The Influence of Reporting Intangible Capital on the Performance of Romanian Companies

Associate Professor
Cristina PRECOB, Ph.D.,
The Faculty of Economics and Business Administration,
"Alexandru Ioan Cuza" University, Iaşi, Romania,
e-mail: cristina.fadur@yahoo.com

Professor Marilena MIRONIUC, Ph.D,
The Faculty of Economics and Business Administration,
"Alexandru Ioan Cuza" University, Iaşi, Romania,
e-mail: marilena@uaic.ro

Abstract

The purpose of this article was to identify the correlations between intangible capital and organisational performance, for the Romanian companies quoted in the Bucharest Stock Exchange, BSE section. Intangible capital was computed based on 13 criteria grouped into three components: human capital, relational capital, and innovation, and the financial performance of the company was studied through the return on assets (ROA), the return on equity (ROE), and the economic return (Re). In this article, the financial performance for Romanian companies is reflected by the goodwill, computed as the difference between the market capitalization and the net accounting asset of an entity, as well as by the market to book value (M/BV- the ratio between the market capitalization and the net accounting asset of the company). The article also investigates the existence of a correlation between the intangible capital of Romanian companies and the auditor contracted to audit the annual financial statements. The results of research show that between intangible capital and the positive goodwill of the studied companies, on the one hand, and the economic return, respectively the market to book value, on the other hand, there are direct correlations. At the same time, the value of intangible capital is, statistically, significantly higher in companies whose financial statements are audited by Big4 auditors and in companies that record profit.

Keywords*: intangible capital, return on assets, return on equity, economic return, market to book value, goodwill, Big Four auditor.*

Classification*: M41, M14*

Prolegomena

One of the features of nowadays organisations is their ambition to develop efficient management systems and practices, which requires for their efforts to focus on managing knowledge and intangible capital. Therefore, strategies are no longer thought taking into account solely the company's position in relation to its competitors, but also in correlation with intangible assets and intangible capital, expressed by the employees' know-how, relationships with the customers and suppliers, information technologies, brand (Marr *et al.*, 2003).

In specialised literature there are various approaches concerning the manner in which intangible capital can be of defined, classified, measured, and reported. In a recent study on the articles published in the field of intangible capital for the period 2004-2014, Ferenhof *et al.* (2015) show that, in spite of the approaches of theoreticians as well as practitioners, no common denominator has been reached: the evaluation and reporting of intangible capital is an open problem for accountants as well as for evaluating experts, managers, strategy professors, economists, innovation specialists, etc.

Revising the literature in the field shows the existence of a wide array of evaluation methods of intangible capital, each company having the option to select any of these, according to the internal and external factors that configure its strategy and vision.

Also, articles in the field mention "intangible assets", "intangibles", "intangible resources", "intellectual capital", "intangible capital", "intangible values", all referring to more or less the same thing. It is not possible to have a generalised delimitation between intellectual capital and intangible capital. Some authors use the terms of intellectual capital and intangible capital as synonyms, while others (Hunter, Webster and Wyatt, 2005) consider intellectual capital as a component of intangible capital. Piekkola, the coordinator of the INNODRIVE project, which took place during 2008-2011, refers to intangible capital. From a retrospective and comparative viewpoint, the term of intellectual capital is much more often used in studies and researches. In this article, we will use the term of intangible capital, preserving the accounting meaning, referring through this notion to human capital, relational capital, and to the company's efforts towards innovation.

In this scientific approach, intangible capital is a variable computed as the arithmetical mean of other three variables: human capital, relational capital, and the

actions taken by companies to insure innovation. In order to give numeric values to these variables, we have taken into account the most relevant non-financial information and we followed to see if the companies present them or not in the annual reports for 2013, grading with 1 their detailed presentation and with 0 their absence. Thus, in order to determine the value of human capital, we analysed whether or not the company presents information on the number and flow of its employees (average number of employees, employments and discharges in 2013, as well as their reasons), the structure of the labour force according to age and completed studies, the employees' training (number of persons who benefitted from training courses, number of hours, and expenses for training the employees), benefits granted to the employees (bonuses, gifts for holidays, kindergartens for the employees' children, flexible working hours, etc.) and the degree of employees' satisfaction. In computing relational capital, we took into account information on the market share, the concern with the environment (environmental certificates, measures of the impact of the activity of society upon nature, efforts to minimise this impact, and any actions showing the company's involvement in insuring sustainable development), customer satisfaction (whether or not the company aims at receiving feedback from its clients, measures taken to lower the number of customer complaints, computing a customer satisfaction index) and involvement of the company in society, through social programmes and expenses for donations. For innovation, we graded the information published by companies with regards to research and development activities (value of the expenses for these activities, their weight in the sales figure), investments in assets, new products designed in 2013 and number of patents owned by the company.

The selection process of the non-financial information studied in order to associate intangible capital with a numeric value was supported by the analysis of the most important evaluation methods of intangible capital and of the results of studies in specialised literature. In this sense, we mention that in selecting non-financial information we applied professional reasoning, starting from the following evaluation methods of intangible capital: *Intangible Asset Monitor* – suggested by Sveiby in 1997, *Balanced Scorecard* – suggested by Kaplan and Norton in 1996, Bounfour's *IC-dVAL* (2003), *Intellectual Capital Web* – suggested by Zhou *et al* (2003), *Scaling* – suggested by Cinca *et al* in 2003, *the Value Creation Index* – suggested by Funk (2003) and Kalafut and Low (2001), Eskildsen's *European Performance Satisfaction Index* (2003), *European*

Employee Index – suggested by Eskildsen *et al* in 2003, FiMIAM – suggested by Rodov and Leliaert in 2002, etc. (Hunter *et al*., (2005). We have also taken into consideration the results of a study performed by Ernst&Young, according to which the most important ten pieces of non-financial information for investors, which should be integrated into the company's periodic reporting, are: educational strategy, managers' credibility, strategy quality, innovation, the ability to attract talented staff, the market share, the managers' expertise, benefits granted to the employees, the quality of the main processes, and research (Barsky and Marchant, 2000).

In what concerns goodwill, in this research approach we start from the premise that goodwill (latent value, not recorded in accounting) is the difference between the market value of a company, expressed by its stock return and its accounting value, reflected by the shareholders' equity (net accounting asset). In computed the market capitalization, we included the number of shares owned by the company and the mean share list price in June 2014, considering that it immediately reflects the influence of the reported information on the company's activity in 2013 (often published in April-May 2014).

Literature review

Specialised literature abounds in studies (Edvinsson, 1997; van der Meer-Kooistra and Zijlstra, 2001; Meritum Project, 2002; Mouritsen, 2002; Marr, 2003; Mouritsen and Bukh, 2003; Abdolmohammadi, 2005; Sonnier *et al*., 2007; Curado, 2008; Bontis and Serenko, 2009) concerning the benefits of reporting intangible capital: *strengthening the competitive position and increasing financial performance on the long run* (Curado *et al.,* 2011). At the same time, numerous research initiatives focused on the differences between the market value and the net accounting value of the companies: Sriram, 2008; Brown *et al*., 1999; Lev and Zarowin, 1999. Some empirical studies show that up to 80% of the market value of a company may not be reflected in its financial statements (Arvidsson, 2011).

With regards to the impact of intangible capital on performance indicators**,** Vishnu and Gupta (2014) stress that these correlation studies frequently focus on financial-banking institutions (Mavridis, 2004; Young *et al*., 2009; Bharathi, 2010; Joshi *et al.*, 2010, 2013; Kamath, 2010; Abdulsalam *et al.*, 2011; Gigante and Previati, 2011), companies in information technology (Shiu, 2006; Gan and Saleh, 2008; Saleh *et al.*, 2009; Zeghal and Maaloul, 2010; Chang and Hsieh, 2011),

and companies in the pharmaceutical industry (Kamath, 2008; Mehralian *et al.*, 2012; Pal şi Soriya, 2012).

A longitudinal analysis performed in 2008 by Oliveras *et al.* on a sample made up of 12 Spanish companies shows a rising trend of the quantity of reported information referring to intangible capital, the improvement being even more significant in the case of relational capital, and a study performed by Wang (2008) on the connections between intangible capital (and its components) and the market values of the companies in the electronic industry proves that all the constituent elements of intangible capital – human capital, the capital related to customers, innovation capital and the capital related to processes – are positively linked to the market value of the company.
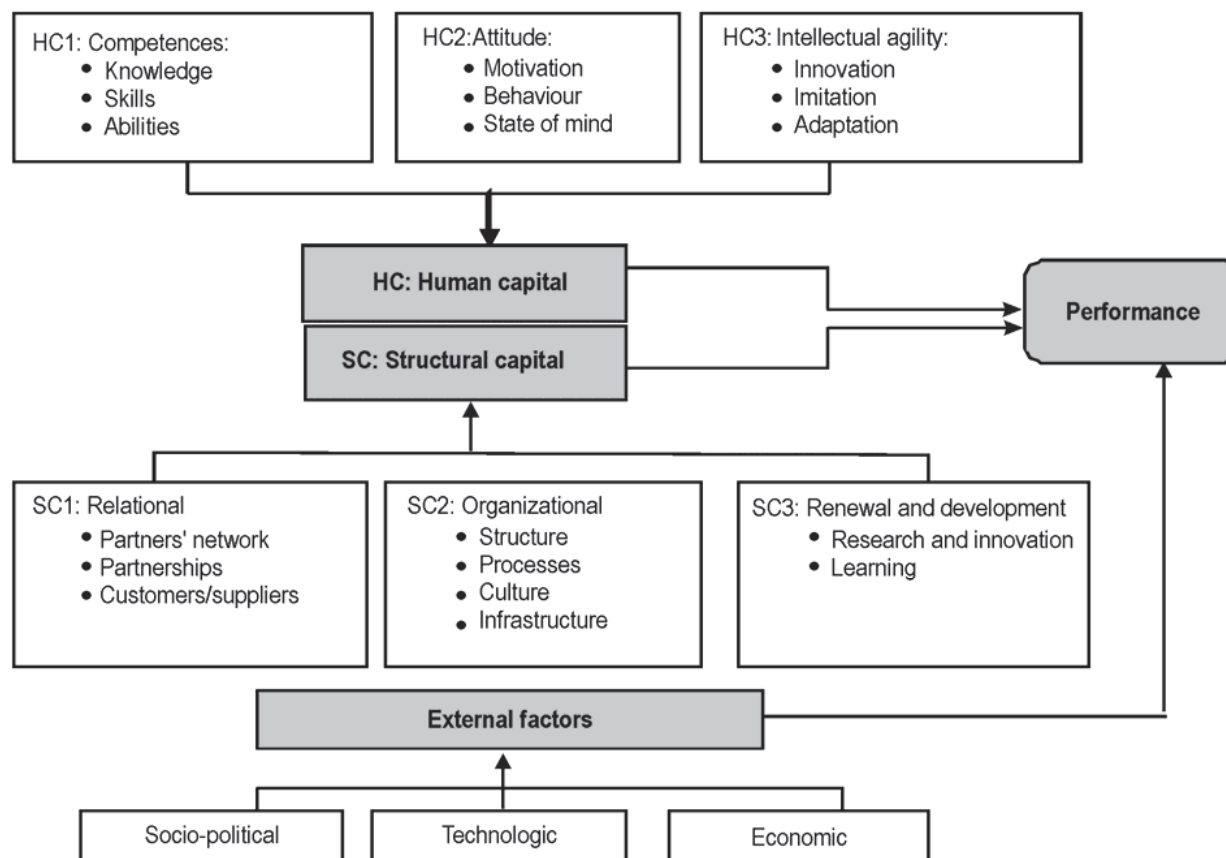
In what concerns innovation, according to the National Institute of Statistics, innovating companies are those that launched new or significantly improved products or that introduced new or significantly improved processes. Innovation is based on the results of technological developments, on new combinations of the existing technologies, or on the usage of other knowledge required by the company. Technological improvements were frequently analysed starting from Schumpeter's trilogy that divides them into three stages: invention – the research that leads to the generation of new ideas, innovation – the development of the new ideas and their materialisation in market products and dissemination – launching products onto the market. In 1942, Schumpeter claimed that innovation is the fundamental source of wealth. However, subsequent studies proved that research and development activities are only one of the sources of innovation. Investments in marketing, software development, professional training courses and drawings may also generate new technologies or improved products. As a result, in developed economies, investments in intangible assets have become the main concern of the investors, creditors, managers and researchers (Canibano *et al.*, 2000).

Tovstiga and Tulugurova (2009) start from the hypothesis that the internal factor, represented by intangible capital, plays a more important role in determining the performance of a company than external factors (socio-political, economic, and technologic). In their view, intellectual capital is divided into two sub-categories: human capital and structural capital. Human capital includes competences (manifestations of the strategic knowledge of the company), attitude (the behavioural and motivational dimension of the employees) and intellectual agility (the company's ability to imitate and adapt to the

changes in the competitive environment), while structural capital refers to the relationship network of the company, the mechanisms of the organisation used in the process of value creation (the company's processes, structure, and culture) and the renewal and development mechanisms. Thus, starting from the conceptual framework suggested by Tovstiga and Tulugurova, we can define intangible capital as the most important internal factor in insuring the competence of an enterprise (**Figure 1**).

Figure 1. The conceptual framework of the internal and external factors that influence the company's performance

HC1: Competences:
- Knowledge
- Skills
- Abilities

HC2: Attitude:
- Motivation
- Behaviour
- State of mind

HC3: Intellectual agility:
- Innovation
- Imitation
- Adaptation

HC: Human capital

SC: Structural capital

Performance

SC1: Relational
- Partners' network
- Partnerships
- Customers/suppliers

SC2: Organizational
- Structure
- Processes
- Culture
- Infrastructure

SC3: Renewal and development
- Research and innovation
- Learning

External factors

Socio-political

Technologic

Economic

Source: Tovstiga G., Tulugurova E., 2009

In order to explain the value of human capital, a component of intangible capital, Dean *et al.* (2012) suggest an easy but illustrative example starting from the question: what is the difference between James LeBron and any other person? The given answers refer to the value of the salary earned by the American basketball player as well as to James LeBron's talent, skills, and sportsman's abilities. The truth is that anyone could play basketball, but not anyone has the human capital corresponding to LeBron's performance. If he were transferred to another team, the value of the initial team would, without a doubt, no longer be the same. LeBron's human capital is an asset for the team in which

he plays, contributing to raising its value. It is obvious that a basketball team – and not only – can win not due to its corporeal assets but because of the human capital of its players.

The same concept applies in the business world. Financial statements do not tell "the whole story". How could their users know that a company has the human capital of a James LeBron? The financial statements do not reflect the most important asset of a company, which is its human capital. Nevertheless, for now there are no accounting standard that would regulate the evaluation or reporting of the value of human capital (Dean *et.al.,* 2012).

Other authors (Cheng-Li Huang and Fan-Hua Kung, 2011) underline the link between environmental awareness and competitive advantage, in the context of the transition to the "green era". Companies must comply with the legislation concerning the environment and cope with the pressures of public opinion. Socially liable companies take a significant number of measures to protect the environment. In 2008, Chen suggested the concept of green intellectual capital, meaning knowledge, experience, skills, and innovation in the field of environmental protection. Green intellectual capital allows companies to strictly meet the legal provisions in the field of environmental protection and respect, acting as the mediator of the relationship between environmental awareness and competitive advantage (Cheng-Li Huang and Fan-Hua Kung, 2011).

No.	Study	Journal	Analysed country	No. companies/ observations	Analysed period	Conclusions
			Table 1. Results of the correlation studies in specialised literature (selection)			
1	Mehri *et al.,* 2013	Asian Social Science	Malaysia	92	2006-2010	Correlations between: IC and ROA (0.535. p<0.01), IC and ROE (0.387. p<0.01). IC and M/BV (0.253. p<0.01)
2	Clarke *et al.,* 2011	Journal of Intellectual Capital	Australia	1676	2003-2008	Correlations between: IC and ROA (0.533. p<0.01), IC and ROE (0.480. p<0.01)
3	Janosevic *et al.,* 2013	Knowledge and Process Management	Serbia	100	2010	Correlations between: IC and ROA (0.165. p<0.01), IC and ROE (0.409. p<0.01)
4	Chu, Chan and Wu, 2011	Journal of Intellectual Capital	China	33	2001-2005	Correlations between: IC and ROA (0.363. p<0.01), IC and ROE (0.206. p<0.01), IC and M/BV (-0.068, non-correlated)
5	Chu, Chan and Wu, 2011	Journal of Intellectual Capital	China	41	2006-2009	Correlations between: IC and ROA (0.411. p<0.01), IC and ROE (0.219. p<0.01), IC and M/BV (0.042, non-correlated)
6	Phusavat *et al.,* 2011	Industrial Management and Data Systems	Thailand	11	2006-2009	Correlations between: IC and ROA (0.311. p<0.01), IC and ROE (0.395. p<0.01)
7	Javornik *et al.,* 2012	International Business and Economics Research Journal	Slovenia	12.450	1995-2008	Ranking method Correlations between: IC and ROA (0.67. p<0.01), IC and ROE (0.75. p<0.01)
8	Pal and Soriya, 2012	Journal of Intellectual Capital	India	105	2000-2009	Correlations between: IC and ROA (0.332. p<0.01), IC and ROE (0.353. p<0.01), IC and M/BV (0.123. p<0.01)
9	Rossi and Celenza, 2014	European Conference on Intellectual Capital	Italy	23	2002-2011	Correlations between: IC and ROE (0.59. p<0.01).
10	Zeghal and Maaloul, 2010	Journal of Intellectual Capital	UK	300	2005	Correlations between: IC and ROA (0.208. p<0.01), IC and M/BV (0.310. p<0.01)

Source: *the authors' processing*

Where: *IC – Intangible capital, measured using the VAIC method; ROA – return on assets; ROE – return on equity; M/BV – calculated as total market capitalization divided by the book value of the companies.*

Reported to the results of correlation studies, some empirical approaches show the existence of direct links between intangible capital and company performance (for example: Mehri *et al.*, 2013, Clarke *et al.*, 2011, Razafindrambinina and Anggreni, 2011, Mehralian *et al.*, 2012, Gruian, 2011 etc.), while others report the non-existence of correlations or the existence of weak connections (Morariu, 2014, Kamath, 2008, Stahle *et al.*, 2011 etc.).

For Romanian companies, Morariu (2014) identified the existence of a negative correlation, statistically significant, between intangible capital, evaluated by Pulic's VAIC (*Value Added Intellectual Capital*) method, and company productivity, measured by the ratio between turnover and total assets, while between VAIC and the return on equity (ROE), respectively the market to book value (the ratio between the market capitalization and the shareholders' equity) did not establish any correlation. On the other hand, Gruian (2011) established a direct correlation of average intensity (Pearson's coefficient equal to 0.355), between the mean values of intangible capital, measured through the VAIC method, and the financial performance of Romanian companies quoted in the Bucharest Stock Exchange, measured by the mean values of the return on equity (ROE), for the period 2007-2009.

In **Table 1**, we illustrated the results of correlation analyses between intangible capital and company performance, respectively its market value reported to its accounting value. We mention that in the selected studies, intangible capital is measured using Pulic's VAIC model -*Value Added Intellectual Capital.*

Research methodology

From the revision of specialised literature, we kept the research directions in the field, referring to the possible correlations between intangible capital and the ratio between the market capitalization and the net accounting asset, the return on equity, the return on assets, but we also wished to test new hypotheses, such as the existence of links between intangible capital and goodwill (equal to the difference between the market capitalization and the net accounting asset), respectively between intangible capital and the company that audits the financial statements. In other words, we aimed to analyse the correlations that exist between intangible capital, computed as the arithmetical means of a set of

criteria, and the company's financial performance, reflected through the return on assets (ROA), the return on equity (ROE), and the economic return (Re), on the one hand, and the company's return on stock, stressed by goodwill (Gw), respectively the market to book value (M/BV), on the other hand. We also analysed the existence of a correlation between the intangible capital of Romanian companies and the auditor contracted to evaluate the annual financial statements.

The analysed population is made up of Romanian companies quoted on the Bucharest Stock Exchange, on the BSE section. On November 15, 2014, this section included 99 companies, of which 17 were included in the category "non-listed" and 15 were banks or investment funds. Thus, after applying the first filter, we selected 67 companies. Nevertheless, the final sample only includes 55 observations, since we excluded from the analysis: 6 companies that were in insolvency, 4 enterprises with negative shareholders' equity, and 2 companies for which we were unable to identify available data.

In the data collection stage, we resorted to mediated data collection techniques from the annual financial statements and various other reports published by the companies, and in the data processing and analysis stage we used: the analysis of the contents of communication, which consists in the objective, systematic, qualitative, and quantitative description of the contents of a communication, document study and the quantitative analysis. Concretely, the method of content analysis is based on detecting the presence or absence of information that covers various topics.

For processing and interpreting the data, we used the SPSS software (*Statistical Package for the Social Sciences*), version 20.0.

The research hypotheses that we wished to test are the following:

H1: There is a direct link between intangible capital (IC) and the company's goodwill (Gw).

H2: There is a direct, positive link between intangible capital (IC) and the market to book value (M/BV);

H3: There is a direct link between intangible capital (IC) and the company's economic return (Re).

H4: Intangible capital is significantly higher for companies whose financial statements are audited by companies in the Big4 group, compared to

companies that did not contract an auditor in the big audit firms;

H5: Intangible capital is significantly higher for companies with a good financial performance, analysed through the values of ROA and ROE.

As we previously mentioned, we considered that goodwill is the difference between the market capitalization and the company's net accounting asset. According to the accounting regulations, goodwill is normally acknowledged upon consolidation and it is the difference between the purchase cost and the just value, on the date of the transaction, of the part of the net assets acquired by an entity. In the individual annual financial statements, goodwill can only be acknowledged in case of transferring all assets or a part of them and, as the case may be, through liabilities and equity, irrespective of whether or not it is achieved as a result of a purchase or of merger operations. For goodwill to be distinctly accounted for, the transfer should concern some business represented by a set of integrated activities and organised assets, administrated to the purpose of obtaining profit, having lower costs, or for other benefits.

The market capitalization is equal to the number of shares owned by the company, multiplied by the mean stock exchange value in June 2014, considering that it immediately reflects the information reported on the company's activity for 2013 (often published in April-May 2014).

The economic return is equal to the percentage ratio between the operational result and the total asset of the company. From the viewpoint of the analysis, profitability ratios have more information power, since their size determines the company's future economic-financial policy and the behaviour of the existent and potential investors. For the managers concerned with capitalising

upon the invested capital through the current activity and independently from the financial activities, the economic return, determined by reporting the operational result to the invested capital, has sufficient cognitive meaning (Mironiuc, 2006, p.366).

The financial profitability ratio (the return on equity, ROE) is the final measure of the capitalisation upon the resources that the stockholders trusted to the company as risk capital. In our approach, we computed the return on equity of the analysed companies based on the accounting value recorded in the financial statements (accounting return on assets) (Mironiuc, 2006, p.379).

The return on assets (ROA), respectively the profitability of the assets, is one of the main indicators of a company's profitability, and it measures the efficiency of the use of assets from the viewpoint of the obtained profit.

The return on equity (ROE) is equal to the percentage ratio between the net result for the period and the company's equity, and the return on assets is given by the percentage ratio between the net result for the period and the company's total asset.

Intangible capital is the arithmetic mean of the values obtained for human and relational capital and for innovation. The algorithm for determining an estimative value for human capital, relational capital, and respectively innovation is simple: if the company presents complete information on one criterion, it is graded with 1, if it does not present information it receives 0 points, and if it presents only partially certain information, it is graded accordingly: 0.25; 0.5 or 0.75. At the end, each component of intangible capital will be equal to the arithmetical mean of the scores obtained for each considered criterion. The criteria analysed for computing the value of the components of intangible capital are shown in Table 2.

Table 2. Criteria of intangible capital		
Criteria for human capital	**Criteria for relational capital**	**Criteria for innovation**
Number and flow of the employees	Market share	Research and development activities
Structure of the employees according to age and studies	Environmental concern	Investments in assets
Employees' training	Customer satisfaction	Number of patents
Benefits granted to the staff	Social programmes, donations	New products
Employees' satisfaction		

Source: The authors' processing

Research results

Descriptive analysis of the analysed variables

A first analysis reveals the fact that for the observed companies, the mean degree of dissemination of the information on intangible capital (IC) has values between 0.07 and 0.82, 89.09% of the enterprises in the sample having a degree of dissemination of the information on intangible capital below 0.5 (Table 3).

In what concerns the values obtained for goodwill, most of the analysed companies are characterised by a higher net accounting asset than the stock exchange capitalisation, which implies negative values of goodwill (badwill). Actually, of the 55 studied companies, only 13 have positive values of goodwill (actual goodwill).

Table 3. Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Human capital	55	0.10	0.80	0.2755	0.15749
Relational capital	55	0.00	0.88	0.3565	0.22382
Innovation	55	0.00	1.00	0.4136	0.31964
IC	55	0.07	0.82	0.3485	0.18869

Source: Own processing, following the SPSS output

Testing the research hypotheses

In order to validate the first three research hypotheses, we applied Pearson's correlation coefficient. Considering that parametric statistical techniques start from a series of conditions concerning the normality and homogeneity of the dispersion of the distribution of the subjects' results, we tested first of all the normality of the analysed variables. According to the Kolmogorov-Smirnov normality test results, variable *IC* as well as variable *M/BV* are normally distributed. For the other two variables (goodwill and economic return), we resorted to logarithms in natural basis, obtaining normally distributed variables. We mention that the logarithm eliminated from the study the companies with negative goodwill values, respectively negative economic return.

Asympt. Sig. takes the values 0.112, 0.709, 0.874 and 0.821, which means that the risk to incorrectly reject the null hypothesis according to which the variables are normally distributed is 11.2%, 70.9%, 87.4% and 82.1%. In all cases, the risk obtained is higher than the allowed risk of 5%. As a result, the analysed variables are normally distributed (Table 4).

Table 4. One-Sample Kolmogorov-Smirnov Test					
		M/BV	**IC**	**lnRe**	**lnGw**
N		55	55	42	13
Normal Parameters[a,b]	Mean	0.6816	0.3485	1.2140	17.5099
	Std. Deviation	0.45671	0.18869	1.12741	2.25637
Most Extreme Differences	Absolute	0.162	0.095	0.091	0.175
	Positive	0.162	0.095	0.083	0.175
	Negative	-0.081	-0.070	-0.091	-0.082
Kolmogorov-Smirnov Z		1.201	0.701	0.592	0.631
Asymp. Sig. (2-tailed)		0.112	0.709	0.874	0.821

a. Test distribution is Normal.

b. Calculated from data

Source: Own processing, following the SPSS output

Then, we computed Pearson's correlation coefficient. It shows the connection and simultaneous variance of the

values (Table 5).

Table 5. Correlation between intangible capital and: goodwill, market to book value, and economic return		IC	lnRe	lnGw	M/BV
	Pearson Correlation	1	0.442**	0.655*	0.350**
IC	Sig. (2-tailed)		0.003	0.015	0.009
	N	55	42	13	55
*. Correlation is significant at the 0.05 level (2-tailed).					
**. Correlation is significant at the 0.01 level (2-tailed).					

Source: Own processing, following the SPSS output

According to the SPSS output, Pearson's correlation coefficient shows the existence of direct correlations of high intensity between intangible capital and the goodwill logarithm (Pearson's coefficient is equal to 0.655), as well as the existence of direct links of medium intensity between intangible capital and the market to book value, respectively between intangible capital and the logarithm of economic return ratio (Pearson's coefficient takes the values 0.350, respectively 0.442).

As a result, the first three research hypotheses are confirmed: between intangible capital and goodwill, the market to book value and, respectively, the economic return ratio, there are direct connections. These results are similar to those in specialised literature, exemplified in Table 1.

Taking into account the fact that the ROA and ROE variables are not normally distributed and that the

variable referring to the auditor's category is nominal, in order to test the research hypotheses H4 and H5 we used Mann-Whitney's U test on two independent samples.

According to the values recorded by the return on assets and the return on equity, we grouped companies into two classes: companies with good performance and companies with bad performance. Using the ranking method, we were able to draw the conclusion that the companies that had profit are characterised by significantly higher values of intangible capital. We also noticed that companies whose financial statements are audited by auditors in the Big4 group report a higher volume of information referring to intangible capital than the other companies. Table 6 presents Mann-Whitney's U test results for hypotheses 4 and 5.

Table 6. Mann-Whitney's U test results					
Hypothesis H4		**Hypothesis H5.1**		**Hypothesis H5.2**	
Test Statistics[a]		**Test Statistics[a]**		**Test Statistics[a]**	
	IC		IC		IC
Mann-Whitney U_1	234	Mann-Whitney U_2	168	Mann-Whitney U_3	168
Wilcoxon W	829	Wilcoxon W	288	Wilcoxon W	288
Asymp. Sig. (2-tailed)	0,033	Asymp. Sig. (2-tailed)	0,013	Asymp. Sig. (2-tailed)	0,013
a. GroupingVariable: Auditor_Big4		a. GroupingVariable: ROA		a. GroupingVariable: ROE	

Source: Own processing, following the SPSS output

The *Test Statistics* table indicates the values of Mann-Whitney's U test, which are 234, respectively 168, which is significant from a statistic viewpoint at a level p=0.033,

respectively 0.013. Mann-Whitney's U test allows us to state that the value of intangible capital is statistically significantly higher in companies whose financial

statements are audited by Big4 auditors (U=234, N$_1$=34, N$_2$=21, p=0.033) and in companies with good performance, the performance criterion being analysed through the return on assets and the return on equity (U=168, N$_1$=15, N$_2$=40, p=0.013).

It is possible for auditors in big audit firms to insist on the presentation in the explanatory notes of complete and detailed information concerning balance elements, information which is then copied in annual reports.

Therefore, research hypotheses 4 and 5 are validated.

Table 7 - Ranks indicates that the mean rank given to the parameter "Intangible capital" for the group of companies that contracted the services of a Big4 auditor is 33.86, and the mean rank for the second group (the group of companies whose annual financial statements are not audited by a Big4 auditor) is 24.38, which means that the values for group 1 tend to be higher than for group 2. The analysis is identical for grouping the companies according to their financial performance, reflected by the values of ROA and ROE.

Table 7. Ranks				
	Auditor_Big4	N	Mean Rank	Sum of Ranks
IC	No	34	24.38	829.00
	Yes	21	33.86	711.00
	Total	55		
	ROE	N	Mean Rank	Sum of Ranks
IC	ROE<0	15	19.20	288.00
	ROE>0	40	31.30	1252.00
	Total	55		
	ROA	N	Mean Rank	Sum of Ranks
IC	ROA<0	15	19.20	288.00
	ROA>0	40	31.30	1252.00
	Total	55		

Source: Own processing, following the SPSS output

Conclusions

Starting from the results in specialised literature, we aimed to test 5 research hypotheses related to the correlations that exist between intangible capital and financial performance, reflected through the return on assets (ROA), the return on equity (ROE), and the economic return (Re), on the one hand, and the company's return on stock, shown by goodwill, respectively the ratio between the market capitalization and the company's net accounting assets, on the other hand. At the same time, we tested the existence of a connection between the intangible capital of Romanian companies and the auditor contracted to evaluate the annual financial statements.

Statistical tests showed that, with certain restrictions concerning the normal distribution of the variables, that for the analysed sample, the research hypotheses are confirmed: between intangible capital and the positive

goodwill of Romanian companies quoted on the Bucharest Stock Exchange there are direct significant correlations, and between intangible capital and economic return, respectively the ratio between the market capitalization and the company's net accounting asset (market to book value), there are direct correlations of medium intensity.

Also, using the ranks method, we were able to conclude that companies with good financial performance, from the perspective of the return on assets and on equity, are characterised by significantly higher values of intangible capital. At the same time, companies whose financial statements are audited by auditors in the Big4 group report a higher volume of information on intangible capital than the other companies.

Future research directions could consider extending the analysis to a larger sample and identifying regression models that would explain the value of intangible capital. It would also be interesting to check other possible

associations between the volume of non-financial information published by companies and performance

indicators.

References

1. Arvidsson, S. (2011), *Disclosure of non-financial information in the annual report: A management-team perspective*, Journal of Intellectual Capital, Vol. 12 Iss: 2 pp. 277 – 300.

2. Barsky, N.P., Marchant, G. (2000), *The most valuable resource – measuring and managing intellectual capital*, Strategic Finance, Vol. 81 No. 8, pp. 58-62.

3. Brown, S., Lo K., Lys T. (1999), *Use of R-squared in accounting research: measuring changes in value relevance over the last four decades*, Journal of Accounting and Economics, Vol. 28 No. 2, pp. 83-115.

4. Bukh, P.N., Nielsen, C., Mouritsen, J., Gormsen, P. (2006), *Disclosure of information on intellectual capital in Danish IPO prospectuses*, Accounting, Auditing & Accountability Journal, Vol. 18 No. 6, pp. 713-732.

5. Canibano, L., Garcia-Ayuso, M., Sanchez, P. (2000), *Accounting for Intangibles: A literature review*, Journal of Accounting Literature, Vol. 19, 2000, p.104.

6. Chen Y.S., (2008), *The positive effect of green intellectual capital on competitive advantages of firms*, Journal of Business Ethics, Vol. 77 No. 3, pp. 271-286.

7. Cheng-Li Huang, Fan-Hua Kung (2011), *Environmental consciousness and intellectual capital management: Evidence from Taiwan's manufacturing industry*, Management Decision, Vol. 49 Iss: 9 pp. 1405 – 1425.

8. Chu, S. K. W., Chan, K. H., Wu, W. W. Y. (2011). *Charting intellectual capital performance of the gateway to China.* Journal of Intellectual Capital, vol. 12, no. 2, pp. 249-276.

9. Clarke, M,, Seng, D., Whiting R.H. (2011), *Intellectual capital and firm performance in Australia*, Journal of Intellectual Capital, Volume 12, no. 4, pp.505-530.

10. Curado, C., Henriques, L., Bontis, N. (2011), *Intellectual capital disclosure payback*, Management Decision, Vol. 49 Iss: 7 pp. 1080 – 1098.

11. Dean P.C., Mckenna, K., Krishnan V. (2012), *Accounting for Human Capital: Is the Balance Sheet Missing Something?*, International Journal of Business and Social Science, ISSN 2219-1933, 06/2012, Volume 3, Issue 12, pp.61-64.

12. Ferenhof, H.A., Durst, S., Bialecki, Z.M., Selig, P.M. (2015), *Intellectual capital dimensions: state of the art in 2014*, Journal of Intellectual Capital, Vol. 16, Iss 1 pp. 58 – 100.

13. Gruian, C.M. (2011), *The influence of intellectual capital on Romanian companies' financial performance*, Annales Universitatis Apulensis Series Oeconomica, Vol. 2, No. 13, pp. 260-272.

14. Guthrie, J., Petty, R., Yongvanich, K., Ricceri, F. (2004), *Using content analysis as a research method to inquire into IC reporting*, Journal of Intellectual Capital, Vol. 5 No. 2, pp. 282-93.

15. Hunter, L., Webster, E., Wyatt, A. (2005), *Forum: Intellectual Capital. Measuring Intangible Capital: a review of current practices.* Australian Accounting Review; Jul 2005; 15, 2; ProQuest Central, p. 18.

16. Janosevic, S., Dyenopoljac, V., Bontis, N. (2013*), Intellectual Capital and Financial Performance in Serbia*, Knowledge and Process Management, vol. 20, no.1, pp.1-11.

17. Javornik, S., Tekavcic, M., Marc, M. (2012), *The Efficiency Of Intellectual Capital Investments As A Potential Leading Indicator*, International Business & Economics Research Journal, vol. 11, no. 5, pp-535-558.

18. Kamath, G. B. (2008). *Intellectual capital and corporate performance in Indian pharmaceutical industry.* Journal of Intellectual Capital, vol. 9, no. 4, pp. 684-704.

19. Lev, B., Zarowin, P. (1999), *The boundaries of financial reporting and how to extend them*, Journal of Accounting Research, Vol. 37 No. 2, pp. 353-85.

20. Marr, B., Gray, D., Neely, A. (2003), *Why do firms measure their intellectual capital*, Journal of Intellectual Capital*,* Vol. 4 No.4, pp.441-64.

21. Mehri, M., Umar, M.S., Saeidi, P., Hekmat, R.K., Naslmosavi, S.H. (2013), *Intellectual Capital and Firm Performance of High Intangible Intensive Industries*: Malaysia Evidence, Asian Social Science, vol. 9, no.9, pp.146-155.

22. Mironiuc, M. (2006), *Analiză economico-financiară: elemente teoretico-metodologice şi aplicații*, Iaşi, Editura Sedcom Libris.

23. Morariu, C.M (2014), *Intellectual capital performance in the case of Romanian public companies*, Journal of Intellectual Capital, vol. 15, no.3, pp. 392-410.

24. Oliveras, E., Gowthorpe, C., Kasperskaya, Y., Perramon, J. (2008), *Reporting intellectual capital in Spain*, Corporate Communications: An International Journal, Vol. 13, Iss: 2, pp. 168 – 181.

25. Pal, K., Soriya, S. (2012), *IC performance of Indian pharmaceutical and textile industry*, Journal of Intellectual Capital, vol. 13, no.1, pp. 120-137.

26. Phusavat, K., Comepa, N., Sitko-Lutek, A., Ooi, K.B. (2011), *Interrelationships between intellectual capital and performance: empirical examination*, Industrial Management & Data Systems, Vol. 111, No. 6, pp. 810-829.

27. Razafindrambinina, D., Anggreni, T.(2011), *Intellectual Capital and Corporate Financial Performance of Selected Listed Companies in Indonesia***,** Malaysian Journal of Economic Studies, vol. 48, no.1, pp.61-77.

28. Rossi, F şi Celenza, D. (2014), *Value Added Intellectual Coefficient (VAICTM) and Financial Performance: Empirical Evidence From the Italian*

Manufacturing Sector, Proceedings of the 6th European Conference on Intellectual Capital: ECIC 2014.

29. Sriram, R.S. (2008), *Relevance of intangible assets to evaluate financial health*, Journal of Intellectual Capital, Vol. 9 No. 3, pp. 351-66.

30. Stahle, P., Stahle, S., Aho, S. (2011), *Value added intellectual coefficient (VAIC): a critical analysis*, Journal of Intellectual Capital, Vol. 12, No. 4, pp. 531-551.

31. Tovstiga G.,Tulugurova E. (2009), *Intellectual capital practices: a four-region comparative study*, Journal of Intellectual Capital, Vol. 10 Iss: 1 pp. 70 – 80.

32. Vandemaele, S.N., Vergauwen, P.G.M.C., Smits, A.J., (2005), *Intellectual capital disclosure in The Netherlands, Sweden and the UK – a longitudinal and comparative study*, Journal of Intellectual Capital, Vol. 6, No. 3, pp. 417-26.

33. Vishnu, S., Gupta, K.V (2014), *Intellectual capital and performance of pharmaceutical firms in India*, Journal of Intellectual Capital, Vol. 15, No. 1, pp. 83-99.

34. Wang, J.C. (2008), *Investigating market value and intellectual capital for S&P 500*, Journal of Intellectual Capital, Vol. 9 No. 4, pp. 546-563.

35. Zeghal, D., Maaloul, A. (2010), *Analysing value added as an indicator of intellectual capital and its consequences on company performance*, Journal of Intellectual Capital, Vol. 11, No. 1, pp. 39-60.

36. INNODRIVE Project- *Intangible Capital and Innovations: Drivers of Growth and Location in EU,* directed by Piekkola Hannu, INNODRIVE Intangibles Database, http://www.innodrive.org/, accessed on 06.11.2015.