

# MAKING INTANGIBLES TANGIBLES: CASE STUDY: KNOWLEDGE BASED ORGANIZATION VS. TOP 100 ORGANIZATIONS LISTED BY MARKET CAPITALIZATION IN THE LAST THREE MONTHS AT THE BSE

**NICOLETA RADNEANTU**

*Phd. Assist. Professor, Romanian-American University, Bucharest, Romania, E-Mail: Nicoleta.Radneantu@yahoo.com*

**JAN KRUGER**

*Phd. Professor, Unisa School for Business Leadership, Unisa, South Africa, E-Mail: Jkruger2000@yahoo.com*

## **Abstract**

*In an era where almost business are based of service, internet and information technology the intangible assets gain more and more importance because they are drivers of growth, innovation and profitability both for knowledge based organization and for the other organizations. This paper presents the conclusions of a comparative study conducted using two samples of organizations listed on the Bucharest Stock Exchange (BSE) - organizations to be fit in the category "knowledge-based" and organizations in the Top on the importance of the intangible assets with the success of the company. To increase the relevance of the results obtained in addition to mean and quadratic mean deviation we used Levene test and Student t-test for independent samples.*

**Key words:** *intangible assets, knowledge-based organizations, Top 100 organizations, Levene test, Student t-test for independent samples*

**JEL classification:** *M21, M41*

## **1. Introduction**

The increase of the importance of intangible assets has led to a new perspective on the traditional balance, on the valuation of assets and the creation of added value. It also highlights the problem of recording in documents and reflecting in the accounting of the operations regarding this class of assets.

Internationally there are many scientific concerns with regards to evaluation methods of -intangible assets and intellectual capital. No consensus has been reached on the best method/methods for evaluating all categories of intangible assets. Given the great diversity of intangible assets and their uniqueness, consensus may not be achieved in the near future.

In this context, we wanted to capture the essence of the intangible assets with the help of a comparative study (with the help of the answers received after sending a question: Give a score from 1-10 to each item below, according to its importance to the success of the company where you work?) with regards to managers' perceptions of knowledge-based organizations and the Top 100 organizations listed on Bucharest Stock Exchange (BSE).

## **2. Definition, purpose, research methodology and analysis of the results**

### **2.1. The purpose of the research**

In this research we highlight, comparatively, the two types of organizations (knowledge-based organizations - Top 100 organizations), in terms of importance for the success of the company awarded to the intangible elements.

### **2.2. Definition of the analyzed populations**

To achieve our aims we used two samples: (1) Top 100 most active organizations listed on the Bucharest Stock Exchange - which we will call, in short, Top 100 organizations/organizations and (2) knowledge-based organizations listed on the Bucharest Stock Exchange – BSE (Table 1).

Table 1 – Analyzed populations	
Knowledge-based organizations	Top 100 Organizations
- Sveiby (1989): a knowledge-based company is a creative organization that sells know-how, with a non-standardized productivity, with a high ability to solve problems, dependent on personnel.[5]	- A list of the most active organizations listed on BSE [1]
- 26 knowledge-based organizations listed on BSE	- 68 organizations
- The populations are independent	

Source: made by authors

### 2.3. Research variables

The study variables are represented by the marks (from 1 to 10, where 1 – the minimum value, and 10 - the maximum value) given by the managers of the knowledge-based organizations/managers of the top 100 organizations to the main intangible assets not recorded in the actual financial statements in Romania, to generate added value.

The main intangible assets generating added value used in the analysis are: Knowledge and skills of human capital, Relations with suppliers, Relations with customers, Company image, Customer’s loyalty, Alliances, Partnerships, Organizational culture, Professional skills of the employees, Professional experience, Employees’ loyalty, Employees’ satisfaction, Employees’ education, Employees’ creativity, Reputation of the organization.

### 2.4. Research methodology and analysis of the results

To increase relevance, reality and loyalty of the data, the answers were given by: the General Manager/general manager representative, the administrator/administrator representative or the Financial Director/chief accountant/financial director representative/chief accountant representative. We considered that only these persons have all the information and knowledge required in this research.

For the question - What is your position held within the organization? (Table 2):

- ✓ the answers were completed by 73 respondents: 20 managers (27.40%), 15 administrators (20.55%) and 38 financial directors (52.05%);
- ✓ for knowledge-based organizations most of the answers were received from the general manager/general manager representative (42.9%) from the financial director/chief accountant/financial director representative/chief accountant representative (38.1%);
- ✓ Within the Top 100 organizations the majority of the answers were given by the financial director/chief accountant/financial director representative/chief accountant representative (57.7%).

Table 2 - Respondent’s position			
	Position	Number	Percentage
<b>Top 100 Organizations</b>	general manager/general manager representative	11	21.2
	administrator/administrator representative	11	21.2
	financial director/chief accountant/ financial director representative/chief accountant representative	30	57.7
	Total	52	100.0
<b>Knowledge-based organizations</b>	General Manager/general manager representative	9	42.9
	administrator/administrator representative	4	19.0
	financial director/chief accountant/ financial director representative/chief accountant representative	8	38.1
	Total	21	100.0

Source: made by authors

For the two independent samples we calculated the average mark given by the respondents from the two populations to the 14 intangible elements; we also calculated the standard deviations and the representativeness error for the importance given to each of the 14 intangible elements that are not recognized by the traditional financial statements (Table 3).

<b>Element denomination</b>	<b>Knowledge-based organizations</b>	<b>N</b>	<b>Mean</b>	<b>Std. Deviation</b>	<b>Std. Error Mean</b>
importance in the success of the company - knowledge and skills of the human capital	no	52	7.58	1.036	.144
	yes	21	8.10	1.375	.300
importance in the success of the company – relations with the suppliers	no	52	8.56	1.211	.168
	yes	21	9.29	.956	.209
importance in the success of the company – relations with the customers	no	52	8.27	1.548	.215
	yes	21	9.33	.658	.144
importance in the success of the company – the image of the company	no	52	7.79	1.362	.189
	yes	21	8.90	1.091	.238
importance in the success of the company – the clients’ loyalty	no	52	8.25	1.169	.162
	yes	21	9.05	.921	.201
importance in the success of the company – alliances, partnerships, etc.	no	52	7.90	1.241	.172
	yes	21	8.48	.928	.203
importance in the success of the company – organizational culture	no	52	7.04	1.847	.256
	yes	21	8.05	1.857	.405
importance in the success of the company – professional skills	no	52	7.19	1.585	.220
	yes	21	7.57	1.121	.245
importance in the success of the company – professional experience	no	52	8.65	1.327	.184
	yes	21	9.57	.507	.111
importance in the success of the company – employees’ loyalty	no	52	8.48	1.244	.173
	yes	21	9.19	.873	.190
importance in the success of the company – employees’ satisfaction	no	52	7.87	1.155	.160
	yes	21	7.62	1.203	.263
importance in the success of the company – employees' education	no	52	7.40	1.125	.156
	yes	21	8.10	1.044	.228
importance in the success of the company – employees’ creativity	no	52	7.13	1.442	.200
	yes	21	8.57	1.028	.224
importance in the success of the company – reputation of the organization	no	52	8.63	1.048	.145
	yes	21	9.10	.831	.181

Source: made by authors

The average marks (importance) given by the managers of the knowledge-based organizations are mostly higher than those given by the managers of the Top 100 organizations. This lead us to conclude that in knowledge-based organizations a great emphasis is put on the use and evaluation of intangible assets.

To check the relevance of the means of the two populations we used parametric tests to compare the means from the independent samples.

We used the Levene test to determine the degree of similarity between the variances of the two samples, and the Student t-test for independent samples to verify the hypotheses with regards to the means of the two populations.

If  $\text{Sig} > 0.05$ , then the hypothesis of equal variances is accepted and we interpret the results corresponding to the 1 in the third column of table 4 ("Equal variances assumed"). Otherwise, the hypothesis of equal variances is rejected and we interpret the results corresponding to the 2 in the third column of the table ("Equal variances not assumed").

To establish the working hypotheses, we compare the means of the two populations. Therefore:

1. If  $X_{\text{no}} < X_{\text{yes}}$  we analyze the following hypotheses :

$H_0: X_{\text{no}} \geq X_{\text{yes}}$  and  $H_1: X_{\text{no}} < X_{\text{yes}}$  and we apply a left-sided test ( $t_{\text{critical}} = -1,66$ )[2], respectively:

✓ If  $t_{\text{calc}} < t_{\text{critical}} \Rightarrow$  hypothesis  $H_1$  is accepted

✓ If  $t_{\text{calc}} > t_{\text{critical}} \Rightarrow$  hypothesis  $H_0$  is accepted.

2. If  $X_{\text{no}} > X_{\text{yes}}$  we analyze the following hypotheses:  $H_0: X_{\text{no}} \leq X_{\text{yes}}$  and  $H_1: X_{\text{no}} > X_{\text{yes}}$  and we shall apply a right-sided test ( $t_{\text{critical}} = 1,66$ ), respectively:

- ✓ If  $t_{calc} > t_{critical} \Rightarrow$  hypothesis  $H_1$  is accepted
- ✓ If  $t_{calc} < t_{critical} \Rightarrow$  hypothesis  $H_0$  is accepted.

The results of the statistical tests in order to compare the means of the two populations with regards to the importance for the success of the company given to each of the 14 intangible elements are presented in Table 4.

**Table 4 - Analysis of the importance of intangible elements in the success of the company**

The importance of the following items for the success of the company	Sig Value	Significance level value	Accepted hypothesis (1 = variances equality; 2 = variances inequality)	The relation between means	Hypotheses to be interpreted	$t_{calc}$	$t_{critical}$	Accepted hypothesis	Interpretation
Knowledge and skills of the human capital	0,075	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-1,75	-1,66	$H_1$	The managers of the knowledge-based organizations consider the knowledge and abilities of the human capital to be more important
Relations with suppliers	0,096	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-2,459	-1,66	$H_1$	The managers of the knowledge-based organizations consider the relationships with suppliers to more important
Relations with customers	0,000	0,05	2	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-4,119	-1,66	$H_1$	The managers of the knowledge-based organizations consider the relationships with customers to be more important
Company image	0,238	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-3,342	-1,66	$H_1$	The managers of the knowledge-based organizations consider the company's image to be more important
Customer s' loyalty	0,125	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-2,792	-1,66	$H_1$	The managers of the knowledge-based organizations consider the customers' loyalty to be more important
Alliances, partnerships	0,297	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-1,906	-1,66	$H_1$	The managers of the knowledge-based organizations consider alliances, partnerships to be more important
Organizational culture	0,781	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-2,110	-1,66	$H_1$	The managers of the knowledge-based organizations consider the organizational culture to be more important

Professional skills	0,101	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-0,998	-1,66	$H_0$	The managers of the knowledge-based organizations do not consider the professional skills as important to the success of the company as the managers of the Top 100 organizations do
Professional experience	0,002	0,05	2	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-4,274	-1,66	$H_1$	The managers of the knowledge-based organizations consider the professional experience to be more important
Employees' loyalty	0,086	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-2,383	-1,66	$H_1$	The managers of the knowledge-based organizations consider the employees' loyalty to be more important
Employees' satisfaction	0,486	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-0,815	1,66	$H_0$	The managers of the knowledge-based organizations consider the employees' satisfaction to be more important
Employees' education	0,215	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-2,425	-1,66	$H_1$	The managers of the knowledge-based organizations consider the employees' education to be more important
Employees' creativity	0,118	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-4,152	-1,66	$H_1$	The managers of the knowledge-based organizations consider the employee's creativity to be more important
Organization's reputation	0,153	0,05	1	$X_{no} < X_{yes}$	$H_0: X_{no} \geq X_{yes}$ $H_1: X_{no} < X_{yes}$ (Left sided test)	-1,796	-1,66	$H_1$	The managers of the knowledge-based organizations consider the organization's reputation to be more important

Source: made by authors

Except the intangible components "professional skills" and "employee satisfaction", all the other 12 intangible elements analyzed are considered by the managers of knowledge-based organizations to be more important for the success of the company than the managers of the Top 100 organizations do.

### 3. Conclusions

At present, Romanian managers are facing a new type of organization, whose future profit is based on the utilization of intangible elements. Although Romania has just begun to become aware of the importance of intangible assets, and the first reaction of managers is caution and reluctance, an important step has been already taken by this research study which shows that the major part of principal components are strongly influenced by intangible elements.

Managers of knowledge-based organization consider the intangible assets to have a more important contribution to the success of the company than managers of Top 100 organizations. The difference for the elements: knowledge and skills of the human capital, relations with suppliers, customer relations, company image, customer loyalty, alliances, partnerships, etc., organizational culture, professional experience, employees' loyalty, employees' satisfaction, employees' education, employees' creativity, reputation of the organization are significant,

while the difference between the importance attached by managers to professional skills and employee satisfaction are not significant. These intangible assets are not included in the current Romanian Financial Statements, which could lead to a distorted image of total assets value and implicitly the organization's market value which is underestimated.

A future research study based on a larger sample may also bring to light other latent intangible elements (beyond those from the traditional financial statements) that could decisively influence the accounting and financial indicators of the organization.

#### 4. References

- [1] BSE , 2012 , top 100 organizations listed by market capitalization in the last three months at the BSE <http://www.bvb.ro/ListedOrganizations/SocietatiMain.aspx>, accessed 10.12.2013
- [2] Niculescu-Aron G., Mazurencu-Marinescu M., 2007, Metode econometrice pentru afaceri, Editura ASE, p. 211
- [3] Rădneanțu N, Tănăsoaica L, 2008, New Dimensions and Perspectives of Accounting Information in the Context of Globalization, Proceedings of the QIEI 2008 International Conference on Quality – Innovation – European Integration, Vienna Technical University Publishing House (international publishing house) and in the Review "Calitatea - acces la succes", year 9, no. 92, 2008 –Published by Romanian Society for Quality Assurance
- [4] Roos G, 2009, Intellectual Capital. What is it and why does it matter?, [http://www.ipd.gov.hk/eng/pub\\_press/press\\_releases/20091029/WIPO/Introduction\\_Goran\\_Roos.pdf](http://www.ipd.gov.hk/eng/pub_press/press_releases/20091029/WIPO/Introduction_Goran_Roos.pdf), accessed 10.01.2014
- [5] Sveiby K-E., 1989, The Invisible Balance Sheet, available at <http://www.sveiby.com/articles/IntangAss/DenOsynliga.pdf>, accessed 05.01.2014