USING INTELLECTUAL CAPITAL MEASUREMENTS IN UNIVERSITIES TO ASSESS PERFORMANCE – EVIDENCE FROM THE ROMANIAN EDUCATION SYSTEM

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Abstract

The paper aims at providing substantial arguments in order to show that intellectual capital has a great impact on universities’ performance worldwide. Nowadays, it seems that measuring performance, comparing individuals’ activities as well as organizations’ results, has become the very essence of all managerial activities and the main focus of all leadership programs. However, there seems to be a higher interest in assessing performance as well as employees’ results in the business sector, rather than in the educational and research sector. In addition, it should be noted that companies have a more complex evaluation system in comparison to research institutions or educational bodies when it comes to valuing intellectual capital, and, in consequence, are more focused on the entrepreneurial side of their activities – investments, innovations, technology transfer, and knowledge development.

The purpose of this work is to analyze the role, influences and value drivers for intellectual capital, offering valuable evidence from the Romanian education system. In order to be able to understand the importance of intellectual capital and its benefits at the level of the educational and research fields, the paper shows the fact that the results obtained by universities and research institutes – namely, both knowledge and technology, are transferred to the society, communities and companies, enhancing in this manner the countries visibility and competitive advantages perspectives, the firms’ performance and the individuals’ opportunities and perspectives.

Firstly, this scientific research summarizes the main findings discovered in the process of analyzing the literature review on the topic of intellectual capital and the way it is measured in the education system. Some comparisons are be made with the intellectual capital appraisal and valuation system in the business field (and mainly with accounting and auditing evaluations frameworks, models and methods), since there are far more discoveries acknowledged in the studies in this regard. Secondly, this thesis emphasizes the manner in which intellectual capital measurements can be successfully and constructively used in universities in order to assess performance, in times in which the role of intellectual capital is continuously expending and the opportunities offered by this intangible asset are experiencing a continuous increase. However, another key thing to remember is that this work highlights the manner in which universities and research institutes could turn the intellectual capital appraisal framework and the measuring performance process into a value-creating system, since far too many unsuccessful attempts have been made already to optimally rank universities based on their outcomes as well as their employees’ research results. Thirdly, this study addresses the case of Romanian education system in terms of intellectual capital evaluation and performance measurement, especially because there seems to be a gap in research on this particular subject. Previous studies do exist already on the relationship between intellectual capital and universities’ and institutes’ performance assessment, mainly in European countries, however this subject is new and of high interest worldwide. There has been less previous evidence for the case of Romania, so the aim was to develop a more sophisticated approach by using several research methods: the questioner; the interview; the focus group.

Keywords: Intellectual capital, intangible asset, education, knowledge, investments, performance, excellence, competition, accounting value, Romania.

1 INTRODUCTION

The study “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system” offers substantial arguments in order to show that intellectual capital has a great impact on the education systems worldwide, taking into consideration a broader
perspective, and universities performance worldwide, taking into account a smaller scale and more targeted perspective. Moreover, this paper aims at providing substantial arguments in order to show that intellectual capital has not only (a.) a great impact on universities' performance worldwide and on educational systems at an international scale, but also (b.) on the business field since both education and business fields interact and are interrelated and interconnected. Furthermore, these days, it seems that measuring performance, comparing individuals’ activities as well as organizations’ results, has become the very essence of all managerial activities and the main focus of all leadership programs. However, according to previous scientific works as well as business related measurement systems focusing on intellectual capital evaluation and measurement, there seems to be a higher interest in assessing performance as well as employees' results in the business sector, rather than in the educational and research sector. In addition, under these given circumstances, it should be noted that companies have a more complex evaluation system in comparison to research institutions or educational bodies when it comes to valuing intellectual capital, and, in consequence, are more focused on the entrepreneurial side of their activities – investments, innovations, technology transfer, and knowledge development. That is to say, the purpose of this work is to analyze the role, influences and value drivers for intellectual capital, offering valuable evidence from the Romanian education system. Nonetheless, in order to be able to understand the importance of intellectual capital and its benefits at the level of the educational and research fields, the paper shows the fact that the results obtained by universities and research institutes – namely, both knowledge and technology, are transferred to the society, communities and companies, enhancing in this manner the countries visibility and competitive advantages perspectives, the firms’ performance and the individuals' opportunities and perspectives. To this end, this paper has several major objectives that are presented in the lines below. First of all, this scientific research has summarized the main findings discovered in the process of analyzing the literature review on the topic of intellectual capital and the way it is measured in the education system. What is more, some comparisons are be made with the intellectual capital appraisal and valuation system in the business field (and mainly with accounting and auditing evaluations frameworks, models and methods), since there are far more discoveries acknowledged in the studies in this regard. Second of all, this thesis has emphasized the manner in which intellectual capital measurements can be successfully and constructively used in universities in order to assess performance, in times in which the role of intellectual capital is continuously expanding and the opportunities offered by this intangible asset are experiencing a continuous increase. However, another key thing to remember is that this work highlights the manner in which universities and research institutes could turn the intellectual capital appraisal framework and the measuring performance process into a value-creating system, since far too many unsuccessful attempts have been made already to optimally rank universities based on their outcomes as well as their employees' research results. Third of all, this study has addressed the case of Romanian education system in terms of intellectual capital evaluation and performance measurement, especially because there seems to be a gap in research on this particular subject. Having said that, it should be stressed that previous studies do exist already on the relationship between intellectual capital and universities’ and institutes' performance assessment, mainly in European countries, however this subject is new and of high interest worldwide. Nonetheless, it should be mentioned that there has been less previous evidence for the case of Romania, so the aim was to develop a more sophisticated approach by using several research methods: the questioner; the interview; the focus group. So, having said that, the following major concepts represent a key priority for this study: intellectual capital; intangible asset; education; knowledge; investments; performance; excellence; competition; accounting value; and Romania’s experience.

2 LITERATURE REVIEW

The literature review section for this scientific work entitled “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system” takes into consideration four phases, as follows: (a.) the first step stresses the previous literature on this subject as well as the seminal contributions made in literature on intellectual capital’s influences in education, business, management, marketing, accounting, finance, and audit domains; (b.) the second step acknowledges the limitations of previous literature, pinning the existing gaps in literature and the areas that need further exploration while accounting intellectual capital and reporting knowledge results in key fields such as education, business, management, marketing, accounting, finance, and audit; (c.) the third step embeds the main research questions of this study, in the attempt of generating a better understanding of intellectual capital and performance in higher education organizations in comparison with intellectual capital and performance evaluation, measurements, tools and instruments in other
connecting sensible sectors such as business, management, marketing, accounting, finance, and audit; and (d) the fourth step embodies the research to be explored both in terms of intellectual capital educational indicators and accounting indicators, since educational institutions are also evaluated on a regular basis based on their results and benefits provided to society, businesses, and environment.

**Step 1: Previous literature** – Exploring the importance of different intellectual capital dimensions concerning their contributions to the perceived performance of higher education organizations is a rather delicate subject (I. Ajzen & M. Fishbein, 1980, March 17), since it has been usually acknowledged that the role of both intellectual capital and performance measurement occupied a far more important place in other types of fields, namely in business, management, marketing, accounting, finance, and audit (I. Ajzen, 1991). Evidence suggests that all the components belonging to intellectual capital – such as, human, structural and relational capital contribute all together and in an equal manner to the performance of the organizations (R. J. Baker, 2007, November). Moreover, several studies suggest that similar results are encountered in education organizations where in order to survive in a new competitive and challenging environment institutions had to seek competitive advantages in their intangible assets rather than in their tangible assets (W.A. Bhatti, M.N. Khan, A. Ahmad, N. Hussain, K. Rehman, 2011, April 18). Furthermore, prior studies suggest that intellectual capital represents a major source of competitive advantages' creation for all types of organizations, including the ones activating in the private or public education sector (W.A. Bhatti, A. Zaheer, 2014, December). Having said that, it should be stressed that specialists made constant efforts to apply the intellectual capital concepts, models, frameworks as well as instruments to different settings (Z. Xiaohong & Li Sijing, 2007), such as groups of firms or organizations, regions, and countries (L. Edvinsson & M. Malone, 1997). Nonetheless, the majority of prior research in intellectual capital focuses on individual firms or organizations, so at the microeconomic level, even though in some cases intellectual capital analysis is combined with interrelated concepts, such as green intellectual capital, corporate social responsibility, good governance or the concern for a healthier environment and preserving the future and well-being of the next generations (B. Lev, 2001; E. Holban, E. Diacu, M. Matei, G. Ghita, M. Raischi, S. Fronescu, A. Daescu, I. P. Gheorghe, M. Ilie, R. Szep, V. Daescu, D. Dumitru, F. Marinescu, C. Tociu, I. Popescu, C. R. Gh. Popescu, 2017). With this in mind, the organizations activating in education or in business sectors have to leverage their intellectual capital (R.S. Kaplan, Robert S., and David P. Norton, 1996) in order to achieve their goals, purposes and objectives (B. Marr & G. Schiuma, 2001), so that knowledge creation (C.R. Popescu, 2011a) and dissemination (C.R. Popescu, 2011b) will have the chance to offer them the most wanted and needed “push” (C.R. Popescu, Popescu, V.A. & Popescu, G.N., 2014) in order to boost their activities (C.M. Jardon & A. Dasilva, 2017). Hence, this scientific work “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system” addresses today’s challenges in terms of “new economy” or “knowledge economy” (C.R. Popescu, Popescu, V.A. & Popescu, G.N., 2014), which is defined by the following processes: knowledge production or creation (OECD, 2018); knowledge transfer (C.R. Popescu, 2018); knowledge dissemination (C.R. Popescu & Popescu, G.N., 2018b); knowledge dimensions (J. Mouritsen, P. N. Bukh, B. Marr, 2004) and measurement indicators (OECD, 2001); knowledge management (R.H. Peters & L. A. Taylor, 2017, February) and marketing (S. Pike & G. Roos, 2000); knowledge accounting (S. Pike & G. Roos, 2000; C.R. Popescu, 2016a; C.R. Popescu, 2016b); knowledge audit (C.R. Popescu, Popescu, G.N. & Popescu, V.A., 2017a; C.R. Popescu, Popescu, G.N. & Popescu, V. A., 2017b; C.R. Popescu, 2017; C.R. Popescu & Popescu, G.N., 2018a).

**Step 2: Limitations of previous literature** – A number of questions regarding the use of intellectual capital in education, in business, management, marketing, accounting and auditing, as well as performance management tools, models, methods, indicators and specific frameworks remain to be addressed (C.R. Popescu & Popescu, G.N., 2019; C.R. Popescu, 2019; C.R. Popescu, 2019). To put it another way, a closer look to the literature on intellectual capital in education, in business, management, marketing, accounting and auditing, as well as performance management tools, models, methods, indicators and specific frameworks, however, reveals a number of gaps and shortcomings (G.N. Popescu, Popescu, V.A., Popescu, C.R., 2015; J. Roos & Roos, Göran & C. Dragonetti, Nicola & Edvinsson, Leif, 1997, January). Even though in the last decades numerous researchers addressed the issues specific to intellectual capital measurements in universities in order to assess performance, with the desire to provide examples of good practices as well as evidence from different education system, several of them tackled in fact the traditional taxonomies and frameworks specific to individual firms (C. Tociu, R. Szep, A. M. Anghel, F. Marinescu, M. Ilie, E. Holban, G. Ghita, M. Matei, F. D. Dumitru, I. Popescu, A. Moncea, L. Laslo, A. I. Daescu, C. R. Gh. Popescu, 2017). This is to say, no general consensus was achieved regarding intellectual capital dimensions in the education system or
intellectual capital measurement indicators in the education system (T.A. Stewart, 1997; A. Serenko & N. Bontis, 2013; Science for Environment Policy, 2017). As far as we noticed and also as far as we know, there is an important need to understand and to present the intellectual capital dimensions in the education system in Romania as well as to address and describe some intellectual capital measurement indicators in the education system in Romania.

Step 3: Research questions – Significantly, educational institutions are using knowledge in order to generate new knowledge. Notably, intellectual capital management as well as intellectual capital measurement tools should be analyzed accordingly, since higher education organizations represent a different setting for the intellectual capital in comparison with the one addressed by the business sector. Likewise, the discussions on educational institutions, in general and higher education organizations, in particular, should focus on both understanding and acknowledging the importance and the differences that exist between in-process and end-process intellectual capital management and intellectual capital performance measurement tools. Similarly, a further question is whether educational institutions intellectual capital performance is important in the eyes of the stakeholders and how is exactly intellectual capital performance in higher education organizations perceived by the stakeholders. Specifically, the main research questions taken into consideration and analysis in this paper are the following: RQ1 – What is the importance of intellectual capital in terms of contributions brought to educational institutions, in general and higher education organizations, in particular?; RQ2 – Which are the indicators perceived to be most important in order to measure intellectual capital’s contributions brought to educational institutions, in general and higher education organizations, in particular?; RQ3 – Which are the similarities encountered between intellectual capital analyses processes in educational institutions while compared to the business sector?

Step 4: Research to be explored – Coupled with the literary evidence, the existing studies as well as this current study paints a compelling view concerning the importance of intellectual capital in educational institutions, in general and higher education organizations, in particular. To say nothing of the phenomena of intellectual capital tools, instruments, models, methods, and frameworks needed in order to acknowledge and measure its impact on the organizational performance. Likewise, the case of Romanian educational organizations is of key interest in this regard and numerous examples of good practices might be encountered and described under these circumstances.

3 METHODOLOGY

In terms of materials and methods used for this particular scientific research, the authors focused on the following research methods: (a.) firstly, the literature review section (the section encountered immediately above, consisting in a presentation of key concepts and major research questions and directions) has the purpose of underlining the main concepts that need further consideration, namely intellectual capital, performance in educational system and business sector, importance of intangible assets as well as manners in which intellectual capital may be measured in the educational system or in the business sector; (b) secondly, due to the fact that this study addresses the case of Romanian education system in terms of intellectual capital evaluation and performance measurement by comparison with intellectual capital evaluation and performance measurement system in the business sector, this research is a mix between both qualitative and quantitative methods. Having said that, it should be stated that due to the fact that there has been less previous evidence for the case of Romania in terms of using intellectual capital measurements in universities in order to assess performance, the aim of this study is to develop a more sophisticated approach by using several research methods: (1.) for example, in terms of qualitative research design, the instruments used were the interviews, the focus groups and group interviews; moreover, (2.) for example, in terms of quantitative design, the instruments used were the questioner and the statistical data analysis – which enabled us to determine the sampling and sample design, surveys and surveys design, as well as observational and secondary data – which helped us to collect numerical data.

3.1 Experimental setup

The experimental setup explains the manner in which the research was performed, especially since this particular phase depends, on the one hand, on the three research questions that need to be answered (RQ1, RQ2, and RQ3) and, on the other hand, on the general philosophy that underpins the current view of this research. Due to the fact that this work will take into consideration the qualitative and the quantitative analysis, the following elements need to be taken into consideration: (a.) the qualitative research design used as instruments the interviews, the focus groups and group interviews;
and (b.) the quantitative research design took into consideration sampling and sample design, surveys and survey design and also, in addition, observational and secondary data. In the process of analyzing the research data the authors performed (a.) the analysis of the qualitative data; since, in this case, the authors have gathered large amounts of information, mostly in a narrative form, and (b.) the analysis of the quantitative data with the aid of statistical analysis tools in their attempt to identify specific defining patterns.

3.2 Data collection

Above all, the data collection process for this scientific work included two main stages, namely: (a.) firstly, the data collection processes in the case of the qualitative research design; and (b.) secondly, the data collection processes in the case of the quantitative research design.

Stage 1: The data collection process in the case of the qualitative research design used as instruments the interviews, the focus groups and group interviews. The interviews, the focus groups and group interviews needed careful planning and were done between the 14th of January 2019 and the 20th of January 2019. Moreover, the interviews, the focus groups and group interviews offered the authors valuable answers to their straightforward questions, as well as important in-depth information regarding the area that was subject of this research. The authors were keen on discovering the individuals’ viewpoints and the reasons why they hold those particular ideas concerning intellectual capital and performance in the educational field as well as in the business filed. The interviews were performed in total with 20 employees belonging from two Romanian research institutes and two Romanian universities, while the focus groups and group interviews were centered on a smaller group of people, namely a total number of 10 employees belonging from two Romanian research institutes and two Romanian universities. The interviews were semi-structured and were performed in some cases face-to-face and in other cases by telephone, since in most cases the interviewees were seriously pressured by time and other stringent tasks they needed to perform. By contrast, the focus groups and group interviews sessions started with semi-structured questions but ended with general discussions as well as with some probing questions which were based on the reflection and clarifications techniques. However, the authors had in mind at all times to avoid bias and never used leading questions during the interviews, the focus groups and group interviews. The key questions addressed during the interviews, the focus groups and group interviews were: (Q1) – What is, in your opinion, intellectual capital and what role does intellectual capital play in evaluating and measuring performance in educational institutions, in general and higher education organizations, in particular?; (Q2) – What is, in your opinion, the importance of intellectual capital in terms of contributions brought to educational institutions, in general and higher education organizations, in particular?; (Q3) – Which are the indicators perceived to be most important in order to measure intellectual capital’s contributions brought to educational institutions, in general and higher education organizations, in particular?; (Q4) – Which are the similarities encountered between intellectual capital analyses processes in educational institutions while compared to the business sector (of course, if any were noticed in the respondents’ opinion)? Then again, in the qualitative research our intention was to probe deeper into the subject and that is the reason why the chosen techniques used which proved to be very useful were: (a.) first of all, the probing technique, in which explanatory probes (for example, questions such as “What did you mean by saying the fact that intellectual capital is a key asset in education organizations?”) were used together with focused probes (for example, questions such as “What sort of characteristics specific to intellectual capital do you believe particularly enhance performance in education organizations?”); (b.) second of all, the laddering technique which is a very specific interviewing technique in which the interviewer asks “Why?”-type questions with the purpose of trying to discover the interviewees values and motivations concerning a specific topic (for example, in this case, questions such as “Why do you believe performance appraisal is required in education organizations?”, or “Why do education organizations rely on intellectual capital?”, or “Why does intellectual capital offers an edge to education organizations in the new economy?”). In this research situation, the authors considered that the one-to-one interviews interactions were not enough to offer them the data needed concerning the use of intellectual capital measurements in universities in order to assess performance, and there was additional evidence required from the Romanian education system so that a broader picture could be painted. That said the authors used also the focus group also known as a group interview in order to make sure they will gather the necessary data concerning the use of intellectual capital measurements in universities in order to assess performance, and the details regarding the Romanian education system in terms of the relationship between intellectual capital and performance evaluation methods. The total number of individuals’ part of the focus group session was of 10 employees belonging to two Romanian research institutes and two Romanian
universities. Of course, one might argue that the sample size was small, but the results obtained were very useful despite this, especially because the persons felt comfortable to express their views when they felt like doing this. In order to record the event, the authors used the following instruments: firstly, notes were taken during the debates; secondly, both the interviewers and the interviewees recorded their ideas on a flipchart; thirdly, at the end of the interview the interviewers summarized the main ideas drawn during the session and stressed them as concluding remarks. After these steps were taken (the interviews, the focus groups also known as group interviews), the authors considered that they gathered enough evidence concerning this subject and they had the chance to gain the range of views they needed in the case of the qualitative research.

**Stage 2:** The data collection process in the case of the quantitative research design used as instruments the surveys and the secondary data. The sample chosen (the subset of population) conferred reliable and credible results, which, in fact, validated the results obtained during the one-to-one interview sessions and the focus group. A total number of 50 individuals received and filled in a given questioner during the time period 21st January 2019 and 27th January 2019. The data gathered during this time period was carefully analyzed between 28th January 2019 and 3rd February 2019 in order to obtain the valuable information needed. The 50 individuals selected were employees belonging to two Romanian research institutes and two Romanian universities.

3.3 Data analysis

The data analysis process took into consideration the following two key directions: (a.) the qualitative research design used as instruments the interviews, the focus groups and group interviews; and (b.) the quantitative research design took into consideration sampling and sample design, surveys and survey design and also, in addition, observational and secondary data. It should be added that the qualitative research results are to be extremely useful for this current research even though the number of individuals involved in the interviews, the focus groups and group interviews sessions was limited (namely, the interviews were performed in total with 20 employees belonging to two Romanian research institutes and two Romanian universities, while the focus groups and group interviews were centered on a smaller group of people, namely a total number of 10 employees belonging from two Romanian research institutes and two Romanian universities). In fact, it is our strong opinion that the interviews, the focus groups and group interviews performed with employees from the two Romanian research institutes and the two Romanian universities helped us gather a rich set of qualitative information, which demonstrated that the interviews, the focus groups and group interviews should not be centered on a large number of individuals, since the purpose is to offer valuable information rather than a lot of information. All in all, the authors decided to use a mix between both qualitative and quantitative research in order to eliminate bias from their results or the lack of precision of their gathered results.

4 RESULTS AND DISCUSSIONS: MAJOR FINDINGS

In this section the authors describe the results of the study “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system”. The first part of the results and discussions section presents the main findings of this scientific work and the second part of the results and discussions section stresses the importance of the ideas gathered while comparing them with prior studies. In the lines below we have presented the main findings after conducting the questioner sessions and after the two immediate steps that followed the questioner sessions, namely the data collection and data analysis: (a.) The first aspect that needs mentioning is that according to both qualitative and quantitative data obtained, intellectual capital is generally represented as being a dynamic system of intangible (or invisible) resources and other sets of specific activities which confer organizations (universities, research institutes or other entities and institutions, such as firms, companies, and so on) a durable competitive advantage. (b.) Moreover, the second aspect that needs mentioning is that according to both qualitative and quantitative data obtained, in the Romanian education system, in general, intellectual capital is acknowledged as the knowledge that professors have gained during their experience as well as during particular training sessions and continuous learning programs. It should be stated that in the Romanian education organizations the employees training sessions as well as access to lifelong education and learning programs is mandatory according to both international (especially according to the European Union’s educational general framework and activities set) and national laws. Moreover, this knowledge enables professors to teach their students during classes but also to create valuable researches by publishing their ideas in books, articles or conference papers, or by disseminating the information in specific projects.
Furthermore, in some fields (such as physics, chemistry, engineering, robotics or informatics) intellectual capital is represented by the patents gained during the process of creation and research activities. Similarly, in other fields (such as for instance during the publishing process of research manuscripts or projects) intellectual capital is represented by the copyright rights. All in all, intellectual capital is represented, for example, by knowledge, valuable sets of data and information gathered during work activities or research programs, capabilities, skills, abilities that individuals have at a certain moment in time (but not limited to the list presented here). (c.) Furthermore, the third aspect that needs mentioning is that according to both qualitative and quantitative data obtained, in the Romanian education system the three components of intellectual capital (namely, human capital, structural capital and relational capital) are the exact same ones belonging to any other type of organization or institution. Hence, (c.1.) according to the participants to our study, human capital consists of knowledge, skills, competences and abilities held by the employees of an organization – in this case, the ones belonging to the Romanian education system; (c.2.) the organizational capital consists of structured knowledge held by the organization in the Romanian education system and is shared through databases, as well as specific procedures; (c.3.) the relational capital is defined by the totality of relationships between the organizations activating in the Romanian education system and its stakeholders. (d.) Additionally, the fourth aspect that needs mentioning is that according to both qualitative and quantitative data obtained, in the Romanian education system there are several ways in which intellectual capital can be measured. Firstly, intellectual capital in the Romanian education system could be evaluated and measured taking into consideration (1.) the number of publications per a certain period of time (for instance, per year) and (2.) the importance of the publications published during the same time period, which could be considered, for instance, by taking into consideration the journals, conferences and projects ranking at a national or international level. Secondly, intellectual capital in the Romanian education system could be evaluated and measured taking into consideration the innovations registered during a specific time period which could also be linked with performances of the researchers, professors, institutes and universities: in this case, (1.) the number of copyrights agreements, the number of registered patents and innovations could represent one of the indicators, and (2.) the degree in which the innovations help the institutions or the society could be the second indicator acknowledged (for instance, in the accounting filed, an innovation could be represented by a new method to quantify a certain tangible or intangible asset, or in the medical domain an innovation could be considered the appearance of a new vaccine).

5 CONCLUSIONS AND FUTURE WORK

This section presents the conclusions (the overall summary) and the future work (future research) of the study entitled “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system”.

Overall summary – All in all, the following aspects should be taken into consideration when analyzing the results of the study “Using intellectual capital measurements in universities to assess performance – Evidence from the Romanian education system”: (a.) According to both qualitative and quantitative data obtained, intellectual capital is generally represented as being a dynamic system of intangible (or invisible) resources and other sets of specific activities which confer organizations (universities, research institutes or other entities and institutions, such as firms, companies, and so on) a durable competitive advantage. (b.) According to both qualitative and quantitative data obtained, in the Romanian education system, in general, intellectual capital is acknowledged as the knowledge that professors have gained during their experience as well as during particular training sessions and continuous learning programs. It should be stated that in the Romanian education organizations the employees training sessions as well as access to lifelong education and learning programs is mandatory according to both international (especially according to the European Union’s educational general framework and activities set) and national laws. Moreover, this knowledge enables professors to teach their students during classes but also to create valuable researches by publishing their ideas in books, articles or conference papers, or by disseminating the information in specific projects. Furthermore, in some fields (such as physics, chemistry, engineering, robotics or informatics) intellectual capital is represented by the patents gained during the process of creation and research activities. Similarly, in other fields (such as for instance during the publishing process of research manuscripts or projects) intellectual capital is represented by the copyright rights. All in all, intellectual capital is represented, for example, by knowledge, valuable sets of data and information gathered during work activities or researches programs, capabilities, skills, abilities that individuals have at a certain moment in time (but not limited to the list presented here). (c.) According to both qualitative and quantitative data obtained, in the Romanian education system the three components of
intellectual capital (namely, human capital, structural capital and relational capital) are the exact same ones belonging to any other type of organization or institution. Hence, (c.1.) according to the participants to our study, human capital consists of knowledge, skills, competences and abilities held by the employees of an organization – in this case, the ones belonging to the Romanian education system; (c.2.) the organizational capital consists of structured knowledge held by the organization in the Romanian education system and is shared through databases, as well as specific procedures; (c.3.) the relational capital is defined by the totality of relationships between the organizations activating in the Romanian education system and its stakeholders. (d.) According to both qualitative and quantitative data obtained, in the Romanian education system there are several ways in which intellectual capital can be measured. Firstly, intellectual capital in the Romanian education system could be evaluated and measured taking into consideration (1.) the number of publications per a certain period of time (for instance, per year) and (2.) the importance of the publications published during the same time period, which could be considered, for instance, by taking into consideration the journals, conferences and projects ranking at a national or international level. Secondly, intellectual capital in the Romanian education system could be evaluated and measured taking into consideration the innovations registered during a specific time period which could also be linked with performances of the researchers, professors, institutes and universities: in this case, (1.) the number of copyrights agreements, the number of registered patents and innovations could represent one of the indicators, and (2.) the degree in which the innovations help the institutions or the society could be the second indicator acknowledged (for instance, in the accounting field, an innovation could be represented by a new method to quantify a certain tangible or intangible asset, or in the medical domain an innovation could be considered the appearance of a new vaccine).

Further research – In terms of new researches that could have as a starting point the use of intellectual capital measurements in universities to assess performance, with reference, for example, to the Romanian education system, in future studies a specific framework to acknowledge and evaluate intellectual capital in education institutions and organizations may be presented, with direct connections, for instance, to “know-how” and innovation in education and research.

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