MEASURING DEVELOPMENT THROUGH HUMAN RESOURCES. THE CASE OF ROMANIA

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Abstract
Living in a society where knowledge is the main factor that ensures success, the education is vital in the formation of human resources. The present paper aims to illustrate the main issues that create a linkage between human capital and the overall development of both enterprises and society, on the purpose to attract a little more attention for this category of resources. We try to highlight the importance of the human development index and also its representativeness in the case of Romania.

Keywords: human resource, development, human development index, performance

JEL Classification: M54; I25; O15

1. Theoretical background

“In current global market, companies are composed by competitors, regardless of industry. To develop a competitive advantage, it is important that firms truly leverage on the workforce as a competitive weapon” [5]. Various studies “have attempted to show the link between human resources and performance”, of which some rely on the single measures of HR practices [11], thus a strategy for improving workforce productivity to drive higher value for the firms has become an important focus [5]. One of the main objectives of enterprises became the “optimization of their workforce through comprehensive human capital development programmes”, though not only in order to achieve a certain individual goal, but also in order to ensure sustainability for a longer period of time. According to literature in the field, in order to accomplish this undertaking, firms will need to invest resources to ensure that employees have the knowledge, skills, and competencies they need to work effectively in a rapidly changing and complex environment [5].

The literature defines performance management in terms of outputs in a given field. Performance is calculated in terms of results, therefore at individual, group and organizational level is considered desirable according to a specific set of rules or standards [8]. It is considered an interdependent relationship between performance and human resource management [6].

Analysis of human resources is a process that takes place in order to determine their situation at a time, to identify weaknesses in the overall strategy of this department, to increase performance and fix errors management. It is an opportunity to identify the risks that arise for the management processes and to leverage human activities in the organization through a more accurate use of available resources.

The human capital focuses on two main aspects: individuals and organizations. Garavan et al. [3] explains this concept through the idea that human capitals have four key attributes, as follows: (1) flexibility and adaptability (2) enhancement of individual competencies (3) the development of organizational competencies and (4) individual employability.

By analyzing the human resources we refer also to making a parallel between the existing potential and analytical performance achieved. If we identify a potential higher than the level of performance, we conclude that the company’s resources are not used to their maximum, so there is ”room for improvement”. If the performance achieved is, on the contrary, of a higher level, despite a modest initial potential, effective management is one that uses the most resources at its disposal.
2. Investment in education, as a prerequisite for enhancing performance

The effects of educational process upon the life of individuals and their participation in economic activities, also on the overall economic development, are various, as presented below [7].

![Economic returns to education](source: Michaelowa, 2000)

The educational level is one of the most important foundations for developing performance at both micro and macroeconomic stage. For this it becomes important to estimate at a time the statement of expenditure on education, whether we refer to the public or to private. The World Top 20 Educational Poll 2014 [20] ranked in the top 20 places the following educational systems, identified as the best in the world:

![The best educational systems in the world](Source: The World Top 20 Educational Poll 2014)

The performance of this system depends, however, on a priority basis for the investment and spending at the state allocates annually. The table below presents the situation of public expenditure, expressed as a percentage, regarding the educational system in the world through a selective list of European countries, joined by the US and Japan. We note that in most cases identified as performing at global educational level, the public expenditure represents...
A major percentage of GDP (the highest value being found in Denmark - 8.7% in 2012).

Table no. 1 - The situation of public expenditure on education

<table>
<thead>
<tr>
<th>Country</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States</td>
<td>5.47</td>
<td>:</td>
<td>5.6</td>
</tr>
<tr>
<td>Japan</td>
<td>3.61</td>
<td>:</td>
<td>3.8</td>
</tr>
<tr>
<td>Belgium</td>
<td>6.57</td>
<td>6.5</td>
<td>6.6</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>4.58</td>
<td>3.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>4.36</td>
<td>4.8</td>
<td>4.2</td>
</tr>
<tr>
<td>Denmark</td>
<td>8.72</td>
<td>8.1</td>
<td>8.7</td>
</tr>
<tr>
<td>Germany</td>
<td>5.06</td>
<td>4.3</td>
<td>5.1</td>
</tr>
<tr>
<td>Estonia</td>
<td>6.09</td>
<td>6.8</td>
<td>5.7</td>
</tr>
<tr>
<td>Ireland</td>
<td>6.50</td>
<td>6.0</td>
<td>6.5</td>
</tr>
<tr>
<td>Greece</td>
<td>:</td>
<td>3.8</td>
<td>4.1</td>
</tr>
<tr>
<td>Spain</td>
<td>5.01</td>
<td>4.9</td>
<td>5.0</td>
</tr>
<tr>
<td>France</td>
<td>5.89</td>
<td>6.0</td>
<td>5.9</td>
</tr>
<tr>
<td>Italy</td>
<td>4.70</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>Cyprus</td>
<td>7.98</td>
<td>7.5</td>
<td>7.3</td>
</tr>
<tr>
<td>Latvia</td>
<td>5.64</td>
<td>6.2</td>
<td>5.0</td>
</tr>
<tr>
<td>Latvia</td>
<td>5.64</td>
<td>6.1</td>
<td>5.4</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>3.15</td>
<td>5.1</td>
<td>:</td>
</tr>
<tr>
<td>Hungary</td>
<td>5.12</td>
<td>5.6</td>
<td>4.9</td>
</tr>
<tr>
<td>Malta</td>
<td>5.46 / 6.9</td>
<td>5.8</td>
<td>5.4</td>
</tr>
<tr>
<td>Netherlands</td>
<td>5.94</td>
<td>5.9</td>
<td>6.0</td>
</tr>
<tr>
<td>Austria</td>
<td>6.01</td>
<td>5.7</td>
<td>6.0</td>
</tr>
<tr>
<td>Poland</td>
<td>5.10</td>
<td>5.7</td>
<td>5.2</td>
</tr>
<tr>
<td>Portugal</td>
<td>5.79</td>
<td>6.5</td>
<td>5.8</td>
</tr>
<tr>
<td>Romania</td>
<td>4.24</td>
<td>3.4</td>
<td>4.2</td>
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<td>Slovenia</td>
<td>5.70</td>
<td>6.6</td>
<td>5.7</td>
</tr>
<tr>
<td>Slovakia</td>
<td>4.09</td>
<td>4.5</td>
<td>4.2</td>
</tr>
<tr>
<td>Finland</td>
<td>6.81</td>
<td>6.5</td>
<td>6.8</td>
</tr>
<tr>
<td>Sweden</td>
<td>7.26</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5.67</td>
<td>7.0</td>
<td>5.6</td>
</tr>
<tr>
<td>Iceland</td>
<td>7.82</td>
<td>8.3</td>
<td>7.8</td>
</tr>
<tr>
<td>Liechtenstein</td>
<td>2.05</td>
<td>:</td>
<td>2.1</td>
</tr>
<tr>
<td>Norway</td>
<td>7.32</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>Switzerland</td>
<td>5.55</td>
<td>:</td>
<td>5.4</td>
</tr>
<tr>
<td>Croatia</td>
<td>4.33</td>
<td>6.0</td>
<td>4.3</td>
</tr>
<tr>
<td>Turkey</td>
<td>:</td>
<td>:</td>
<td>2.9</td>
</tr>
</tbody>
</table>

Source: own processing after the data available to http://epp.eurostat.ec.europa.eu and worldbank.org

A comparison between these countries or regions, if we consider the EU 27 and EU 28 structures shows that analysis of data on the situation of public expenditure charged as a percentage of GDP, while considered also as an investment category indicates a major difference from one country to another, and there can be identified including a variation in time.

The highest rates correspond to the Scandinavian countries: Denmark, Sweden, Norway and Iceland, all assigned values close to or above 7% of GDP. It is worth mentioning that the United States, as Japan, though it ranks lower, about 5.6% and 3.8%, calculate their investment value is much higher budget, since this is a domestic product Gross much higher than in other states.

The general trend is of stagnation or even increase in the percentage of public expenditure in 2012 compared to 2010 values taken as the reference year. Maintaining or increasing public expenditure ratios lead to the conclusion that, although recent years have been dominated by the economic crisis, education and training were not considered elements of sacrifice.

If we analyze trends in recent years, appropriate human resources issues in Romania, we conclude that this subject has been extensively discussed, mainly education, followed by additional training with a major role in society [2].
Before 1989, the education system had a central character, not sufficiently adapted to the needs of society. This was attempted to be addressed in the immediate future, but its main features remained until the mid 90s, trying to introduce changes mainly based on international models. However, not all strategies to improve quality education system had successfully identified the main obstacle is that of insufficient funding allocated annually to this area of activity, and resistance to change, induced mainly mentality and habit.

Living in a society where knowledge is the main factor that ensure success, the education is vital in the formation of human resources. In addition to the new trends in art and technology, human resources must be in harmony, it is necessary to promote a “global education” (Corneliu Russu in Ovidiu Nicolescu [9]), consisting of interactive applications, imposing a flexible curriculum and interuniversity mobility processes.

Educational management should gradually harmonize its mechanism of market economy principles and keep pace with technological developments, but also must consider alignment with European standards.

3. Human development indicator

According to Ranis [12], "human development finds its theoretical underpinnings in Sen’s capabilities approach which holds “a person’s capability to have various functioning vectors and to enjoy the corresponding well-being achievements” to be the best indicator of welfare (Sen, 1985). On the other hand, “Individual resources, emancipative values and effective rights represent the means, motives and rules components of human development, aspects that are provided not only by socioeconomic development, but also by emancipative value change and democratization” [13].

At the official level there are drawn up a series of statistics and reports on indicators that define the level of development of human resources, and one of them is the United Nations Development Programme. UNDP prepares regular reports on this aspect, the ranking of the world being used for human development.

“There are large differences across HDI groups and regions in the components of the HDI— life expectancy, mean years of schooling and income” [14].

According to the latest report published by this agency, Romania was in 2013 ranked 54 in terms of human development, down four places from 2011, the first 10 positions in the ranking being occupied by Norway (with an index value for HD of 0.944), Australia (0.933), Switzerland (0.917), the Netherlands (0.915), USA (0.914), Germany (0.911), New Zealand (0.910), Canada (0.902), Singapore (0.901), Denmark (0.900) while the HDI for Romania amounts to 0.785. European countries listed above are joined in the top 10 of the HDI values in Europe following: Ireland - 0.899, Sweden - 0.898, Iceland - 0.895, UK - 0.892, Liechtenstein - 0.889.

Human development index is a complex one, in the calculation of which bring their contribution 3 factors, namely: the level of education, life expectancy at birth, and the standard of living (Mărginean, 2010). In each of them there is still a number of secondary factors that contribute to defining the final index. Thus, if we consider the level of education, major indices taken into account are literacy rate and educational level (or school enrollment rate by level of education), while the standard of living is expressed mainly through GDP / capita.

The educational level or literacy rate relates to the field of education, life expectancy at birth refers to the field of health, and the GDP per capita expresses the level of welfare [4]. Each of these areas involves determining and expressing an individual index, depending on the data available in the sector. There are identified the minimum and maximum level, the relationship (except for the educational indicator) becoming the following:

\[ I = \frac{\text{national\_level\_indicator} - \text{global\_level\_indicator\_min\_im}}{\text{globa\_level\_indicator\_max\_im} - \text{globa\_level\_indicator\_min\_im}} \]  \tag{1}

1. Field of education

According to Noorbakhsh [10], „Knowledge is presented by a measure of educational achievement based on a weighted sum of adult literacy rate (2/3) and the combined first, second and third level gross enrolment ratio (1/3).”

When referring to the maximum literacy rate in the world, it will be 100%, and given that education involves the use of calculations for two specific indices, we estimate a general index on this field, consisting of the following result calculation (ICCV) [20]:

\[ I_{\text{educ}} = \frac{2 \times R + Rcs}{3} \]  \tag{2}

Where R is the rate of literacy, and Rcs - school enrollment rate.

Regarding the global literacy rate, data from the World Bank indicate the following situation (Fig no. 3). In the year 2013, the latest year available as information, by literacy rate meaning the “percentage of the population over 15 years who can read and write a short report about everyday life” ([http://data.worldbank.org/indicator/SE.ADT.LITR.ZS](http://data.worldbank.org/indicator/SE.ADT.LITR.ZS)), definition subsequently completed by information on the implementation of simple arithmetic calculations. Formula for calculating the literacy rate becomes (as ICCV) [20]:
According to the data available from the World Bank, countries like Finland or Luxembourg, have a 100% literacy rate, the lowest percentage in the chart above belonging to Greece and Malta. It is important to note that almost all European countries tend to value of 100% in terms of literacy rates, lower levels were recorded only for countries from Africa or Asia, located in the territorial areas which are unfavorable.

2. The health sector

“The dimension of longevity is directly measured by life expectancy at birth”[10].

Analyzed index is the life expectancy at birth (for which is considered the minimum 25 and maximum 85), illustrated on the following dates (data.worldbank.org, accessed on 03.14.2015) [22]:

![Fig. 3 Literacy rate in Europe](http://data.worldbank.org/indicator/SE.ADT.LITR.ZS accessed on 14/03/2015 [22])

Source: [http://data.worldbank.org/indicator/SE.ADT.LITR.ZS](http://data.worldbank.org/indicator/SE.ADT.LITR.ZS) accessed on 14/03/2015 [22]
Figure 4 - Life expectancy at birth – evolution of Romania 2001-2012
Source: http://data.worldbank.org/indicator/SE.ADT.LITR.ZS accessed on 14/03/2015 [22]

In comparison, in 2010, according to data from Eurostat, the same indicator reached 79.4 years as the average of the EU-27, the highest values being appreciated in Switzerland (82.3) and Italy (81.9), Iceland and Spain (81.8), Liechtenstein (81.7), France (81.6), Sweden (81.5), Cyprus (81.1), Norway (81). The opposite is Lithuania, with a value of 73.2, all other countries maintaining a level of up to 81 years. Level in Romania is low compared to the rest of the European Union.

3. The level of welfare

“Another essential component of human development and the HDI is command over resources, as measured by income per capita.” (HDI 2013, [14])

Welfare level is expressed by the Gross Domestic Product per capita (general rules establishing a minimum $100 and maximum 40,000 dollars), the situation regarding the period 2000 - currently being illustrated as follows:

Fig. 5 - GDP / capita in million current prices
Source: Romanian Statistical Yearbook 2013 [16]

Next, to calculate the HDI, we will use the above data, in the following formula:

\[
HDI = \frac{Ib + Isvn + Ied}{3}
\]  

(4)

Where:
- \(Ib\) = wealth index
- \(Isvn\) = index of life expectancy at birth
- \(Ied\) = general educational index obtained by calculating the rate of enrollment in literacy and education.

HDI is still influenced by several aspects, including the developments at national level of the indicators, and on the other developments of global values, because even though the literacy rate, life expectancy at birth and GDP remain...
constant or even increased national human development indicator value may decrease if the world record numbers higher or lower, depending on the case.

Development Index is 0.785 in the case of Romania, being a higher level to the states of Europe and Central Asia - 0.751, which exceeds the world average - 0.682. However, in 2013, this index increased relative to previous years, when its value was shown as in the following graph:

![Graph showing Human Development Index from 1990 to 2013 for Romania](http://hdrstats.undp.org/en/countries/profiles/ROU.html)

According to the values recorded at HDI, countries can be grouped into several categories (according to the Quality of Life Research Institute), namely:

- Countries with high level of human development - over 0.900
- Countries with high human development - between 0.800 and 0.899
- Countries with medium human development - between 0.500 and 0.799
- Countries with low human development - between 0.340 and 0.499.

With a value of 0.785, Romania can fall into the category of countries with medium human development, but with the proviso that are close to the limit of this category (0.799), and may in the future pass into the category of countries that have a high level of human development. This could be achieved through a more careful concern in terms of health, in order to improve the indicator values on life expectancy at birth, which would involve more stringent investment in hospitals and research in the field.

In terms of education, enrollment rate of school-age population in education is much lower than in other European countries such as Scandinavia, the contributing on the one hand and low (8 classes) of compulsory education.

### 4. Conclusions

According to the Human Development Report for the year 2014, “human vulnerability is not new”, still it is increasing because of the high financial instability and “mounting environmental pressures such as climate change, which have a growing potential to undermine progress in human development” [14].

For the developing countries that face nowadays the challenges of underemployment, few labour market policies prove to be not enough, considering at the same time the fact that most jobs are “in the informal economy”.

Available data show that today, only a percent of 20 % of people around the world have an adequate social security coverage, while over 50% lack any type of social security.

Vulnerability is an issue that threatens human development— and “unless it is systematically addressed, by changing policies and social norms, progress will be neither equitable nor sustainable”. Since 1990 the Human Development Index (HDI) has been an important measure of progress—a composite index of life expectancy, years of schooling and income [14].

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