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INTELLECTUAL CAPITAL DISCLOSURE AT CZECH PUBLIC UNIVERSITIES IN RELATION TO THE STAKEHOLDER INFORMATION NEED

Kateřina Kuralová[1], Klára Margarisová[1]

[1]Department of Management, Faculty of Economics and Management, Czech University of Life Sciences Prague, Kamýcká 129, 165 21 Prague 6 – Suchdol, Czech Republic

Abstract

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The purpose of this paper is to examine the extent and quality of intellectual capital disclosure at Czech public universities in relation to information need of identified stakeholders – students. This research is based on the theoretical framework for voluntary intellectual capital disclosure, the proposed intellectual capital disclosure index, the identification of stakeholders including their information need as well as the content analysis of the universities' annual reports has been applied. The quality of disclosed information on intangible resources in public universities in the Czech Republic is in the middle level. In the highest quality is disclosed relational capital, followed by structural and human capital. Information need of students is highest for information falling under the relational capital followed by structural capital and human capital. This study opens new approach regarding intellectual capital disclosure including suggested recommendations for Czech public universities, as there was no research related to the issue conducted in the past.

Keywords: intellectual capital, human capital, structural capital, relational capital, stakeholders, public universities, students, annual reports, Czech Republic

INTRODUCTION

According to several authors, including European institutions, national economies around the world have moved towards a knowledge-based, fast-changing and technology-intensive economy in which human resources, information technology, research and development, including the promotion became the basis for building lasting competitive advantage and ensure the future viability of the organizations. In such economy is the wealth creation associated with the ability of organizations to develop and manage intangible resources.

The current view on building competitive advantage is thus increasingly associated with source-based approach to enterprise resources and capabilities, which are considered the key factors for the sustainability lasting competitive advantage. According to the traditional classification of corporate resources, these resources are divided into physical, financial, intangible and human. The last two categories, human and intangible resources, are considered strategic resources for development of the organizations in the knowledge society. These resources can be called as intellectual capital (IC) (Barney, 1991; Grant, 1991; Ricceri, 2008). IC is defined by the European Commission (2006) as a combination of intangible resources and activities that enable the organization to transform material, financial and human resources in a system capable of value creation. IC is forming a human, structural and relational capital. Human capital (HC) is defined as the knowledge that human resources (teachers, researchers, PhD students, administrative staff etc.) carry home from organization at the end of the day. Structural capital (SC) represents the knowledge that on the contrary, at the end of the working day in the organization remains and includes principles of university governance, organizational

routines, procedures, systems, culture, databases, publications, intellectual property, etc. Relational capital (RC) is defined as all resources associated with the external relations of the organization, such as customers and other organizations, suppliers, research partners, government, etc. (Sanchez, Elena; 2006).

As stated by Mouristen *et al.* (2005), IC management can help shift and change the orientation of the strategic focus of NGOs towards intangible resources and increase its capacity to adapt to changes in the external environment. Secundo *et al.* (2010) suppose that the universities that will be able to develop a supportive organizational culture and capacity for identifying, managing and reporting IC will likely realize a competitive advantage. Utilization of the IC concept can help universities to deal with the new managerial challenges.

According Secundo *et al.* (2010) measuring inputs and outputs of universities is not a new idea, but the implementation of IC management can be seen as a step forward towards a comprehensive and systematic visibility of inputs, processes and outputs of universities. However, so far there is no internationally accepted and recognized framework for identifying, measuring and reporting of IC, and it is therefore appropriate to devote efforts to the development and creation of new techniques, measurement and management in order to increase the efficiency and effectiveness of internal management processes (Warden, 2004). The need for further research in the field of IC management, measurement and reporting in higher education in terms of creating new models, tools, approaches and systems is confirmed by many authors dealing with this concept (Sanchez, Elena, 2006; Sanchez, Elena, Castrillo, 2009; Fazlagic, 2006; Ramirez *et al.*, 2007; Secundo *et al.*, 2010; Bezhani, 2010). The authors agree that despite the fact that major inputs and outputs of universities are intangible, existing tools in the current period to their management and measurement are limited. They also state that the evaluation of universities should be based on more consistent, objective and common shared measures and should strengthen links between universities and companies from the commercial sector, by establishing a common language, which is not yet stabilized (Secundo *et al.* 2010).

The paper is based on the current knowledge of IC research in higher education, responds to the views and opinions of expert authors who agree with the requirement for further research in this field.

The aim of the paper is to determine the extent and quality of IC disclosure at Czech public universities in relation to the information need of identified stakeholders – students.

MATERIALS AND METHODS

According to the nature of the research aims the research in the field of public higher education in the Czech Republic was conducted. According to research aims were basic (theoretical, exploratory) research and exploration conducted. According to the scope of the research sample was one phase of the research carried out on the entire population of Czech public universities (content analysis), at other stages of the research quasi representative research (interviews) and unrepresentative (questionnaire survey) were conducted. Depending on the degree of complexity was conducted rather complex research than partial research. According to the time dimension, one-time research has been realized. The research approach was inspired by the research process recommended by Tharenou *et al.* (2007), Creswell (2009 and Malátek and Polonský (1998).

The initial step of this research was to develop research questions, as well as finding a theory or default framework. This study is based on the research conducted by An *et al.* (2011), on their theoretical framework for voluntary IC disclosure discussing the agent theory, stakeholder theory, signaling theory and legitimacy theory. Followed by analysis of papers in the field of IC reporting in higher education. According to the recommendations of Tharenou *et al.* (2012), the analysis was focused mainly on what has not been done, what is not known, where a deeper understanding is needed. Empirical studies mainly from the Journal of Intellectual Capital were examined and future research possibilities were identified. Before literature review the research theme and default definitions were identified. Theme: Intellectual capital disclosure in the field of public higher education in the Czech Republic. Default definition: IC is a combination of intangible resources and activities that enable the organization to transform the quantity of material, financial and human resources in a system capable of creating value (European Commission, 2006). HC in higher education is the knowledge that the human resources carry home when they leave their jobs. SC of university is created by knowledge that in the institution remain even after the end of the working day. RC of the university represents all the resources associated with the external relations of the university (Sanchez Castrillo, Elena; 2006). IC reporting is the process of IC identifying including its components, also its measurement and creating a comprehensive presentation of the utilization of knowledge resources of the organization towards its stakeholders to meet their information needs (European Commission, 2006). Based on previous steps the research questions were set. Research question 1: How important is the information on intellectual capital in terms of satisfying the information need of students at public universities in the Czech Republic? Research Question 2: What is the quality and extent IC disclosure in the field of public higher education in the Czech Republic? In the next phase, the research design was chosen, which led to answering the research questions (Tharenou *et al.*, 2007; Creswell, 2009). According

to the Creswell (2007) the mixed methods research design was chosen. Research methods recommended for mixed methods research design is both quantitative and qualitative data analysis that have been implemented. Applied methods were: literature review, experts' discussion, electronic questionnaire, interviews and content analysis.

Research was composed of five phases that were logically linked.

Creation of IC index (1st phase)

Coy (1995, p. 121) defines the disclosure index as "qualitative tool created for the purpose of measuring a variety of items, the aggregation of scores of sub items gives substitute score indicating disclosure in the specific context for which the index was created." In this case, the context is the IC at universities. Disclosure index is a commonly used tool for measuring the level of IC disclosure. This fact supports the existence of many studies, where the IC disclosure index has been used. Schneider and Samkin (2007) mention these studies in their paper on the page 11. The process of IC disclosure index creation is listed below. First, component and variables of IC index were set (a), further importance of variables were determined (b), followed by the formulation of IC disclosure quality criteria (c).

Ad a) Selecting components and variables of IC disclosure index

First, it was necessary to choose IC components and its variables. IC components were identified by analysis of 12 selected research papers; on its basis the first version of IC disclosure index was created. The first draft of IC disclosure index was electronically sent to a panel of experts to its critique. For selection of potential experts the following criteria were used: resident of the Czech Republic, publications or focus on intellectual capital or knowledge management, and an interest in participating in the research. To critically evaluate the first draft of the IC disclosure index, a total of 9 experts were electronically addressed: 2 representatives from management of Czech universities and 7 experts from the field of knowledge management. 6 experts expressed interest in research and the technique of discussion started. Based on the comments of experts, the original version of IC disclosure index was completely changed, given the requirement of complexity, completeness, and also consideration specificity of higher education field. IC categories remained broken into HC, SC and RC components. The approach of Leitner (2002) was considered as very important. His process-oriented model of IC transformation into outputs contains both IC categories and the key processes. Another, and very substantial document, was the Framework for university annual reports (RO 2011). This framework includes mandatory indicators required by the Ministry of Education, Youth and Sports (Ministry), which have been categorized into IC and key processes dimensions. So, new form of unweight IC disclosure index containing 101 variables was created.

Ad b) Importance of variables of IC disclosure index

The purpose was to get the IC disclosure index involving variables indicating their importance for disclosure; it means to gain a weighted IC disclosure index. The reason for creating the weighted IC disclosure index was the fact that the variables are not equal in their importance and by determining weights the subjectivity also drops. The requirement of weighted index is recommend by professional authors mentioned by An *et al.* (2011).

In order to determine the importance of variables, the individual responsible for creating annual reports at Czech public universities were addressed. There were intentionally selected 26 potential respondents from all public universities in the country. The selection criterion was the responsibility of the person behind annual reports. The questionnaire was actually the designed IC disclosure index itself, thus contained 101 variables categorized into IC and key processes. Respondents expressed the importance of each variable using a five-point rating scale (1 insignificant variable, 5 extremely significant variable). After this phase weighted IC disclosure index reflecting the terms of public higher education in the Czech Republic was created.

Ad c) Quality criteria of IC disclosure

The last step to create a final version of the IC disclosure index was the formulation of disclosure quality criteria. According to Botosani (1997) the formulation of the quality of reporting is very important, but difficult to measure. Hooks (2000) states that if the quality is assessed, it is very difficult to distinguish between the level of reporting and those "what is good, what is bad." Singvi and Desai (1971) describe the quality of reporting as complete, accurate and reliable information, while Adhikari and Tondkar (1992) stress intensity. Reporting quality according to Wallace *et al.* (1994) is in its comprehensiveness and according to Wallace and Naser (1995) the information is comprehensive, if the user gives the feeling that something was not forgotten. The comprehensiveness, detailed information is then considered as a measurable characteristic of reporting quality. There are several studies of IC reporting, which use the quality disclosure criteria (Brennan, 2001, Williams, 2001, Bontis, 2003, Goh and Lim 2004).

In order to choose the appropriate criteria of IC quality disclosure, the empirical studies used quality criterions during content analysis has been collected: Abeysekera and Guthrie (2005), Bozzolan *et al.* (2003) Wong and Gardner (2005), Guthrie *et al.* (1999), Shareef and Davey (2005), Schneider and Samkin (2008) and based on the review these quality criteria were set:

I: *Quality criteria of variables disclosure*

Value	Operational definitions
(0) zero level of quality disclosure	Variable is not disclosed; it is not listed in the university annual report.
(1) negative level of quality disclosure	It is stated in the university annual report, it means that a given public university the variable does not publish, because it is not realized, or may not be realized due to the focus of a given public university. This represents a higher quality than the previous reporting level (0), since specific information such disclosure, even though negative, brings.
(2) middle level of quality disclosure	The variable is listed, but briefly, special attention is not paid. Disclosure of variables gives the impression of just fulfilling a requirement of the obligation of public university to bring it under Ministry of Education, Youth and Sports (e.g. variable is listed in the required table but without comment, that would be related to).
(3) high level of quality disclosure	The variable is listed in the narrative or numeric form; the variable is given more attention than the previous level (2). The variable is described by means of thorough comments (e.g. stating comparisons from previous years, trends, future plans etc.). Disclosure of the variable is comprehensive.

Source: Author

The decision on the final form of the criteria preceded also piloting. There were randomly selected 3 university annual reports, which were coded by 4 independent coders. During coding was held a discussion over the formulation of quality criteria. Subject to a decision on the final form of the criteria was to achieve a maximum of 15 % of disagreement when coding annual reports, therefore reliability was verified.

Identification of stakeholders (2nd phase)

In order to identify stakeholders at public universities in the Czech Republic, the papers dealing with the stakeholder theory in higher education were reviewed. After gathering the papers the list of potential stakeholders was created. The semi-structured interviews with 8 respondents from management of public universities were held. Respondents were briefly introduced to the stakeholder theory. Within the interview, respondents identified a relatively large number of variously named stakeholders, while the top 3 most frequently mentioned were students, potential candidates and staff.

Identifying information need of stakeholders (3rd phase)

Příbramská (2010) deals with information behaviour in the environment of universities and defines the basic concepts. Information need is defined as a condition in which the individual realizes that his/her own knowledge is inadequate to meet the goals that is want. According to Příbramská (2010) the difference is in current knowledge about issues or problems and a knowledge which user must have to solve the problem. Příbramská (2010) sets the reasons of information needs and states that they may be different: the search for answers, reducing uncertainty and the search for meaning. The survey was carried out to determine the importance of variables of proposed IC disclosure index in terms of satisfying the information need of stakeholders in the higher education. Implementation of this quantitative survey was considered as empirical probing. According to the stakeholder theory, organizations should fulfill the commitment of accountability to stakeholders, to meet their information need and reduce information asymmetry. The research is based on the assumption that the public universities through annual reports publish information that could satisfy this information need. The questionnaire contained 101 variables completely corresponding to proposed IC disclosure index. Respondents using a five-point scale (1 is insignificant, 5 extremely important) evaluated the significance of the variables in terms of satisfying their information need. They were asked how the information about given variable is important to satisfy their information need. Identified stakeholders created the sample of respondents. A total number of 595 complete responses were gained. The questionnaire was disseminated by viral way. It was a quasi-representative selection, deliberate choice, which is not expected to achieve a representative sample in a statistical sense. In the context of such a selection there can be three types of selection and the realized selection was a survey type, where tracking objects in the selection enrol them on the basis of the interest in exploring issues (Malátek, Polonský, 1998). This study interprets only the results of students as stakeholders.

Determining the extent and quality of IC disclosure (4th phase)

In the fourth phase a content analysis of all 26 annual reports of Czech public universities was conducted. Annual reports were coded according to the coding scheme. Coding tool has been proposed IC disclosure index. The aim of content analysis was to determine the extent and quality of IC disclosure. The actual coding process preceded a study of

approaches to content analysis and coding of annual reports. Applied content analysis was based mainly on the methodology of authors An *et al.* (2012) and Abhayawansa (2011), who states that their research methodology relies and is heavily influenced by the methodology developed by Beattie *et al.* (2004) and Beattie and Thomson (2007), drawing on the work of Weber (1990) and Krippnedorf (2004).

The research unit was 26 annual reports of public universities in the country. Recording unit featured whole annual report. The coding process was proceeded in the opposite way, so in the entire text of annual report there were intentionally sought formulated variables that were a part of the proposed IC disclosure index. 101 variables have been searched purposely and their quality was then assessed by formulated quality criteria mentioned above. In the annual report the selected variables no. 1–101 were searched, if not found, the variable were assigned 0, if so, it was followed by its inclusion in the appropriate IC category and then the quality of reporting was assessed (1, 2, 3). Coding scheme and coding tools were part of the coding sheet. Coding sheet included the title of public university, coding date, coder name and instructions for coding. Then the coding process was held – data collection, analysis and interpretation. The output of the content analysis was the extent and quality of reporting of each IC variable. The quality of reporting was interpreted using the weighted quality score. This is a normalized score reaching values in the interval 0–1.

RESULTS

Designed index includes 101 mandatory and optional variables. IC disclosure index is composed of two main parts: intellectual capital and key processes. Given the paper aim only the part of proposed index related to IC is interpreted without inclusion of key processes. Tab. II shows the results of content analysis and interviews with students. IC is divided into three components, HC, SC and RC. IC contains a total of 57 variables, which are categorized into HC (1st to 15th variable, 15 variables), SC (16th to 33rd v., 18 v.), and RC (34th to 57th v., 24 v.). The variables also make certain subcategories/ dimensions. Within HC 8 subcategories, SC 2 categories, and RC 10 subcategories. Frequency represents the number of variables disclosed in annual reports ranked by quality disclosure criteria.

Tab. II summarizes the results for IC disclosure practices by Czech public universities. It includes the quality score of disclosure for each variable and also each IC components also student's interest as their importance for reporting of variables.

II: *Extent and quality of IC disclosure and information need of students: for each variable*

INTELLECTUAL CAPITAL (IC):							
Dimension /subcategory	**Variable**	**Frequency (N=26)**				**Quality score (0–1)**	**Students interest (1–5)**
		0	**1**	**2**	**3**		
1 IC: HUMAN CAPITAL (HC)							
1.1 Number of employees	1. Number of academics and researchers	0	0	14	12	0.82	2.41
	2. Number of foreign academics	1	0	19	6	0.72	2.39
1.2 Workloads	3. Range of workloads	0	0	17	9	0.78	2.30
	4. Duration time	26	0	0	0	0.00	2.43
1.3 Staff qualifications	5. Highest achievement of qualifications of employees	0	0	19	7	0.76	3.56
	6. Number of associate professors and professors	1	0	12	13	0.81	2.98
	7. Titles	26	0	0	0	**0.00**	3.09
1.4 Gender and age structure	8. Age structure of employees	0	0	16	10	0.79	2.50
1.5 Workforce development	9. Educational courses for employees	0	2	10	14	0.82	3.09
	10. Career rules	5	10	10	1	0.42	2.91
	11. Motivation tools	5	2	9	10	0.64	3.21
	12. Training expenses	25	0	1	0	0.03	2.87
1.6 Employee competence	13. Employees competence	15	0	6	5	0.35	**3.89**
1.7 Employee satisfaction	14. Employee satisfaction	23	0	3	0	0.08	3.54
1.8 Employee turnover	15. Employee turnover	25	0	1	0	0.03	3.27
Maximum HC						**0.82**	**3.89**
Minimum HC						**0.00**	**2.30**

INTELLECTUAL CAPITAL (IC):							
Dimension /subcategory	**Variable**	**Frequency (N=26)**				**Quality score (0–1)**	**Students interest (1–5)**
		0	**1**	**2**	**3**		
2 IC: STRUCTURAL CAPITAL (SC)							
2.1 Management and university quality	16. Internal review of the quality of education	2	0	2	22	0.90	3.63
	17. External review of the quality of education	4	2	5	15	0.73	3.66
	18. Financial control	1	0	1	24	**0.95**	3.10
	19. Quality certificates	11	9	0	6	0.35	3.42
	20. Benchmarking	7	4	6	9	0.55	3.93
	21. Education quality review outside of the university	6	8	8	4	0.46	3.20
	22. Reducing academic failure	3	1	6	16	0.78	3.62
	23. Entrance exams character	3	0	7	16	0.79	3.57
	24. Management structure of university	25	0	1	0	**0.03**	2.37
	25. Modern management methods	15	0	8	3	0.32	3.57
	26. Decision-making processes	20	0	5	1	0.17	2.93
	27. Research quality	18	0	6	2	0.23	3.35
2.2 Infrastructure and technological support	28. Library funds	0	0	6	20	0.92	3.44
	29. ICT level	0	0	4	22	**0.95**	3.99
	30. Number of computers	14	0	1	11	0.45	3.22
	31. ICT expenses	18	0	6	2	0.23	2.87
	32. Library investments	11	0	6	9	0.50	3.36
	33. Acquiring technology	8	0	16	2	0.49	3.10
Maximum SC						**0.95**	**3.99**
Minimum SC						**0.03**	**2.37**
3 IC: RELATIONAL CAPITAL (RC)							
3.1 Cooperation with industry	34. Involvement of the industry into curricula	2	1	6	17	0.82	3.20
	35. Cooperation with industry on innovations	1	2	10	13	0.78	3.10
	36. Contracts with industry RandD	6	0	13	7	0.60	2.78
	37. Industry experts in education	1	2	14	9	0.73	3.33
	38. Courses with compulsory professional practice	2	2	17	5	0.65	3.50
	39. Cooperation with employers	1	0	7	18	0.87	4.12
	40. Cooperation with high schools	2	0	6	18	0.85	3.30
3.2 Internationalization	41. Strategies for development at international level	1	0	3	22	0.92	3.61
	42. Involvement in international education	0	0	4	22	**0.95**	3.85
	43. Involvement in international research	0	5	6	15	0.79	3.73
	44. Students' and employees' mobility	0	0	9	17	0.88	3.39
3.3 National and international excellence	45. Membership in international organizations	0	0	20	6	0.74	3.50
	46. Membership in professional organizations	0	0	18	8	0.77	3.43
	47. Awards	4	4	6	12	0.67	3.77
	48. International ratings	10	7	2	7	0.41	3.80
3.4 Cooperation in education	49. Cooperation in education with another university	3	7	8	8	0.60	3.58
	50. Cooperation with higher vocational school	6	11	4	5	0.44	3.17
3.5 Relations in research	51. Revenues from contract orders	3	4	11	8	0.64	3.08
3.6 Spin-off	52. Spin-off/start-up business support	6	13	6	1	0.36	3.20
3.7 Relations with region	53. Action and cooperation in the region	1	0	7	18	0.87	3.30

INTELLECTUAL CAPITAL (IC):							
Dimension /subcategory	**Variable**	**Frequency (N=26)**				**Quality score (0–1)**	**Students interest (1–5)**
		0	**1**	**2**	**3**		
3.8 Media relations	54. Media	17	0	6	3	**0.27**	2.94
3.9 Image	55. Interest in education	0	0	6	20	0.92	3.86
	56. Number of students follow-up to a previous study	1	2	11	12	0.77	3.66
3.10 Participation in policy making	57. Policy making activities	0	0	23	3	0.71	3.02
Maximum RC						**0.95**	**4.12**
Minimum RC						**0.27**	**2.78**

Source: Author

III: *Extent and quality of IC disclosure and information need of students: total*

	Nr. of Variables	**Frequency / Quality criteria**				**Quality score (0-1)**	**Students' information need (1-5)**
		0	**1**	**2**	**3**		
Total HC	1–15	152	14	137	87	0.47	2.96
Total SC	16–33	166	24	94	184	0.54	3.35
Total RC	34–57	67	60	223	274	0.71	3.43
Total IC	1–57	385	98	454	545	**0.57**	**3.25**
MAX IC						**0.95**	
MIN IC						**0.00**	

Source: Author

Extent and Quality of IC disclosure in the Field of Public Higher Education in the Czech Republic

IC is reported in the quality of 0.57, it can be stated that the quality of reported information on intangible resources of public universities in the Czech Republic reached the middle level. RC is reported in the highest quality (quality score of 0.71), followed by SC (0.54) and HC (0.47). The highest score of quality disclosure reached 3 variables with the value of 0.95, it is the information of the financial controls (variable no. 18), about the level of information and communication services and availability of information infrastructure (no. 29), which fall within the SC, other variables with this high disclosure score is variable regarding the involvement of universities in international educational programs incl. mobility (no. 42) which is part of RC.

The lowest quality score of reporting reached 0.00, which points to the fact that the variable was not by any individual public university mentioned. These were two newly included variables no. 4 and no. 7 – information on the average time duration of employment and acquired titles of employees. Generally, the lowest levels of reporting achieved newly included variables that are not according to the Ministry required. Reporting of these variables would be purely a matter of voluntary efforts of a university management to exceed the scope of obligatory indicators set by Ministry about something new and different.

Quality disclosure score 0.8 and higher indicates a high level of reporting quality, which means that information about the variable is presented with narratives or both with monetary values. This form of disclosure meets the criterion of comprehensiveness and information need of a user is fully satisfied. 24 variables from a total of 57 variables (42.1 %) reaches a score 0.8 and higher. 50 % of variables fall into RC, 25 % into SC and 25 % into HC.

Quality disclosure score in the range of 0–0.4 points to variables that are not listed in university annual reports or the quality of their publication reaches a low level. These are 17 variables from a total of 57 variables (30 %). 41 % variables fall within HC, 35% into SC and 24 % in RC.

The quality disclosure score higher than 0.5 was calculated in more than half of variables. It was 65 % of variables (37 in absolute value).

Intellectual Capital Information Need of Students at Public Universities in the Czech Republic

From the category of HC it is the most important (3.89) to satisfy students' information need about the capabilities of employees of public universities,

their know-how, experience, creativity, flexibility and received awards (variable no. 13). Information on this variable has for students in terms of satisfying their information needs a great importance, but it is a newly promoted variable that is not by the Ministry required. Student of Czech public universities are at least (2.30) interested in information on the number of academic staff by range of workloads (v. no. 3).

Students are from SC component most interested (3.99) in information about the level of information and communication services and availability of information infrastructure at the university (v. 29). At least (2.37) satisfies their information needs the structure of the university management by gender and age (v. 24).

In the area of RC it is for students in terms of satisfying their information needs the most significant (4.12) information about how the university cooperates with future employers, whether the university organizes job markets, etc. (v. 39). Students are the lowest (2.78) interested in the number of contracts on the utilization of research, development and innovation with an application sphere (v. 36).

Due to the each components of IC, information need of students is highest for information falling under the component of RC (3.43), followed by SC (3.35) and HC (2.96). For all categories of IC average values represent the middle importance to satisfy the information needs of students at Czech public universities. IC is to satisfy the information needs of students also moderately significant (3.25). In absolute numbers 21 IC variables (37 %) fall within the range of great importance to satisfy the information needs of students. Most variables fall within RC (53 %), followed by SC (33 %) and HC (14 %). Variables that are to meet the informational needs of the students least significant (range 1–2.4) are in number of 5 variables (no. 3, 24, 2, 1, 4) therefore, less than 9 % of IC variables (RC is not represented, HC of 80 % and 20 % of SC).

The score of quality reporting of HC is 0.47, which corresponds to the average quality level. In the opinion of students it is moderately significant (2.96) to report information on HC. Quality disclosure score of SC is 0.54, which corresponds to the average level and in the opinion of students it is moderately significant (3.35) to publish information about SC. Quality disclosure score of RC is 0.71, which corresponds to a higher quality level of disclosure variables on RC, in the opinion of students is moderately significant (3.45) to report information about SC.

DISCUSSION

According to stakeholder theory public universities should discharge accountability to their stakeholders and reduce the information asymmetry. By identified information need of stakeholders as one of the results of this study, this can be achieved under the existing reporting practice by focus on the quality of disclosure of just such information, which stakeholders interest and meet their information need. Public universities then intentionally, with the knowledge of stakeholders' requirements, can fulfil this obligation of accountability and help to improve mutual relations.

None of the public universities in the Czech Republic creates a separate document entitled IC report. Universities do not use the term „intellectual capital". Annual reports predominantly monitor mandatory structure according to the Ministry framework. Due to the created IC disclosure index can be noted, that annual reports contain information about IC and intangible processes. Indicators that the Ministry requires, can be divided into individual components of IC, so we can talk about a potential of current university annual reports to create IC reports, however especially interconnectivity and interdependence of individual areas are missed. According to Leitner (2002) the IC report should contain the goals of higher education policy set by Ministry, including goals given by the university. In a clear response to goals (political and organizational) should be listed intangible resources, or IC, divided into HC, SC and RC components. Information on intangible resources should be reported at a high level. High level of IC reporting constitute placing a monetary value or other numerical expression for variables such values become, including placing thorough narrative interpreting the values, and preferably in time series indicating the trends. Again in relation to those intangible resources should follow the key processes that are by public universities realized, for example education, research, development and innovation, commercialization, knowledge transfer, service and social affairs etc. Emphasis should be focus on the interconnectedness, and therefore, it should be clear what the key processes the university realizes, what values these processes take and in what relation they are to IC. Results of key processes affect stakeholders, so this influence should also be interpreted stating the specific impact on each stakeholder. In such form the IC report shows not only the process of knowledge creation at public university, but also demonstrates the processes of value creation, competitiveness, sustainability and a potential of public universities.

Creating an IC report is by university management representatives perceived primarily as a formal matter and fulfilling obligations required by the Ministry. The quality of annual report of each public university in the Czech Republic is very different, both in terms of the level of quality of the information disclosed, and in terms of its appearance, attractiveness.

Czech public universities should reduce information asymmetry between them and their stakeholders; they should fulfil the commitment of accountability to their stakeholders and signal own quality, excellence and legitimacy towards

society as a whole. Reporting of current annual reports has the potential to fulfil above-mentioned prerequisites. However, due to the fact that existing annual reports is seen as a formal document, public universities can be recommended by creating another report, which is IC report, as a tool for differentiation from other public universities.

Given the current trends, which public universities are facing, can be recommend the introduction of new reporting systems, in terms of reporting or PR departments, which could to identified stakeholders present in an appropriate form information on IC, and therefore information about the key resources of development of university, which indicates its future potential, quality and competitiveness. The key is the question of voluntary reporting, which is linked to time-consuming, along with increased costs. However, in the long run IC reports can be seen as a profitable investment.

CONCLUSION

The quality of disclosed information on intangible resources in public universities in the Czech Republic is in the middle level. In the highest quality are reported information of RC (0.71), followed by SC (0.54) and HC (0.47). Based on assessed quality of IC disclosure, Czech public universities can be recommended to focus on reporting information about SC and especially HC. 24 variables of IC from a total of 57 variables (42.1 %) are reported with high quality scores. Public universities should focus on those variables, which reached a low quality score of disclosure (17 variables of IC in total). This study identified a potential of current university annual reports to create IC reports and become the first university in the country to come with this tool and benefits from its several internal and external advantages.

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Contact information:

Ing. Kateřina Kuralová, Ph.D.: kuralova@pef.czu.cz
Ing. Klára Margarisová, Ph.D.: margarisova@pef.czu.cz