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## Behind the human capital assessment enigma - case study: knowledge based organization vs. Top 100 organizations listed by market capitalization in the last three months at the BSE

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### Abstract

*Internationally there are many scientific concerns on intangible assets and intellectual capital evaluation methods. There has not been reached yet a consensus on the optimal method / methods for evaluating all types of intangible assets. Given the great diversity of intangible assets, and their uniqueness is foreseeable that in the near future will not be achieved this consensus. For this reason, with this paper we propose to bring a contribution to the literature on human capital assessment. Thus, we present the findings of a comparative study conducted using two samples of companies listed on the Bucharest Stock Exchange - companies classified as "knowledge-based" and companies from top 100 of issuers after capitalization regarding the importance of quantifiable or non-quantifiable variables for assessing capital human analyzed using mean, standard deviation and Paired-Samples T.*

**Key words:** intangible assets, knowledge-based organizations, Top 100 organizations, human capital, Paired-Samples T Test



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### INTRODUCTION

In the same time with changing economic paradigms in the context of the knowledge-based society we can perceive a major conversion on the accounting field also. This change is reflected by the growing importance of intangible assets and intellectual capital in the new organizations, informational technology, capable to generate new reevaluation models for financial and accounting information, and the emergence of a new vision on accounting profession. Likewise are born interdependencies between different research areas - accounting and ecology (green accounting), business intelligence or corporate governance. Changes caused by knowledge-based organization on the accounting [2] are highlighted in Fig. 1.

In this context, we aimed to determine some elements that we consider important for assessing human capital using a comparative study (with responses after sending the question: Give grades from 1 to 10 to each item below, according to its importance in evaluating human capital?) regarding managers' perceptions from knowledge-based organizations and Top 100 companies, listed on BSE.

### DEFINITION, OBJECTIVE, RESEARCH METHODOLOGY AND RESULTS ANALYSIS

#### Research objective and variables

The research objective is to determine comparatively the importance of human capital assessment in knowledge-based organizations and Top 100 companies. There have been analyzed the following elements (research variables): number of departures from the firm, the number of moves within the company, number of full-time employees, part-time employees.

#### Defining analyzed populations

Knowledge-based organizations. The study identified 26 knowledge-based organizations listed on BSE, from which we received 21 valid responses. Top 100 companies of issuers after capitalization - contains 68 companies listed on the BSE, from which we received 52 valid responses. Populations are independent, meaning that no knowledge-based organization is part of the Top 100 and any Top 100 company can be classified as knowledge-based organization.

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**Research methodology and results analysis**

To establish a hierarchy of importance of these criteria within each type of companies, we analyzed the significance of the difference between the average score obtained by each criteria. As a result of disposing observations in pairs the student test for dependent samples is used - Paired-Samples T Test (Table 1).

**Fig. 1 Accounting features in the context of knowledge-based economy/society**

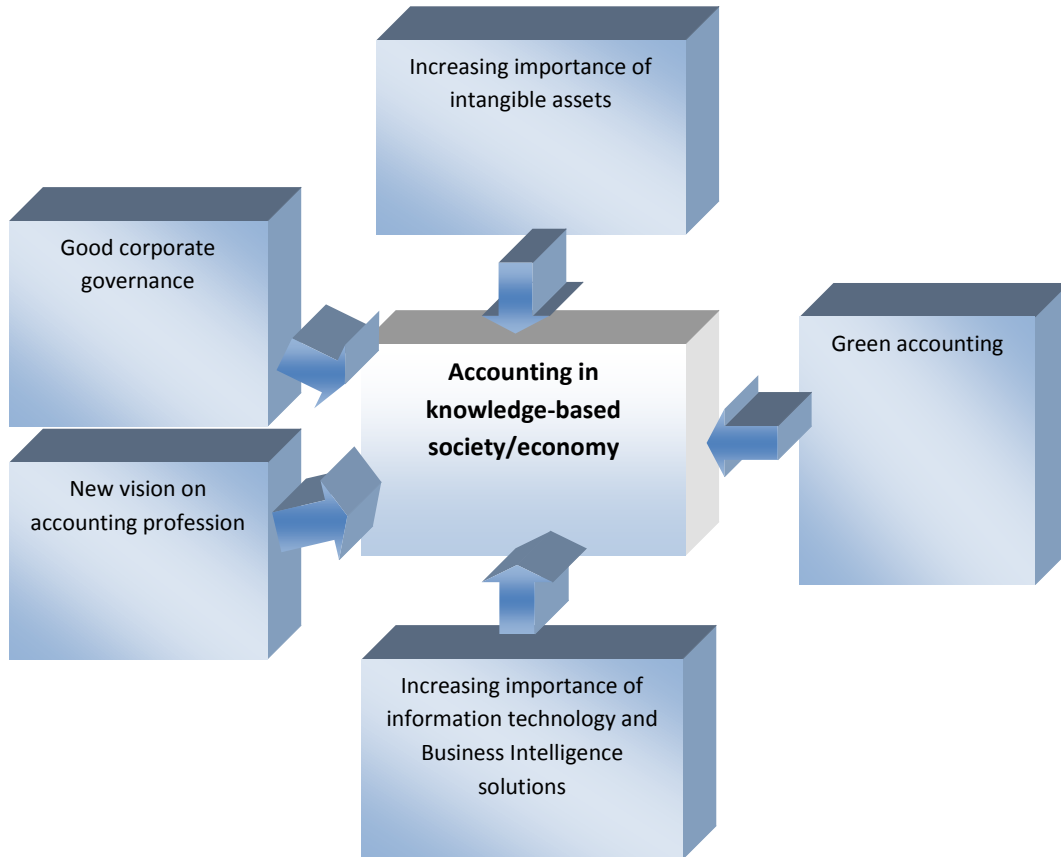


Table 1 Test for dependent samples (Paired Samples Test)

			Paired Differences					T	d f	Sig. (2- tailed)
						95% Confidence Interval of the Difference				
			Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Top 100 Companies	Pair 1	no. of departures from the firm - no. of moves within the company	1.327	1.465	.203	.919	1.735	6.532	51	.000
	Pair 2	no. of departures from the firm - no. of full-time employees	.231	1.854	.257	-.285	.747	.898	51	.374
	Pair 3	no. of departures from the firm - no. of part-time employees	1.346	1.595	.221	.902	1.790	6.085	51	.000
	Pair 4	no. of moves within the company - no. of full-time employees	-1.096	1.860	.258	-1.614	-.578	-4.249	51	.000
	Pair 5	no. of moves within the company - no. of part-time employees	.019	1.448	.201	-.384	.422	.096	51	.924
	Pair 6	no. of full-time employees - no. of part-time employees	1.115	1.263	.175	.764	1.467	6.370	51	.000
Knowledge-based organizations	Pair 1	no. of departures from the firm - no. of moves within the company	.762	1.261	.275	.188	1.336	2.769	20	.012
	Pair 2	no. of departures from the firm - no. of full-time employees	1.238	1.947	.425	.352	2.124	2.914	20	.009
	Pair 3	no. of departures from the firm - no. of part-time employees	1.87	1.878	.410	1.002	2.712	4.531	20	.000
	Pair 4	no. of moves within the company - no. of full-time employees	.476	1.990	.434	-.430	1.382	1.096	20	.286
	Pair 5	no. of moves within the company - no. of part-time employees	1.095	2.022	.441	.175	2.016	2.482	20	.022
	Pair 6	no. of full-time employees - no. of part-time employees	.619	1.203	.263	.071	1.167	2.358	20	.029

Hypotheses for knowledge-based organization are:

$$H_0: \bar{X}_{\text{no. of departures from the firm}} \leq \bar{X}_{\text{moves within the firm}} \text{ and } H_1: \bar{X}_{\text{no. of departures from the firm}} > \bar{X}_{\text{moves within the firm}} \quad (1)$$

$$H_0: \bar{X}_{\text{no. of departures from the firm}} \leq \bar{X}_{\text{full-time employees}} \text{ and } H_1: \bar{X}_{\text{no. of departures from the firm}} > \bar{X}_{\text{full-time employees}} \quad (2)$$

$$H_0: \bar{X}_{\text{no. of departures from the firm}} \leq \bar{X}_{\text{part-time employees}} \text{ and } H_1: \bar{X}_{\text{no. of departures from the firm}} > \bar{X}_{\text{part-time employees}} \quad (3)$$

$$H_0: \bar{X}_{\text{no. of moves within the firm}} \leq \bar{X}_{\text{full-time employees}} \text{ and } H_1: \bar{X}_{\text{no. of moves within the firm}} > \bar{X}_{\text{full-time employees}} \quad (4)$$

$$H_0: \bar{X}_{\text{no. of moves within the firm}} \leq \bar{X}_{\text{part-time employees}} \text{ and } H_1: \bar{X}_{\text{no. of moves within the firm}} > \bar{X}_{\text{part-time employees}} \quad (5)$$

$$H_0: \bar{X}_{\text{full-time employees}} \leq \bar{X}_{\text{part-time employees}} \text{ and } H_1: \bar{X}_{\text{full-time employees}} > \bar{X}_{\text{part-time employees}} \quad (6)$$

Based on the descriptive statistics are formulated the hypotheses (see Table 2).

**Table 2. Descriptive statistics elements (Paired Samples Statistics)**

Knowledge-based organizations			Mean	N	Std. Deviation	Std. Error Mean	
Top 100 Companies	Pair 1	Importance in human capital assessment -no. of departures from the firm	8.62	52	1.255	.174	
		Importance in human capital assessment -no. of moves within the company	7.29	52	1.446	.201	
	Pair 2	Importance in human capital assessment -no. of departures from the firm	8.62	52	1.255	.174	
		Importance in human capital assessment -no. of full-time employees	8.38	52	1.416	.196	
	Pair 3	Importance in human capital assessment -no. of departures from the firm	8.62	52	1.255	.174	
		Importance in human capital assessment -no. of part-time employees	7.27	52	1.285	.178	
	Pair 4	Importance in human capital assessment -no. of moves within the company	7.29	52	1.446	.201	
		Importance in human capital assessment -no. of full-time employees	8.38	52	1.416	.196	
	Pair 5	Importance in human capital assessment -no. of moves within the company	7.29	52	1.446	.201	
		Importance in human capital assessment -no. of part-time employees	7.27	52	1.285	.178	
	Pair 6	Importance in human capital assessment -no. of full-time employees	8.38	52	1.416	.196	
		Importance in human capital assessment -no. of part-time employees	7.27	52	1.285	.178	
	Knowledge-based organizations	Pair 1	Importance in human capital assessment -no. of departures from the firm	8.71	21	1.056	.230
			Importance in human capital assessment -no. of moves within the company	7.95	21	1.284	.280
		Pair 2	Importance in human capital assessment -no. of departures from the firm	8.71	21	1.056	.230
			Importance in human capital assessment -no. of full-time employees	7.48	21	1.750	.382
		Pair 3	Importance in human capital assessment -no. of departures from the firm	8.71	21	1.056	.230
			Importance in human capital assessment -no. of part-time employees	6.86	21	1.621	.354
Pair 4		Importance in human capital assessment -no. of moves within the company	7.95	21	1.284	.280	
		Importance in human capital assessment -no. of full-time employees	7.48	21	1.750	.382	
Pair 5		Importance in human capital assessment -no. of moves within the company	7.95	21	1.284	.280	
		Importance in human capital assessment -no. of part-time employees	6.86	21	1.621	.354	

Pair 6	Importance in human capital assessment -no. of full-time employees	7.48	21	1.750	.382
	Importance in human capital assessment -no. of part-time employees	6.86	21	1.621	.354

*a. Knowledge-based organizations*

In the case of pairs of elements: number of departures from the firm - moves inside the firm, number of departures from the firm - full-time employees, number of departures from the firm - part-time employees, moves within the firm - part-time employees, full-time employees - part-time employees, the calculated value of t-test -  $t_c = 2,769, t_c = 2,914, t_c = 4,531, t_c = 2,482, t_c = 2,358 > t_{df21-1, \alpha} = 1,71$ , which leads to accepting the alternative hypothesis, and in case of the pair moves within the firm - full-time employees,  $t_c = 1,096 < t_{df21-1, \alpha} = 1,71$ , which leads us to accept the null hypothesis.

In conception of knowledge-based organizations managers the most important element of those analyzed is the number of departures from the firm, and the relationship between elements is:

Number of departures from the firm	>	Number of full-time employees	>	Number of moves within the firm	>	Number of part-time employees
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*b. Top 100 Companies*

In case of pairs of elements: number of departures from the firm - moves within the firm, number of departures from the firm - part-time employees, full-time employees - part-time employees, the calculated value of t-test -  $t_c = 6,532, t_c = 6,085, t_c = 6,370 > t_{df21-1, \alpha} = 1,67$ , which leads us to accept the alternative hypothesis; in case of pair moves within the firm - full-time employees  $t_c = -4,249 < t_{df21-1, \alpha} = -1,67$ , so the alternative hypothesis is accepted, and in case of pairs: moves within the firm - part-time employees, number of departures from the firm - full-time employees,  $t_c = 0,096, t_c = 0,898 < t_{df21-1, \alpha} = 1,67$ , which leads us to accept the null hypothesis.

In the conception of Top 100 Companies managers the most important element of those analyzed is the number of full-time employees, and the relationship between the elements is:

Number of moves within the firm	<	Number of part-time employees	<	Number of departures from the firm	<	Number of full-time employees
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**CONCLUSIONS**

Romania cannot avoid the economy evolution – and off course the transition towards a new reality - the knowledge-based economy. But unfortunately, most managers are still at literacy and awareness level in respects of the existence of the knowledge-based society. Increased interest determined by the changing of accounting traditional economic paradigms derived obviously from the benefits to be obtained. Mainly, we talk about creating added value due to the use of intangible assets.

We can settle as result of this analysis, with a 95% probability, that the most important criteria for evaluating intellectual capital in knowledge-based organizations is the number of departures from the firm, instead in the Top 100 companies most important criteria for evaluating intellectual capital is the number of full-time employees. That can be seen in the growth of concern of knowledge-based organizations managers for their own employees, on stimulating and encouraging them for a long term collaboration and improve working conditions. Criteria which is given less importance in the knowledge-based organizations is the number of part-time employees, and for Top 100 companies is the number of moves within the firm.

## REFERENCES

- Niculescu-Aron, G., Mazurencu-Marinescu, M. (2007). "Metode econometrice pentru afaceri", ASE Publishing House, Bucharest
- Radneantu, N., Gabroveau, E., Stan, E.R. (2008). "K- Organizations Accounting In Romania - A Field Study Perspective", Annals of the University of Petrosani - Economics, vol. VIII, part II, Universitas Publishing House, pp. 101-107
- Radneantu, N. (2011). Valorificarea informatiilor contabile in conditiile societatii bazate pe cunostinte, PhD Thesis, ASE, Bucharest
- Sveiby, K-E. (1989). "The Invisible Balance Sheet, p. 9, available on <http://www.sveiby.com/articles/IntangAss/DenOsynliga.pdf>
- Walters, D., Buchanan, J. (2001). "The New Economy, New Opportunities and New Structures, Management Decision", London, vol. 39, iss. 10, p. 818
- BVB, (2011), Top 100 of issuers after market capitalizations, in the last three months on Bucharest Stock Excege <http://www.bvb.ro/ListedCompanies/SocietatiMain.aspx>, accessed on 20.07.2011