

Article

Human Capital Management in Transport Enterprises with the Acceptance of Sustainable Development in the Slovak Republic

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Abstract: Transport enterprises produce emissions during their activity, which is how they contribute to the polluting of the environment. The requirement of sustainability should therefore be incorporated into their concept of human capital management as well. The aim of this article is to point out the possibilities of application of various human capital management approaches leading to the requirement of increasing the efficiency, performance, competitiveness and sustainability of a transport enterprise in conditions of the Slovak Republic. Via the survey conducted in Slovak enterprises, we found out that the enterprises do not use human capital management much because they have only little knowledge about this concept of work with human capital. Based on the studying of professional literature, the results from the survey, and own experience, we designed two approaches for better implementation of human capital management leading to the increase of efficiency, performance and sustainability of enterprises operating in the field of public transport. The first one is the increase of human capital value via training, and the second consists of the metrics for the assessment of how effectively the enterprises use human capital. We have verified the application of the metrics in conditions of a concrete particular enterprise.

Keywords: sustainability; performance; efficiency; human capital management; human resource management; metrics

1. Introduction

Transport enterprises contribute to the polluting of the environment in the connection to the provision of services for their customers. However, the requirements of today's society caused by globalization push the enterprises operating in the field of transport and transport logistics into increasing the number of vehicles, which also increases the negative impacts on the environment.

Sustainable development is development which meets the needs of the present without compromising the ability of future generations to meet their own needs [1]. There are three essential aspects of sustainable development: economic, environmental and social [2].

There are many views on the definition of sustainability and the relationship between sustainable development and sustainability in the literature. As a matter of principle, access to sustainability is understood as a wider concept, which is practiced in accordance with the principles of sustainability. So sustainability is an offshoot of sustainable development.

Sustainability is a normative concept about how humans should act in relation to nature, and how they are responsible for each other and future generations [3]. According to Lozano, sustainability is conducive to economic growth based on social justice and the efficient use of natural resources [4].

In the business, it became more convenient to think of sustainability as a “triple bottom line”. Environmental sustainability is defined as the dematerialization of economic activity, since a decrease in

material processing can reduce the pressure on natural systems and expand the provision of environmental services to the economy. Economic sustainability is the maintenance of natural capital, which is a necessary condition in order to avoid economic degrowth [5]. According to Lehtonen, approach to social sustainability refers to social homogeneity, fair income and access to goods, services and employment [6].

Thus, sustainability is characterized as a principle applicable to systems: open systems, to interact with society and nature, involving industrial systems (transportation, manufacturing, energy, etc.), social systems (urbanization, mobility, communication, etc.) and natural systems (soil, air, water and biotic systems, etc.), including flows of information, goods, materials, waste. That is, sustainability involves an interaction with dynamic systems that are constantly changing and require proactive measures.

There are several challenges to sustainability, among others there are:

- implementing environmental protection standards,
- human development,
- promotion of education,
- efficiency in resource allocation,
- publicly available sustainability methodologies and indicators,
- use of complementary indicators on assessments,
- indicators for measuring the consumption of resources,
- balance between the pillars of sustainability,
- dynamic sustainability indicators [7].

These specifically selected sustainability features include the concept of this article which, through the penetration of the environmental, economic and social dimensions of sustainability, aims to fulfill the ideas of wider conceived sustainable development.

Nowadays, the number of vehicles rises continuously, increasing the emissions as well as the load for the road infrastructure. On many roads, there is the increase of operation's intensity 24 h a day [8]. This creates the pressure for building new roads that irreversibly disturb the natural environment. Various authors deal with the issue of sustainability of the transport in their research works [9–12].

These are the reasons to take measures for the decrease of emissions via energy-saving vehicles, use of new technologies in vehicles, or via education and training of employees, so that they adopt the requirement of sustainability and implement it into everyday work activities and into their behavior in relation to the enterprise and to its customers.

The European Parliament passed a law on 15 April 2014 which requires the largest enterprises to state the factors on sustainability as a part of their annual financial reports. Therefore, it will be necessary to identify the appropriate sustainability indicators. It is expected that after disclosing the transparent information on the financial and non-financial performance, the enterprises will have lower costs, they will be more efficient in hiring and retaining the employees, and they will be more successful on the market in the long term [13].

To perform their activities, the enterprises unavoidably need to use the available production inputs available. In terms of increasing the performance and competitiveness of the enterprises, it is needed to focus on the efficient use of production inputs and to take measures in this issue. "The competitiveness and sustainability of an enterprise are closely related. Competitiveness has received ever-growing attention in the era of globalization" [14]. In the context of the above-mentioned thoughts together with the requirement of the sustainable development, the enterprises incorporating this requirement into their business strategies, while linking it with the requirement of efficiency, will be competitive on the market. Therefore, the managers focus also on the revealing, assessing and comparing the efficiency of using the enterprise's inputs.

One of the enterprise's inputs is represented by human capital. The successful operation of every enterprise is determined by the abilities of the people working in it to a great extent. For enterprises to be able to ensure their competitiveness on the domestic as well as on the global market, it is necessary to realize the value and importance of people in the work process. However, it is needed to determine

the difference between the human capital and human resources of an enterprise. While human resources represent the people in the work process, human capital represents the sum of abilities, skills, knowledge, experience and talent that people have at their disposal and that they use when performing the job tasks leading to the fulfilment of enterprise's goals. A fundamental difference lies in the fact that human capital is possessed by everyone regardless of being employed or not. Human resources are the holder of the human capital which is available for the enterprise. The enterprise must decide whether and how it will manage its human resources and human capital in the best possible way, and how it will develop and use them with the aim to achieve the competitive advantage on the market. In the practice, the enterprises still more frequently apply the concept of human capital management (HCM), besides the human resource management (HRM).

The human capital management concept emphasizes the person's current knowledge, its importance and applicability for an enterprise as well as its systematic development and strengthening. It also represents the ability to use the potential of people for everyday work and also for the improvement of the quality and for the innovations. It encompasses the procedures and methods for the management of people and for the care of their development. The human capital management is being performed by all the managers and it has impacts on all holders of the human capital, thus on all employees, on their behavior and work performance in enterprises.

The transport enterprises produce emissions during their activity, which is how they contribute to the polluting of the environment. For this reason, the requirement of sustainability should be entrenched also in the concept of the human capital management of enterprises in the field of transport. The human capital management represents the application of tools for measuring the efficiency of utilization and the efficiency of investment in human capital. Via the survey conducted in Slovak enterprises, we revealed that the enterprises use the concept of the human capital management only rarely, because they have only little knowledge about it. Based on the professional literature examined, we found out that there is no unified methodology for the measurement of the human capital efficiency.

The aim of the paper is to design a way of applying various approaches and metrics for the implementation of the human capital management. For an improved implementation of the human capital management in practice, we proposed to use two approaches. The first one is the increasing of the value of the human capital in the form of training, and then we designed specific metrics for the human capital efficiency. The application of the metrics designed was verified in a particular enterprise operating in the public transport. The implementation of these measures should contribute to the increase of performance and competitiveness of the enterprise and to the increase of the environment's sustainability. To fulfil this aim, it is necessary to explain the opinions on the substance of the human capital management and to characterize the relationships between the human capital management and the human resource management.

2. Literature Review

2.1. Substance of the Human Capital Management

While determining the substance of the human capital management, we followed various approaches to its definition.

The human capital management can be understood as the effort to retain and further develop the human capital of an enterprise via employees and their abilities. The primary reason for using these abilities is the effort to create advantages in relation to the competitors. Its task is also to meet the goals of a sustainable human capital management [15].

According to the Accounting for People Task Force [16], the human capital management represents a strategic approach to the management of people, which is focused on the critical issues of the organization's success. This approach considers people to be at a high level of the strategic decision-making. It consists of the systematic analysis, measurement and evaluation of how people proceed in the value creation.

Kearns [17] understands the HCM as the overall development of the human potential expressed through the enterprise's value. In his opinion, the human capital management lies in the generation of the enterprise's value through people.

Donkin [18] also supports the importance of measurements within the implementation of the HCM. He then claims that the organizational power of the human capital management lies in 3 areas:

1. development and application of relevant quantitative and qualitative measurements,
2. gathering and interpretation of results,
3. using the information gained as a strategic advantage.

Enterprises that concentrate the efforts of management on these three areas will have the best position for the strategic arrangement of the employment policy. A good human capital management is all about the learning, understanding, application and adjustment.

This thought was also supported by Nalbantian [19], who emphasized that within the human capital management, the measurement is an important aspect. He defines the human capital as the sum of knowledge, experience, creativity and other attributes. According to him, the human capital management provides a tool for measurement of the value of people's attributes for an efficient management of enterprises.

The requirement of measurement is embedded into the HCM concept also by Armstrong [20]. According to him, the human capital management consists of the analysis, measurement and subsequent evaluation of how the selected strategy and the processes used within the management of human resources were successful in practice. The human capital itself consists of the knowledge, experience, abilities and various other attributes expressed by the workers of a given organization. The management then means the knowledge of application of quantitative tools in the measurement of these attributes (measurement of employees' performance) and using them in the most efficient way possible. The human capital management represents:

- the ability to enhance the belief that people represent an asset more than costs,
- the need to create a strategy and to adapt the processes of human resource management so that they create values needed for achieving the organization's goals,
- the way for creating the strategy needed,
- the need of partners in the form of human resource specialists,
- the ability to learn what to measure and how to measure it,
- the way which makes it possible to point out that a well-managed employee delivers excellent results, and which points out the direction suitable for the strategy to follow.

Ingham [21] claims that the human capital management's task is to manage people in a way leading to optimal accumulation of human capital—for the individual investing in it, organizations using it, and also for financial investors financing it.

Ahluwalia [22] considers the human capital management and its planning to be an integrated, systematic and ongoing process which includes:

- determination of the number and skill set of employees needed as well as of the place and time of this need,
- identification of measures that ought to be taken to attract and retain the number and qualification of the employees needed,
- training of employees within the field of behavior and approach to customers.

The enterprise's main goal is to find the ways to achieve specific advantages from the human capital and to find what investments in people are the most profitable ones. Therefore, the enterprise necessarily needs to answer the basic practical questions pertaining to the human capital, and then to develop a detailed strategy based on them. Scarborough and Elias [23] claim that the most useful

function of the human capital is in providing the connection between human resources and the business strategy. Defining the goals of HCM leads to this too.

According to Armstrong [20], the goal of HCM is to find out the answers to these questions:

- What are the main drivers representing the value for the enterprise?
- What abilities does the enterprise have at its disposal?
- How will the abilities be acquired, developed and retained?
- How is it necessary to create and develop the corporate culture and the internal environment?
- How to establish that the knowledge generated in the enterprise is recorded and efficiently used at the same time?
- How to ensure that the knowledge generated in the enterprise is recorded and efficiently used too?

Archibald [24] claims that the goal of human capital management is to establish an ongoing communication between the employees and employers. Within the study at the enterprise level, there is the human capital management in a narrower scale, which refers to the measurement and analysis of the metrics within the area of human resources, such as employees' turnover, costs per employee, and the efficiency of the training and education. This aspect of the human capital management can provide valuable feedback for the assessment of operation and efficiency of the broader system of the human capital management. However, it is often being limited by the lack of attention paid to the efficiency, effectiveness and evaluation of results.

2.2. Relationship of the Human Capital Management and Human Resource Management

To be able to determine the relationship between the human capital management and human resource management, we need to define both terms.

According to Storey [25], there are many definitions for human resource management (HRM) since each book and each organization has its own delimitation for this term. Price [26] defines the HRM in his book as a philosophy of people's management which is based on the belief that human resources are an important prerequisite for the lasting success of an organization. If an organization can use and develop them efficiently, they represent one of the greatest competitive advantages for it.

According to Šikýř [27], human resource management refers to practices that enable any organization to attract, employ and develop enough capable and motivated employees, including such practices as job design and analysis, human resource planning, employee recruitment and selection, performance management and appraisal, employee compensation, employee training and development or employee care.

Beer and coll. [28], as early as in 1984 in the concept of the human resource management, did not consider employees as a cost item but as assets and potential wealth which is currently available for the enterprise.

This statement is supported also by Kearns [17] who claims that in the human capital management, people are those adding the value to the enterprise, whereas the human resource management considers people to be costs of the enterprise. According to his opinion, the human resource management is being performed through the personnel department which provides supportive services for other functional departments in the enterprise. The human capital management is strategic and oriented towards the enterprise as a whole.

Mayo [29] also sees the fundamental difference between the HCM and the HRM in the fact that the human capital management understands a person as an asset for the enterprise while the human resource management perceives a person rather as a cost item.

Based on the above-listed opinions, the human capital management concept can be understood as a shift from the traditional point of view of enterprises seeing an employee as one of the cost items. Employees are understood as assets which require investment (training, development of knowledge, abilities and skills of employees) with the purpose of increasing the value, performance

and competitiveness of an enterprise. The problem is that there is no exact method for evaluation of this asset in an enterprise.

Armstrong [20] depicted the relationship between the individual concepts of HCM and HRM (Figure 1). Each concept includes its own activities by which it follows another concept of people's management. This leads to the creation of a continuous cycle in an organization. First concept determines the policy and practice in the area of people's management and development in an enterprise. It is followed by the HCM concept which lies in gathering, analyzing and subsequently presenting the information to the enterprise's management on whether the policy and practice pertaining the people's management will add value for the enterprise. This is done at the operative as well as the enterprise-wide level. Thus, the HCM performs the measurements to create the best possible linking of activities and measures in the area of human resources with the goals of organization. It emphasizes the belief that people shall be understood more as the wealth, not as a cost item. The results gained are then the source of information for the personnel management whose task is to acquire, organize and motivate human resources in an enterprise. The last concept in the human resource management lies in the strategic and logical approach to the management of people participating in the achievement of individual and collective goals.

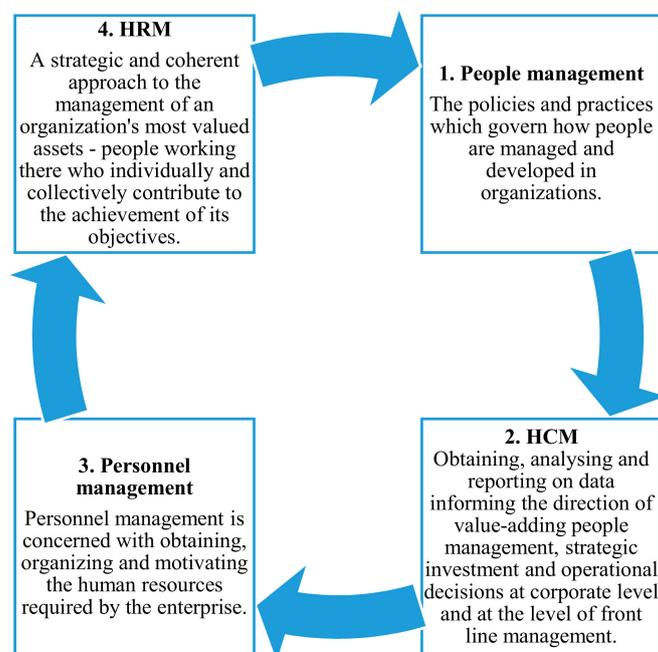


Figure 1. Relationship between the concepts of people management in the enterprise (HCM—human capital management, HRM—human resources management). Source: [20].

Armstrong's [20] opinions imply that the HCM is to some extent equated with some activities and tools of the personnel controlling. However, in contrast with the HCM, this is oriented rather cost-statistically, and it does not consider people in enterprises as assets.

It needs to be added that the HCM concept is not applied only in enterprises. For example, Cahyaningsih and Sensuse in several works [30,31] deal with the implementation of the HCM in conditions of the government and government institutions—ministries.

3. Materials and Methods

To achieve the aim, the approach leading from general to specific was applied. We have made qualitative and quantitative research. In quantitative research, we analyzed secondary sources as well as primary sources of information and data. Qualitative research included observations and experiences

gained by authors in the conditions of a transport company. Firstly, we identified and summarized various opinions on the substance of the human capital management. Regarding that it is one of the more contemporary concepts for the management of people and their knowledge, skills and abilities; not only in the practice but also in the professional literature, the term “human capital management” is often confused with the “human resource management”. For this reason, we identified and summarized various opinions trying to explain the mutual relationship of these two concepts for the management of people in enterprises. We used the results of a survey conducted in 350 enterprises in the Slovak Republic, and finally we have proposed two approaches, metrics and recommendations for successful implementation of the concept of human capital management in the conditions of a transport company with a focus on sustainability. Suggested metrics were verified and explained on specific business data.

In the survey, we focused on revealing whether the managers in Slovak enterprises have the knowledge about the HCM, whether they perceive the difference between the HCM and the HRM, and how they apply the HCM concept in the business practice.

There were 350 Slovak enterprises participating in the questionnaire survey. Among them, 13% were microenterprises (0–9 employees), 29% were small enterprises (10–49 employees), 36% were middle-sized enterprises with the number of employees between 50 and 249, and 22% were large enterprises that employ more than 250 employees. The majority of participating enterprises belonged to small- and medium-sized enterprises from various fields.

Regarding the sectorial focus, 63% of enterprises were those providing services, and 37% of enterprises were the manufacturing ones. Transport enterprises represented 5% share among those providing services. In addition, there were 7% of IT enterprises. Construction enterprises represented around a half of the manufacturing enterprises.

4. Results

4.1. Questionnaire Survey on the HCM

The questionnaire survey was oriented towards the application of the human capital (HC) concept in enterprises and it delivered interesting findings reflecting the current situation. The approach to the human capital management is also influenced by the fact of whether it is a domestic enterprise or a subsidiary of a foreign enterprise. Within the survey, the majority were domestic enterprises (82%). Therefore, the revealed work with the human capital is not at such a developed level. From the perspective of how long the enterprises have been operating on the market, the smallest group consisted of enterprises being on the market for less than 3 years (4%). Enterprises operating on the market longer than 10 years represented 66% in the sample.

The survey showed that these enterprises consider investing funds in training and education of employees as the most important way of developing their human capital (90% of enterprises). Only a low percentage of enterprises realize also the importance of other forms of investment in the human capital, such as investment in safety, health protection and health care for employees (32%). If enterprises want to efficiently work with the HC, managers must reconsider their attitudes in the future and dedicate time and funds to this item of investment, too.

Serious insufficiencies were identified in the issue of using various forms of education by enterprises. Enterprises prefer educational activities focused on expertise related to their business activity which are oriented on bigger groups of people rather than individual forms of education able to deliver higher added value for employees.

Enterprises are aware of the impact of investment in the HC on the overall performance, mainly on the profit (4.86 points of 5 on average). On the other hand, they consider HC to be a significant cost item which makes them try to minimize the costs related to it. There is an interesting fact that enterprises were less perceptive of the impacts of the HC on efficiency (3.29 points), and even less perceptive of the impacts on sales (2.71 points). This fact reflects the reserves linked to implementation of human capital management in enterprises. Up to 89% of enterprises stated that they do not have

HCM implemented. Also, the enterprises do not use the metrics for measurement of the HC value, HC efficiency, and efficiency of individual investment in the HC. For this reason, enterprises do not fully see the benefits related to the investments realized, or the course of human capital value of their employees during an enterprise's operations.

A significant finding is the reason why the enterprises are not interested in the issue. Human capital management is a big unknown for enterprises, about which they have only peripheral information. Therefore, they do not see the possible benefits of individual types of metrics. Since they do not have sufficient information about the importance and ways of realizing measurements related to the HC, they are not interested in applying them in their everyday activity. In several cases, enterprises consider this part of investment as immeasurable, therefore they do not pay further attention to the investment in the HC after realizing it.

Enterprises usually believe that common measures suffice. These are related to labor productivity, employees' performance, reject rate, turnover and other. The reasons for not using the HCM metrics are similar. There is an evident ignorance regarding the differences between the HCM and the HRM metrics. There is also a group of enterprises convinced that they do not need the measurement, and that it would mean excess work for them which they do not have enough capacity for. It was mainly the case of small and microenterprises.

For the question about what changes the enterprise plans to implement in the future in this area, the answers were most frequently related to the number of educational activities or to re-evaluation of the structure of individual training courses for employees. The enterprises are aware of the reserve in efficiency of employee's educating and of the benefit for the enterprise in the future. Their goal is to realize more activities also in the area of investment in the health of employees, which would lower the costs related to absences.

Only 6.5% of the addressed enterprises confirmed that they have a designed system for measuring and monitoring the human capital. Within the sample, these were mainly the enterprises with foreign ownership that are more convinced about the impact of investment in the human capital on the increase of various indicators of performance. These try in some way to use metrics for efficiency of human capital. This also corroborates the results from our previous study. In that, we found out that the enterprises of direct foreign investment have a positive effect in Slovakia, not only on economic performance of the region, but also on the area of implementing new technologies and increasing educational activities, thus, on the increasing of the human capital value [32].

The most frequent answer to the question of how enterprises pursue efficiency of human capital are: control of fulfilling the objectives, monitoring fulfilment standards, evaluating employee productivity, total and average productivity, monitoring performance of individual employees, monitoring ratio of the cost of employee turnover, monitoring relationship: turnover—profit—wage, monitoring sales for the product group, monitoring of the number of new projects, monitoring selected key performance parameters (different for each position).

The questionnaire brought new information pertaining to the state of the HC in Slovakia and deficiencies in this area. Based on the survey, it is obvious that the enterprises do not have sufficient information about work with the HC and the HCM. It would be beneficial to create information campaigns for enterprises that would contribute to the increase of interest in looking for further information in this area. It would be followed by increased interest in implementing the HCM and using metrics appropriate for a specific type of enterprise.

4.2. Proposal of the HCM in the Context of Sustainability in a Transport Enterprise

The above-listed views of the substance of the human capital management and the questionnaire survey in enterprises imply that HCM is a strategic and planned approach to the management of the most valuable assets of enterprises—people (their knowledge, skills, abilities) participating in fulfilment of an enterprise's goals. The human capital management system supports individual processes, so that they lead to use of the human capital towards efficient achievement of an enterprise's

goals. For this reason, it is necessary to measure this capital and the level of its use, and to compare, manage and develop it.

In the context of environment sustainability in a transport enterprise, the HCM goals can be adjusted and a two-part approach to the implementation of the HCM can be established through:

1. implementing education of employees in reducing the accident rate and in sustainability,
2. designing and applying metrics of effective use of the HC with incorporating the requirement of increasing efficiency, performance and sustainability.

4.2.1. Education in Sustainability

The managers responsible for the HCM should design and promote the idea that it is important for the enterprise to keep increasing the value of employees' HC through education in the area of decreasing the accident rate and supporting sustainability. That will make this requirement become a value/part of their behavior and the activities performed not only in the work process but in the personal life as well. This would secure the idea of sustainability becoming a part of corporate culture and being brought outside the enterprises as well.

This first approach to the implementation of the HCM in the context of sustainability is related to the need to incorporate the sustainability into the thinking and behavior of enterprises' employees, thus into the corporate culture. This is defined by Hitka, Vetráková, Balážová and Danihelová [33] "as a set of opinions, value systems and behavior standards which is unique for each organization and represents specific character of its functions. It is apparent in behavior, mutual interaction, self-understanding and understanding of surroundings." The fact that the corporate culture influences the quality of people in an enterprise was confirmed, for example, in the research of Lorincová and coll. [34].

Nowadays, most of the companies are incredibly interested in ensuring that their products, services, processes and practices are sustainable and environmentally friendly. They want to see themselves as having a strong corporate social responsibility. This strategy can also enhance a company's reputation and can maximize their profit [35]. Over the last decades, discussion about the link between corporate social responsibility (CSR) and sustainable development has come to the forefront of economic concerns. This leads to an unspecified discussion in economics and business administration. CSR is basically a concept of voluntary business activities whereby corporations integrate social concerns. Companies which espouse CSR are keen to help in a move towards sustainability. There is a general acknowledgement that the corporations have ethical obligations toward sustainable development. Thus, a corporation needs to behave responsibly for two main reasons: self-interests and ethical reasons within that society [36].

Sustainability is an offshoot of sustainable development, sustainability has a subset of activities that are unique to it. Hence, an organization may imbibe sustainable development values but may not attain the state of a sustainable organization. A sustainable organization should not fail [37]. Sustainable development deals with generations of people who can be influenced in the future by business activity, which is determined by corporate social responsibility.

Therefore, the requirement of sustainability can be connected also to the activities of corporate social responsibility (CSR). Moravčíková and Křižanová [38] emphasize that "CSR became an important tool for improving of relationships in an enterprise, solving social problems, strengthening the bonds with customers, and finally also for increasing the competitiveness of an enterprise in the long term and spreading a good reputation." The stated fact is proved also by a new study, in which the authors confirmed the relation of CSR to the employees' satisfaction, their identification with the enterprise, and with their work effort [39].

4.2.2. Designing and Verifying the Metrics for Efficient Use of HC in HCM in the Context of Sustainability

The task of the human capital management is to connect the information available on human capital for the management for multiple purposes. It identifies the relationship between the given

information and financial results. They show what is happening in the enterprise. On the other hand, the information on human capital explains why the situation is as it is. For this reason, it is necessary for the management to obtain only relevant information which will then be the key for managing and improving the enterprise's situation. Only the employees that can and are willing to use their capital more efficiently are also increasing their share in achieving the enterprise's goals [40].

The measurement of human capital and of its efficient use is an important approach to its management. The importance of measurement in the HCM is based on the research. The specialized works listed metrics that are very similar to each other, but they are very general and represent rather an inspiration for managers of human resources in designing their own metrics. The metrics shall reflect the specifics of an enterprise's operation. Then they will inform about the efficiency of using individual components of employees' human capital in the enterprise in the most appropriate way. The task for managers responsible for the HCM is to create metrics of efficient use of the HC, while incorporating the requirement of increasing the efficiency, performance, competitiveness and sustainability.

Ratio indicators of efficiency, thus the metrics of efficiency, compare the outputs and the inputs needed, and these are expressed in kind or through value. The success of HC metrics depends on a suitable determination of the key performance indicators that are substantial for the management of an enterprise. Each enterprise is different since it consists of unique personalities. For this reason, it requires also adapting the measurement of human capital's value to its specifics. Regarding that it would be very difficult to quantify the value of human capital, some indirect indicators can be used that most appropriately consider the benefit of the key components of human capital for the achievement of the total corporate performance.

Based on the survey performed, and on the work in several transport enterprises, we designed simple metrics that can be used to assess the efficiency of using the human capital, while also considering the requirement of sustainability. The metrics were verified in conditions of a public road transport enterprise.

The assessment of efficiency through standard indicators is complicated in a public transport enterprise mainly because the economic result, which is considered as the key indicator of performance in some enterprises, is mostly negative in this situation. Another problem arises in the income items that mainly consist of financial subsidies from the city, and their amount does not primarily depend on the enterprise's performance. Thus, it is not directly related to the efficiency of human capital. Therefore, it is useful for the enterprise to use its own indicators considering such factors that really reflect its performance. These indicators include the number of people transported, since it shows how the enterprise attracts the people who need to be transported, and they include also the total revenues from its own activity.

Index for Revenue of Passengers (IROP)

The Index for Revenue of Passengers is an economic indicator showing the actual revenues gained by the enterprise through its own activity. Of equal importance is the determination of the number of passengers that used the services of the transport enterprise. The increasing number of passengers shows the satisfaction with the quality of services, which is influenced by the knowledge, experience and communication and driving skills of an enterprise's employees. The increasing number of passengers in the public transport also means that the number of cars on the roads decreases, which contributes to a decrease of emissions and enhances the environment's sustainability.

The amount of revenues that the enterprise gains from its own activity ranges around the level of costs of the human capital. The rest of the costs are covered mainly by financial subsidies from the city or by revenues from other activities.

$$IROP = \frac{\text{revenues} - \text{costs of HC}}{\text{number of passengers}} \quad (1)$$

The indicator (Table 1, Figure 2) reflects a positive trend for the future since the value of revenues still rises since 2011, despite the increasing costs of the HC. Positive results were recorded also for the revenues per one passenger. Since 2008, the value rose from 13 cents to 16 cents of revenues per one passenger. On the other hand, there is also an increase in the costs per one passenger, even though not to such an extent as it is in the case of revenues (Figure 3). Based on these indicators, we can state that the enterprise tries to manage the human capital to achieve the highest level of revenues possible. Despite that, there is a noticeable area for improvements within increasing the human capital efficiency.

Table 1. The course of Index for Revenues of Passengers (IROP) indicator between 2008 and 2014.

Year	2008	2009	2010	2011	2012	2013	2014
Number of passengers	249,859,000	240,212,000	237,248,000	274,213,000	251,994,000	230,680,000	248,557,000
Revenues (€)	32,643,000	33,772,000	34,119,000	37,481,000	40,766,000	41,984,000	41,524,000
Costs of human capital (€)	34,776,325	36,953,097	40,364,882	39,676,293	37,992,648	37,654,854	36,701,330
IROP	0.94	0.91	0.85	0.94	1.07	1.11	1.13

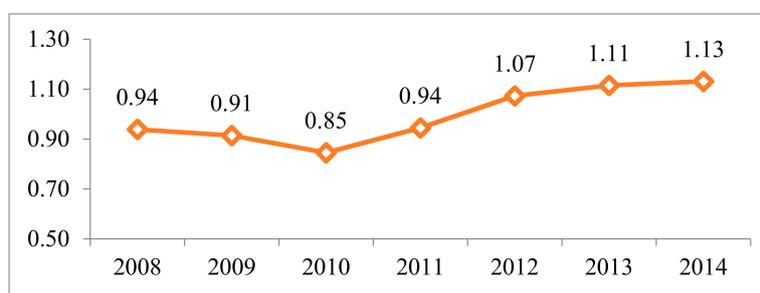


Figure 2. The course of IROP indicator between 2008 and 2014. Source: own elaboration, data gained from internal materials of the enterprise.

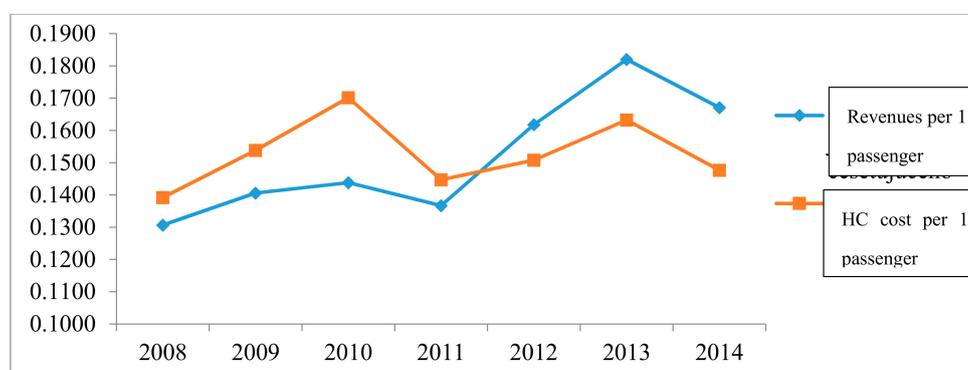


Figure 3. The course of partial indicators of HC efficiency between 2008 and 2014. Source: own elaboration, data gained from internal materials of the enterprise.

Impact of Human Capital on Accident Frequency (IHCAF)

The main role of a transport enterprise is to provide a transport of a high quality which is efficient and, above all, safe. Its effort is to provide a high standard in the transport, while continuously improving the services. This transport requires a low level of accident rate and of other inconvenient events that could negatively affect the interest of passengers in the services provided. This also leads to sustainability. For this reason, we consider accident events occurring during the year to be a suitable indicator. Especially, it is the case of those accidents that were caused by the own fault of drivers. The number of occupational injuries that caused incapacity for work is also important. These indicators will be used to design a new metric which will take into account the efficient use of the human capital.

$$IHCAF = \frac{\text{accidents caused by own fault of drivers}}{\text{number of drivers}} \times \text{personnel costs per one employee} \quad (2)$$

There is a serious problem in the enterprise with accident events caused by its employees. The enterprise is continuously monitoring the problem and tries to take appropriate measures. Besides the negative impact on the quality of services provided, the accidents influence the overall economic results of the enterprise as well as the polluting of the environment. The enterprise realized the necessity of increasing the investment in human capital with the purpose of decreasing the rate of the accidents caused. Therefore, since 2011 it has been creating programs for lowering the accident rate through the increasing of the HC value in the form of training courses focused on compliance with the traffic regulations, individual lessons for future drivers, development of abilities of anticipating the conditions on the roads and concentrating on the driving, or on the impact of the driving style and accidents on the polluting of the environment. The enterprise uses a motivating tool in the form of financial reward for those drivers driving without causing accidents.

The programs connected to the increasing of the human capital brought significant improvements to the enterprise in the area of the accidents caused. As an effect of the increase in the investment in human capital, there was a rapid decrease in the accident rate in the studied period of 2010–2014, which was confirmed also by the management. This state represents the decrease of costs for the enterprise and the increase of passengers' satisfaction with the services provided, and that also with accepting the requirement of sustainability (Table 2, Figure 4).

Table 2. The course of Impact of Human Capital on Accident Frequency (IHCAF) indicator between 2010 and 2014 (€).

Year	2010	2011	2012	2013	2014
Number of accidents caused by the own fault of drivers	498	417	422	432	324
Number of drivers	1516	1483	1440	1493	1423
Personnel costs per one employee (€)	12,265	12,544	13,210	12,949	13,075
IHCAF (€)	4029	3527	3871	3747	2977

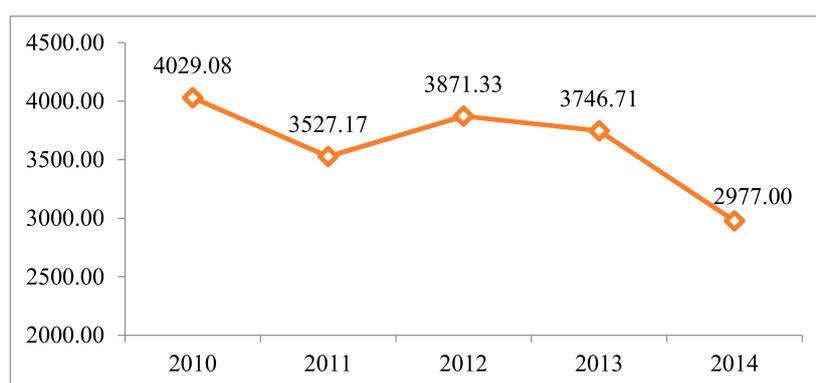


Figure 4. The course of IHCAF indicator between 2010 and 2014 (€). Source: own elaboration, data gained from internal materials of the enterprise.

Index of Education (IOE)

The enterprise performs mainly trainings for employees in the form of lectures or personal consultations within its training process. Its effort is to invest in all employees; therefore, it organizes various types of education.

For the needs of efficiency analysis in the enterprise, we designed an indicator Index of education (IOE). It is an important indicator which represents the ratio of total sales of the enterprise and the trainings performed since overall revenues are a distorted indicator in this case.

$$\text{IOE} = \frac{\text{sales}}{\text{number of trainings}} \quad (3)$$

This indicator shows the benefit that the enterprise gains from the trainings performed in the given year. In the specific case, one training performed, regardless of its area, brought from €8750.71 to €15,459.92 between 2010 and 2014. The biggest impact on the sales was recorded in 2013 (Table 3, Figure 5). Besides other significant factors, there is also an evident impact of activities from previous years on the course of sales. The increased value of the human capital will be gradually transformed into the value of sales in the future. Of course, using a multi-criterial analysis, it would be possible to study whether the investments in education really contribute to the increase of an enterprise's performance. However, the benefits from education for the improvement of performance are being perceived also by the management.

Table 3. Ratio of sales and trainings.

Year	2010	2011	2012	2013	2014
Number of trainings	3899	2746	2494	2467	2686
Sales (€)	34,119,000	37,481,000	40,766,000	41,984,000	41,524,000
Index of Education (IOE) (€)	8750.71	13,649.31	16,345.63	17,018.24	15,459.42

Source: own elaboration, data gained from internal materials of the enterprise.

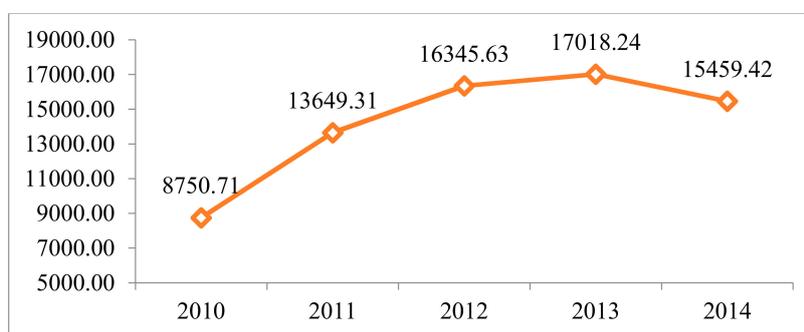


Figure 5. Ratio of sales and trainings between 2010 and 2014 (€). Source: own elaboration, data gained from internal materials of the enterprise.

The assessment of efficiency using standard indicators is very difficult, especially because the majority of them take into account the economic result which is mainly negative throughout the years in the case of this enterprise. Another problem arises when looking at the revenues of the enterprise that are mainly created by the subsidies from the city and their amount does not primarily depend on the enterprise's performance. Therefore, it is not related to the efficiency of human capital. For this reason, it is useful for the enterprise to use its own indicators taking into account such factors that really reflect its performance.

5. Discussion

Within the application of the HCM, it does not suffice to only create the metrics for the assessment of efficient use of human capital and to monitor the course of these metrics in time in the enterprise. It is beneficial to compare the results gained with the competitors via benchmarking. In the HCM, the benchmarking is used to identify the desired level of performance, and its task is to find the possible improvements when compared with the competitors. For comparing of enterprises, it is suitable to

take into account the following areas: planning, management, employees' wages, employees' benefits, development and retention.

In connection with benchmarking, there emerges a risk of unsubstantiated comparing since we do not know what conditions there are in individual compared enterprises, what culture, management or financial variability there is, affecting the achievement of business results [40]. Providing information on human capital is not only related to the measurement, and the indicators serving for comparison of the level (benchmarking) alone do not suffice. They need to have a clear connection to the enterprise's performance [41].

In some cases, it can be complicated to prove an unambiguous connection between the efficiency of the human capital management and an enterprise's success, which is observed also by authors Šikýř and Bušina [42]. For better implementation of the sustainability ideas within the concept of human capital management, the known Balanced Scorecard method can be applied.

The Balanced Scorecard method (BSC) was created in 1992 as a revolutionary and modern way of performance measurement. The effort of BSC is to capture the mutual relationships that link individual factors, and that are responsible for the enterprise's success. The BSC works with interconnected financial and non-financial criteria where it emphasizes the customers' satisfaction, the capability of retaining qualified employees and to have efficient business processes, which substantially influences the long-term performance of the enterprise. This method focuses on four fundamental areas consisting of: financial perspective, customers' perspective, perspective of internal processes, and employees' perspective, also denoted as the learning and growth perspective [43].

The application of the Balanced Scorecard method in the enterprise delivers the increase in efficiency of measurement and performance management, linking of goals at all levels with the enterprise's strategy and vision, clear foundation for communication, an enterprise's direction and for its partial strategies. An important benefit is also a high efficiency of investment in the development of human capital. The learning and growth perspective deals with the creation of the infrastructure and human capital needed, so that the enterprise can excel in its processes. The main idea is that the indicators in this perspective always need to be adjusted for the situation and needs of the given particular enterprise. The same applies for incorporating the sustainability requirement for transport enterprises.

The learning and growth perspective consists of 4 fundamental parts (Figure 6): acquiring, supporting, developing and retaining. All parts are focused on the area of human resources; however, only the "developing" part is focused on the development of HC in enterprises [30]. Authors Chodasová, Tekulová, Hl'ušková and Jamrichová emphasize that only employees with the increasing value of human capital deliver advantages for the enterprise in the form of higher labour productivity [44]. This, together with new production technology and innovations, leads not only to the growth of efficiency but also of competitiveness of enterprises on the market [45].

There is a serious shortage of qualified and motivated workers on the labour market in Slovakia as well as in other countries. The enterprises are looking for specialists with secondary or higher education but the problem is that the professional and personal characteristics of an applicant often do not meet the requirements of employers [46]. For this reason, it is important for enterprises operating in various industries to identify their own talents and to look for relevant input data for their efficient planning and development [47]. The learning and growth perspective is oriented on the development and measurement of the potential of employees, their motivation and the system of goals in relation to employees of the enterprise. Via this perspective, enterprises create goals and measures focused on the support of learning and growth of employees. The goals of learning and growth build an infrastructure for the achievement of goals in the previous three perspectives. The BSC matrix emphasizes the necessity of investing in the future. If an enterprise wants to meet the long-term goals, it has to invest in its infrastructure at present. This consists not only of systems and processes, but mainly of the people. It is important to educate and motivate employees in a purposeful way, especially those who are in direct contact with customers. Only such employees can bring higher productivity [48], new knowledge, ideas and approaches for the improvement of processes and performance towards the support of

sustainability of environment and a transfer of such knowledge into everyday life. This is especially important in transport enterprises.

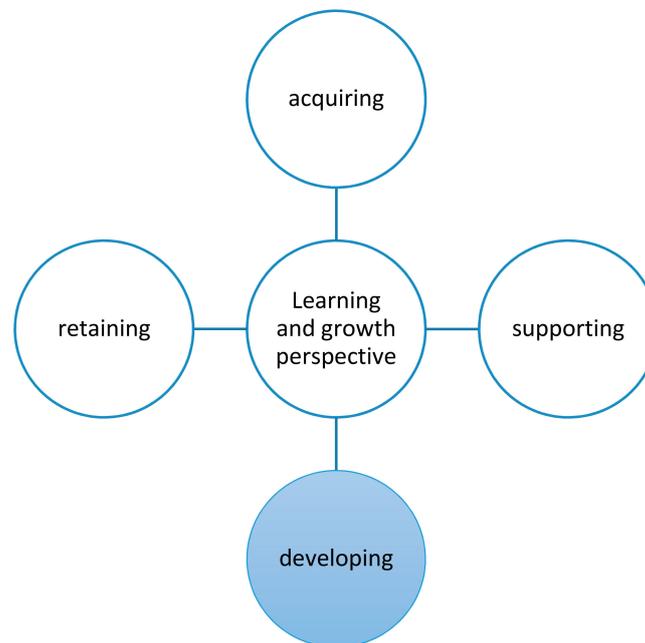


Figure 6. Learning and growth perspective. Source: own elaboration according to [40].

6. Conclusions

The human capital management represents an approach whereby people in an enterprise are seen as intangible assets creating a part of an enterprise's value, not as a cost item. The authors' ambition was to explain the substance of the human capital management, and to characterize the relationships between the human capital management and human resource management. Also, based on the questionnaire survey, the aim was to design approaches to the HCM implementation in the context of sustainability. This relates to designing and verifying some of the metrics for the management of efficient use of the HC leading to the increase of performance, competitiveness and sustainability in a transport enterprise. This also requires increasing the efficiency of use of an enterprise's production inputs. Within the implementation of the human capital management, this means to look for connections between an enterprise's performance and efficient use of the specific knowledge, skills and abilities of its employees. To implement the HCM concept in connection with the sustainability requirement in the practice of a concrete enterprise, it is necessary to adjust the efficiency indicators to the specific conditions of the business, and that within the context of the corporate strategy. The implementation, monitoring and reporting in the field of the HCM can be facilitated by the enterprise's information system [49] and by the application of business intelligence.

The survey showed that enterprises in Slovakia consider investing funds in training and education of employees as the most important way of developing their human capital. However, only one third of enterprises realize also the importance of other forms of investments in human capital, such as investment in safety, health protection, ergonomics and health care for employees. Enterprises are aware of the impact of investment in the HC on the overall performance, mainly on the profit. On the other hand, they consider HC to be a significant cost item which makes them try to minimize the costs related to it. If enterprises want to efficiently work with the HC, managers must reconsider their attitudes in this area. Only 6.5% of the addressed enterprises confirmed that they have a designed system for measuring and monitoring human capital. These were mainly the enterprises with foreign ownership.

Since we discovered a very low level of knowledge in the field of HCM within the primary survey in Slovak enterprises, it is important mainly for human resources managers to educate themselves in this field. They will subsequently disseminate the knowledge under the conditions of their enterprises.

Since there are no accepted and routine unified metrics, it is a task for HCM managers to use their knowledge, creativity [50] and analytical thinking, and to design metrics for the specific conditions of their enterprises. These metrics need to be capable of directing the care for human capital towards increasing of individual and collective performance and competitiveness, also with incorporating the sustainability requirement. Suggested approaches and metrics for transport enterprises can be an inspiration for human resources managers from other enterprises and industries to implement the HCM concept. However, it is important to adapt these facts to the specific business conditions and business environment. This is where we see a huge potential for further research.

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