinis rengimas. *Konferencijos „Miesto transporto problemos“ medžiaga*. Vilnius: Vilniaus technikos kolegija, p. 93–102. ISBN 9955-9691-3-X.
5. Ledauskaitė, K. 2006. Transporto vadybos specialistų rinkos poreikio tyrimas. *Transportas: devintosios Lietuvos jaunųjų mokslininkų konferencijos „Mokslas – Lietuvos ateitis“, medžiaga*. Vilnius: Technika, p. 276–279. ISBN 9986-05-991-7.

6. Ledauskaitė, K. 2008. Transporto vadybos specialistų kokybiško darbo užtikrinimas transporto įmonėse. *10-osios Lietuvos jaunųjų mokslininkų konferencijos „Mokslas – Lietuvos ateitis“ 2007 metų teminės konferencijos TRANSPORTAS medžiaga*. Vilniaus Gedimino technikos universitetas. Vilnius: Technika, p. 524–528. ISBN 978-9955-28-374-4.
7. Ledauskaitė, K. 2007. Transporto sektoriaus reikalavimai transporto vadybos specialistų kvalifikacijai. *Respublikinės mokslinės–praktinės konferencijos „Autotransporto specialistų kompetencijų kaita: inovacijos teorinio ir praktinio mokymo procese“ medžiaga*. Kaunas: Kauno technikos kolegija, p. 31–38. ISBN 978-9955-701-84-2.
8. Ledauskaitė, K.; Intejeva, L.; Štaraitė, E. 2008. Tobulinimosi kursų poveikio dėstytojų darbui analizė. *Mokslinės – praktinės konferencijos „Technologijos ir socialinių mokslų studijų sričių specialistų rengimas“ medžiaga*. Vilnius: Vilniaus technikos kolegija, p. 7–11. ISBN 978-9955-608-66-0.
9. Ledauskaitė, K. 2008. Evaluation of Lithuania and Estonia transport management specialists competitiveness possibility. *Jelenkori tarsdalmi es gazdasagi folyamatok. Az okonomiai es videkfejlesztési intézet, p. 116–122, evi tudomanyos evkonyve, III. Evf. 1.smaz. ISSN 1788-7593*.
10. Ledauskaitė, K.; Kovač J. 2009. Research of transport specialist competences in Lithuania and Slovenia. *Jelenkori tarsdalmi es gazdasagi folyamatok. Az SZTE Mernoki Kar Okonomiai es Videkfejlesztési Intezetenek tudomanyos folyoirata, IV. evfolyam. 1.smaz. 1., p. 150–154. ISSN 1788-7593*.
11. Ledauskaitė, K. 2009. Research of transport specialists' competences in Vilnius college of technologies and design. *Tarptautinės mokslinės praktinės konferencijos „Inžinerinių studijų kaitos procesai socialinėje ir verslo aplinkoje“, pranešimų rinkinys [CD]*. Vilnius: Vilniaus technologijų ir dizaino kolegija, p. 18–20. ISBN 978-9955-9967-5-0.
12. Ledauskaitė, K.; Štaraitė, E. 2009. Vežimo kelių transportu vadybos studentų profesinės veiklos praktikų veiksmingumo tyrimas. *Tarptautinės mokslinės praktinės konferencijos „Inžinerinių studijų kaitos procesai socialinėje ir verslo aplinkoje“ pranešimų rinkinys [CD]*. Vilnius: Vilniaus technologijų ir dizaino kolegija, p. 69–73. ISBN 978-9955-9967-5-0.
13. Ledauskaitė, K.; Štaraitė, E. 2009. Profesinės veiklos praktikų transporto įmonėse veiksmingumo vertinimas: studentų ir įmonių vadovų nuomonių tyrimas. *Respublikinės mokslinės – praktinės konferencijos „Šiuolaikinės technologijos 2009: teorija, praktika ir inovacijos“ medžiaga*. Alytus: Alytaus kolegija, p. 32–36. ISBN 978-609-8020-04-5.

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TRANSPORTO SEKTORIAUS ŽMOGIŠKŲJŲ IŠTEKLIŲ POTENCIALO EKONOMINIS VERTINIMAS

Problemos formulavimas

Transporto/logistikos paslaugų sektoriuje klientai iš paslaugų teikėjų dažniausiai reikalauja ne vienos paslaugos, o viso logistikos paslaugų rinkinio. Tai lemia transporto ir logistikos paslaugų bendrojo vidaus produkto dalies bendroje Baltijos šalių BVP struktūroje augimą, kuris gerokai didesnis, nei ES vidurkis. Siekiant pagerinti transportinio sektoriaus darbą, didelis dėmesys turi būti skiriamas transporto srities specialistų rengimui. Ypač, svarbu išsiaiškinti kvalifikuotų transporto vadybos specialistų rinkos poreikį, nes vadybininkai – reprezentatyvi transporto sektoriaus grupė. Kita vertus, nuo vadybininkų darbo efektyvumo priklauso transporto/logistikos įmonių konkurencingumas ir visos šalies ekonomika. Sprendžiant ekonomines verslo problemas kylą daug sunkumų vertinant žmogiškąjį potencialą šalies ar ūkio šakos mastu, kadangi įmonių ekonominė vertė labiau sietina su materialiuoju turtu, o ne su žmogiškuoju potencialu. Ši problema ypač aktuali transporto sektoriuje, kadangi transporto efektyvumą labiausiai veikia vadybinė žmogiškųjų išteklių kompetencija. Žmogiškasis veiksnys transporto veiklos kontekste mažai analizuotas. Tai yra vienos iš esminių priežasčių, įvardyti analizuojamą mokslinę problemą – šiuolaikinėse ekonomikos teorijose trūksta teorinių modelių realiame gyvenime kylantiems iššūkiams vertinti, kurių pagrindu galima atlikti žmogiškojo potencialo ekonominį vertinimą.

Darbo aktualumas

Šalies ekonomikos augimas glaudžiai siejasi su investicijomis į žmogiškąjį kapitalą, kuris yra atskirtas nuo fizinio kapitalo. Žmogiškieji išteklių yra vieni iš pagrindinių elementų, lemiančių ekonomikos augimą. Žmogiškojo kapitalo nagrinėjimas nėra nauja problema, tačiau transporto sektoriuje mažai aptarta. Transportas yra viena iš prioritetinių ūkio šakų, todėl plėtojama šalies rinkai reikia transporto vadybos specialistų, suprantančių laisvosios rinkos principus, išmanančių šiuolaikinę ekonomikos teoriją ir verslo praktiką bei sugebančių bendrauti ir bendradarbiauti su vidaus ir kitų šalių partneriais. Tam būtina tobulinti savo profesinę kompetenciją, mokytis visą gyvenimą (šalies mastu nauda sudaro 2 proc. bendrojo vidaus produkto). Kita vertus, galima teigti, kad ekonominę vertę kuria žmogiškasis kapitalas, grindžiamas specialistų kompetencija. Taigi būtina ugdyti su įsidarbinimu bei verslumu susijusius gebėjimus, kadangi šie gebėjimai užtikrina ekonominį ir socialinį stabilumą. Palyginti mažai darbuotojų (8–10 proc.) transporto/logistikos sektoriuje sukuria didelę pridėtinę vertę. Investicijos į transporto sektoriaus žmogiškąjį potencialą, ypač į transporto vadybos srities specialistus, didina darbo produktyvumą, efektyvumą, greitesnį technologinių pokyčių ir naujovių įdiegimą. Gaunama didesnė nauda pačiam individui, įmonei, ir visai šalies ekonomikai. Vadinas, svarbus veiksnys – transporto sektoriaus žmogiškųjų išteklių potencialo, ypač transporto vadybos specialistų, ekonominis rinkos poreikio tyrimas kiekybinu ir kokybinu aspektu.

Tyrimo objektas

Darbo tyrimų objektas – žmogiškųjų išteklių potencialo ekonominis vertinimas transporto vadybos specialistų pavyzdžiu.

Darbo tikslas

Sukurti transporto sektoriaus žmogiškųjų išteklių potencialo ekonominio vertinimo modelį grįstą kokybiniais ir kiekybiniais rodikliais. Jį taikant iširti suinteresuotų grupių (studentų, dėstytojų ir transporto/logistikos įmonių vadovų) vertinimo kriterijų reikšmingumo skirtumus ir įvertinti transporto vadybos specialistų poreikį ir konkurencines galimybes Lietuvoje, Latvijoje ir Estijoje.

Darbo uždaviniai

Darbo tikslui pasiekti išskirti šie uždaviniai:

1. Atlikti transporto sektoriaus žmogiškųjų išteklių potencialo kaip ekonominių tyrimų objekto, analizę.

2. Atlikti teorinį žmoniškųjų išteklių potencialo ekonominį vertinimą.
3. Sudaryti transporto sektoriaus žmoniškųjų išteklių potencialo ekonominiam vertinimui skirtų tyrimų metodiką ir modelį.
4. Taikant sudarytą metodiką atlikti transporto vadybos specialistų rinkos poreikio tyrimą Baltijos šalyse.
5. Empiriniiais tyrimais patvirtinti sudaryto teorinio modelio tinkamumą.

Tyrimų metodika

Atliekant tyrimus, disertacijoje taikoma: mokslinės literatūros analizė ir susistemintos informacijos apibendrinimas; pirminės ir antrinės informacijos rinkimas – respondentų grupių apklausa kombinuotos apklausos (CATI ir CAWI) metodika ir analizė; statistikos duomenų grupavimas ir apdorojimas SPSS programa; hipotezių tikrinimas, remiantis pasiskirstymo homogeniškumo kriterijumi; daugiakriterinis vertinimas; sintezė.

Darbo mokslinis naujumas

Darbo mokslinis naujumas – sudarytas agreguotas transporto sektoriaus žmoniškųjų išteklių potencialo ekonominio vertinimo modelis.

Parengus disertaciją gauti šie ekonomikos mokslo nauji rezultatai:

1. Pasiūlyta nauja bendrojo žmoniškojo kapitalo dydžio skaičiavimo metodika į kurią įtrauktas koregavimo koeficientas, įvertinantis nelaimingų atsitikimų ir ligų darbe, prarasto arba keičiamo darbo, mokesčių pokyčius.
2. Pasiūlytas naujas būdas, sudarantis prielaidas ekonomiškai įvertinti konkurencingų specialistų parengimą. Šio būdo tinkamumas pailiustruotas transporto vadybos specialistų rengimo sistemos ekonominiu pavyzdžiu.

Darbo rezultatų praktinė reikšmė

Sudarytą žmoniškųjų išteklių potencialo ekonominio vertinimo modelį galima taikyti atliekant specialistų rinkos poreikio tyrimus, o parinkta strategija bus naudinga ugdant konkurencingus transporto vadybos specialistus bei skatinant verslo sektorių.

Disertacijos medžiaga buvo naudojama rengiant tris projektus:

1. Vilniaus Gedimino technikos universiteto Transporto inžinerijos fakulteto projektas „Nacionalinės kompleksinės transporto programos galimybių studija“
2. Vilniaus technologijų ir dizaino kolegijos projektas, naujos studijų programos „Transporto logistika“ kūrimas.

3. Lietuvos pramonininkų konfederacijos projektas „Praktinės-imitacinės įmonės kūrimas transporto vadybos srities studentams“) ir Vilniaus technologijų ir dizaino kolegijos dviejų studijų programų akreditacijos savianalizę.

Ginamieji teiginiai

1. Vertinant žmogiškųjų išteklių ugdymo kokybę būtina į vientisą sistemą susieti aukštojo mokslo, praktinio darbo ir asmeninių savybių vertinimo veiksnius.
2. Transporto sektoriaus žmogiškųjų išteklių potencialo kiekybiniam vertinimui turi būti naudojama specializuota vertinimo metodika.
3. Vertinant žmogiškųjų išteklių potencialo ugdymo išlaidas su tiesioginėmis ir sąlyginėmis išlaidomis būtina įvertinti investicijas į mokymo bazę ir pedagoginį personalą.

Disertacijos struktūra

Disertaciją sudaro įvadas, keturi skyriai ir rezultatų apibendrinimas. Taip pat yra 13 priedų.

Darbo apimtis – 155 puslapių, neskaitant priedų, tekste panaudotos 39 numeruotos formulės, 28 paveikslai ir 35 lentelės. Rašant disertaciją buvo panaudoti 220 literatūros šaltiniai.

Pirmajame darbo skyriuje atskleista transporto sektoriaus reikšmė valstybių raidai, kitų ekonomikos šakų konkurencingumui bei pagrindiniams makroekonominiais rodikliams (Bendrajam vidaus produktui (BVP), užsienio prekyba, infliacija, nedarbo lygis), taip grindžiant transporto vadybos specialistų rengimo bei jų poreikio rinkoje būtinumą.

Antrajame skyriuje atlikta mokslinės literatūros analizė, pateikti žmogiškųjų išteklių potencialo ekonominio vertinimo būdai ir atliktas ekonomikos ir vadybos specialistų rengimo kiekybinis ir kokybinis teorinis vertinimas. Palyginti transporto vadybos specialistams keliami rinkos reikalavimai su ekonomistams ir vadybininkams keliamais rinkos reikalavimais.

Trečiajame skyriuje pateikiami transporto sektoriaus žmogiškųjų išteklių potencialo ekonominiam vertinimui skirtų tyrimų metodika.

Ketvirtajame skyriuje išnagrinėti atlikto kokybinio ir kiekybinio transporto sektoriaus žmogiškųjų išteklių rinkos poreikio tyrimo Baltijos šalyse rezultatai, pateiktos rekomendacijos jų kokybiniam ir kiekybiniam vertinimui bei rekomendacijos konkurencingam ugdymui, transporto vadybos specialistų pavyzdžiu.

Darbo pabaigoje pateiktos apibendrintos disertacijos išvados.

Bendrosios išvados

1. Atlikus transporto sektoriaus ir jo žmogiškųjų išteklių potencialo kaip ekonominių tyrimų objekto analizę nustatyta, kad transporto sektoriaus plėtra Baltijos šalyse labai stipriai koreliuoja su BVP (investicijos į transporto sektoriaus infrastruktūrą duoda papildomą šalies BVP prieaugį, kuris yra maždaug 2,5 karto didesnis nei investuotų lėšų dydis). Transporto sektoriuje santykinai mažai darbuotojų sukuria didelę pridėtinę vertę (apie 12 % viso BVP) – tai liudija sektoriaus svarbą šalies ekonomikai. Šiame sektoriuje transporto vadybininkai yra vieni iš pagrindinių žmogiškųjų išteklių, kadangi sukuria didžiausią ekonominę naudą (apytikriai įmonėms uždirba 80–85 % pajamų).
2. Atlikus žmogiškųjų išteklių potencialo ekonominio vertinimo teorinę studiją nustatyta, kad vertinant investicijas į žmogiškąjį kapitalą, reikia atsižvelgti į gamybos (proceso) intelektinį lygį; atlyginimų skirtumą, susidariusį dėl išsilavinimo lygio ir kvalifikacijos ir t. t. Į žmogiškąjį kapitalą naudinga investuoti tol, kol pelno norma iš šių investicijų prilygsta geriausios alternatyvos pelno normai.
3. Atliktų tyrimų pagrindu siūloma bendrą žmogiškojo kapitalo dydį papildomai vertinti atsižvelgiant į nelaimingų atsitikimų ir ligų darbe ($k = 0,01 \div 0,068$), prarasto arba keičiamo darbo ($k_{mot} = 0,079$, $k_{vyr} = 0,097$), juridinių ir fizinių subjektų mokesčių pokyčių (jei keičiasi mokesčiai 1 proc. tai $k = 0,01$, kai 2 proc. – $k = 0,02$ ir t. t.) tikimybę, kadangi tai tiesiogiai daro įtaką individo gaunamoms pajamoms.
4. Sukurta transporto sektoriaus žmogiškųjų išteklių potencialo kokybinio vertinimo metodika suteikianti galimybę kompleksiskai modeliuoti kokybinį rinkos poreikio vertinimą, pagrįstą aukštojo mokslo ir specialistų praktinio darbo ir asmeninių savybių sąsaja.
5. Sukurta transporto sektoriaus žmogiškųjų išteklių potencialo kiekybinio vertinimo specializuota metodika sudaro prielaidas, atlikti transporto vadybos specialistų kiekybinį rinkos vertinimą pagrįstą transporto sektoriaus darbuotojų ir parengtų specialistų santykiu, įvertinant transporto sektoriaus žmogiškųjų išteklių ir transporto parko techninį potencialą.
6. Nustatant žmogiškųjų išteklių potencialo ugdymo vertę siūloma prie sąlyginių išlaidų priskirti investicijas į mokymo bazę, dėstytojų parengimą, kvalifikacijos tobulinimą ir t. t.
7. Atlikus teorinius ir empirinius tyrimus nustatyta, kad siekiant kokybiškai parengti būsimus transporto vadybos specialistus būtina plėtoti aukštųjų mokyklų ir verslo sektorių bendradarbiavimą, studijų dalykus labiau orientuoti į rinką, darbdavius įtraukti į studijų procesą, mokymo institucijose

steigti praktinio mokymo įmones, nes kokybiškai parengti specialistai turi tiesioginę įtaką įmonių veiklos efektyvumui, BVP didėjimui ir viso šalies ekonomikos augimui.

8. Sukurto modelio aproksimacija buvo įrodyta atliktais empiriniais tyrimais (tiriamų rodiklių tarpusavio koreliacijos koeficientų vidurkis 0,8).

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ECONOMIC ASSESSMENT OF HUMAN RESOURCE POTENTIAL IN
TRANSPORT SECTOR

Summary of Doctoral Dissertation
Social sciences, Economics (04S)

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