TRENDS OF THE DISCLOSURE OF INFORMATION ON INTELLECTUAL CAPITAL IN ANNUAL STATEMENTS IN LITHUANIAN ENTERPRISES

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crossRef http://dx.doi.org/10.5755/j01.em.18.3.4270

Abstract

Even though the disclosure of data on the intellectual capital of an enterprise is not currently mandatory in financial statements yet more and more enterprises both in Lithuania and abroad supply their annual statements with information on their intellectual capital. That is why the object of this research is the disclosure of information on intellectual capital in annual statements of Lithuanian enterprises while the aim is the discovery of the trends of disclosure of information on intellectual capital as well as a comparison of the obtained results with the data of previous research (Vaškelienė et al., 2008) based on conducting annual reports of Lithuanian joint stock enterprises of the years 2009 to 2012. This research employs the content analysis method and methods of generalization and synthesis of academic writings. The present research reveals that the decrease of information on intellectual capital for external information users disclosed by Lithuanian joint stock enterprises and changes in the disclosure structure were observed in the years 2009 to 2012. It was likely impacted by the decrease of the list of mandatory annual statements, i.e. since 2007 onwards, Lithuanian joint stock enterprises have not been obliged to present annual statements (prospectuses).

The type of the article: Research report.

Keywords: intellectual capital, intellectual capital disclosure, annual reports, Lithuania, content analysis.

JEL Classification: M41.

1. Introduction

Even though the disclosure of data on the intellectual capital of an enterprise is not currently mandatory in financial statements, yet more and more enterprises both in Lithuania and abroad supply their annual statements with information on their intellectual capital. In terms of the data disclosed in financial statements of businesses of various countries this fact was researched and revealed by a number of scientists (Brennan, 2001; Bozzolan et al., 2004; Guthrie et al., 2004; Abeysekera et al., 2005; April et al., 2005; Ensslin et al., 2005; Sujan et al., 2007; Steenkamp, 2007; Campbell et al., 2010; Abhayawansa, 2011; Bhasin, 2011; Mention, 2011; Taliyang et al., 2011; Cinquini et al., 2012; Husin, 2012; Papula et al., 2012; Rashid et al., 2012; Majdalany et al., 2013; et al.). Yet only Vaškelienė et al. (2008) carried out a study of the issue in Lithuania which featured a research on the data disclosed by 17 joint stock Lithuanian enterprises. The results of the data disclosed in the statements (prospectuses) of 2003 and 2006 showed that Lithuanian enterprises in their annual statements tended to reveal more and more information on intellectual capital; it mostly dealt with the human capital (in this case, intellectual capital consisting of human, organizational and relational capital) while the predominant form of the disclosure of information on intellectual capital was plain text.

This type of researches usually employs the method of content analysis which helps to establish the trends of alteration of the extent and structure of information as well as evaluate the changes in the type of information and the technique(s) of disclosure. Hence in order to achieve
continuity in research and comparability of the achieved results with the ones obtained in a research previously conducted in Lithuania (Vaškelienė et al., 2008), the present research employs (after some modifications) the methodology of the application of the method of content analysis as adapted in Vaškelienė et al., 2008. That is why the object of this research is the disclosure of information on intellectual capital in annual statements of Lithuanian enterprises while the aim is to discover the trends of disclosure of information on intellectual capital as well as to compare the obtained results with the data of previous research based on conducting annual reports of Lithuanian joint stock enterprises of the years 2009 to 2012.

The paper is structured as follows. Part One deals with the concept of the content analysis method and some aspects of its application. Part Two defines the research methodology applied in the present article. Part Three presents and analyses the results of the conducted research. Part Four concludes the paper.

2. The concept of content analysis method

According to Tidikis (2003), Abeysekera et al. (2005), Kardelis (2007), Abhayawansa (2011) and Taliyang et al. (2011), the point of the method of content analysis is to single out specific key units (e.g. words) in the data of the analyzed source, to group them into categories representing variables defined in specific objectives or target areas of the research, to calculate the extent and frequency of their application and to investigate the relationship of various textual and/or graphic elements within the defined group of the elements or in the context of the full sample of information. The focus of the method is by employing a codification system to reveal, systemize and generalize information which is encoded and stored in various ways and patterns (i.e. both quantitative and qualitative data) on facts, events, phenomena and objective reality as well as on the human reasoning, creative, administrative and practical activity. According to Steenkamp (2007) and Abhayawansa (2011), content analysis may be: 1) qualitative when a researcher formulates conclusions on the basis of interpretations of the explored textual and visual information and 2) quantitative when each factual mentioning of the researched information is considered disregarding its type by calculating and quantitatively assessing its frequency or extent. According to Vaškelienė et al. (2008), the latter type has become extremely popular.

On the grounds of works by Ensslin et al. (2005), Vaškelienė et al. (2008), Bhasin (2011), Nurunnabi et al. (2011), Joshi et al. (2012) and Wagiciengo et al. (2012), the content analysis method is being extensively used in researches of foreign authors when dealing with the information on intellectual capital as presented by enterprises. It is estimated that this method has been used in about 60% of the conducted researches; some of these researches combined the application of this and other methods, namely, regression analysis (10%) and interview/questionnaire (10%).

A generalization of works by Ismail (2008), Vaškelienė et al. (2008), Bhasin (2011), Branco et al. (2011), Cordazzo et al. (2012), Papula et al. (2012) and Rashid et al. (2012) by applying the content analysis method in researches on the disclosure of information on the intellectual capital of enterprises shows that annual statements of enterprises are usually considered the main source of information as well as the key channel of communication with external users of information. Other researchers opted to analyze annual business statements of enterprises, their prospectuses, independent statements on intellectual capital, reports on the staff as well as other documents and/or data released by enterprises such as press releases, presentations of analysts, advertisement messages or even enterprise websites since, according to Tidikis (2003), the method of content analysis may research various types of data: written as well as visual or oral information. Yet the preference is being given to annual statements (Cameron et al., 1993: op. cit.: Ismail, 2008; Vaškelienė et al., 2008; Bhasin, 2011; Nurunnabi et al., 2011; and Singh et al., 2011), which is motivated by previous empirical research showing that it is annual statements that represent the universally accessible means of communication with external consumers of information providing them with a possibility of expanding their communication with the abovementioned users of
information by presenting information of both financial and non-financial fields. When analyzing annual statements which periodically, extensively, systematically and concisely present relevant and reliable audited information, longitudinal comparisons may be conducted regarding the location and alteration trends of intellectual capital among separate enterprises, industry branches or countries.

According to Vaškelienė et al. (2008), a uniform technique of the application of this method in researches on the disclosure of information on intellectual capital has not been established yet. However, by generalizing opinions expressed in Tidikis (2003), Guthrie et al. (2003, op. cit.: Vaškelienė et al., 2008), Kardeliis (2007), Steenkamp (2007), Campbell et al. (2010), Abbayawansa (2011), Bhasin (2011), Mention (2011), Taliyang et al. (2011), Cinquini et al. (2012), Husin (2012), Papula et al. (2012) and Rashid et al. (2012), 6 key steps in the application of this method may be identified: 1) a representative sample of the data chosen for the analysis is selected; it is denoted by authenticity, sensibility and reliability; 2) a system of categories of intellectual capital is designed where all the employed concepts and categories are defined (three levels may be used: components, elements and indicators); 3) units of analysis are established; 4) rules of coding are defined including the scale/ system of codification; 5) scanning/ overview of the quantitative characteristics and analysis of the calculation units are performed by applying the designed system of intellectual elements, and 6) a system of calculation of quantitative characteristics is designed covering the presence/ absence of a researched category or concept as well as the indication of the frequency of repetition; relationship between the characteristics of the revealed information and other factors is analyzed in order to establish whether the size of an enterprise, the branch of industry and other factors explain the differentiation of practices of the disclosure of information on the intellectual capital. However, a variety of choices is available in each step; as a result, according to Vaškelienė et al. (2008), different authors employ differing systems of categories of intellectual capital, their structures are treated and elements defined differently, different units of analysis are preferred, different rules of data coding are employed, etc.

3. Methodology employed in the present research

The present article strives to maintain research continuity and to compare the obtained results with the data of a previously conducted research in Lithuania; as a result, the applied methodology was adapted on the grounds of the description in the research conducted by Vaškelienė et al. (2008) applying quantitative content analysis. It should be mentioned that the methodology applied in this article was in some aspects modified; however, the results are still comparable.

Data sample. 8 enterprises listed in the Baltic Stock Exchange in the industry branch “food and beverages” were selected, 4 of which are involved in manufacturing and trade of dairy products (AB “Pieno žvaigždės”, AB “Rokiškio sūris”, AB “Vilkyškių pieninė” ir AB “Žemaitijos pienas”) while 4 are involved in alcohol manufacturing and trade (AB “Anykščių vynas”, AB “Gubernija”, Company group “ALITA”, AB ir AB “Vilniaus degtinė”). These two branches of industry are selected because they cover the highest amount of listed Lithuanian enterprises, i.e. four each; as a result, their selection gives an opportunity to produce comparisons of enterprises within a group or between industry branches. By comparison, in a previous research, Vaškelienė et al. (2008) explored annual statements (prospectuses) of 17 different enterprises (at the moment, five of them are not available) of the years 2003 and 2006. However, the presentation of annual statements (prospectuses) has not been mandatory for the listed enterprises since 2007. Consequently, the present research chooses to deal with another periodically presented statement by listed enterprises, their annual reports, considering that 1) it is the only report where enterprises may voluntarily disclose information of both financial and non-financial type together with historical data or future prospects; besides, 2) it is more reliable than other sources of information being verified by an independent auditor. Annual reports of the years 2009 to 2012 were selected for the research; this allows an evaluation of changes taking place in the field of disclosure of intellectual capital in Lithuania.
**System of intellectual capital categories.** A generalization of works by Ensslin *et al.* (2005), Beattie *et al.* (2007), Ismail (2008), Vaškelienė *et al.* (2008), Nurunnabi *et al.* (2011) and Papula *et al.* (2012) shows that most authors conducting researches on the disclosure of information of intellectual capital by employing the method of content analysis in the process of creation of systems of intellectual capital categories adhered to the attitude that it consists of the entirety of specific categories at a superior level (i.e. components) constituting categories of a lower level (i.e. elements). Usually, 3 components are singled out, i.e. human, organizational and relational. However, the number of elements of intellectual capital being singled out varied from 18 to 86. In relation with the aim of the present research, the category system is selected to be divided into three components, namely, human, organizational and relational while the definition of them and the listing of their elements is based on the research description as presented in Vaškelienė *et al.* (2008).

**Units of analysis.** In the researches of intellectual capital, *sentence* usually features as a unit of analysis (Bozzolan *et al*., 2003; Abeysekera *et al*., 2005; Vaškelienė *et al*., 2008) on the basis of the experience of former researches, the listed advantages and drawbacks of available units of analysis; sentences are considered to represent easily identifiable, most reliable and most universal calculation units; their choice allows the avoidance of undesired unreliability which is manifested if words, paragraphs, chapters or pages are chosen as single words usually carry little sense and do not permit the understanding of the context while paragraphs or text parts may cover several different meanings that are of interest to the researcher; hence, their codification would become excessively complicated. However, according to Steenkamp (2007), Vaškelienė *et al.* (2008) and Abhayawansa (2011), not only textual but also visual information (i.e. pictures, photos, charts, diagrams, etc.) need to be investigated as according to the data of a research conducted in enterprises of New Zealand, only 62% of the disclosed information was presented in the form of a text while 38% was expressed graphically. This proves that the elimination of visual means of information may strongly distort the results of the research as visual information as well as text contains important and significant information. Hence, the present research chooses a sentence and a graphical tool (a table, a chart, a picture, a photo, etc.) as a unit of analysis.

**Coding rules.** According to Abeysekera *et al.* (2005), Kardelis (2007), Ismail (2008), Vaškelienė *et al.* (2008), Bhasin (2011), Vafaei *et al.* (2011), Cordazzo *et al.* (2012) and Rashid *et al.* (2012), when conducting extensive examination, each unit of analysis is considered in order to provide evaluation whether it covers information making sense in the research concerning a specific component, element or indicator of intellectual capital as defined in the intellectual capital category system. However, in order to achieve high quality and success regarding the objectives of the research, it is necessary to define coding rules and to design a corresponding system/ scale of the codification of units of analysis which in the current research was based on the grounds of methodology description presented in Vaškelienė *et al.* (2008), i.e. the explored units of analysis are evaluated by the presence or absence of information related with intellectual capital with the codification scale ranging from 0 to 1 where “1” is given to the units of analysis containing information on intellectual capital while “0” is given to these units that do not contain such information. This way, it is possible to calculate the extent and structure of the disclosure of information on intellectual capital, and longitudinal comparisons are possible regarding a single enterprise, a group of enterprises, branches of industry or countries. Afterwards, units of analysis of intellectual capital may be evaluated in terms of its attribution to a specific component.

The selected and above described research methodology was applied manually when perusing and analyzing annual reports of the selected enterprises. The obtained results were processed in order to test the hypotheses which were raised according the results of previous research (Vaškelienė *et al*., 2008): H1 – Lithuanian enterprises increase annual disclosure of information on their intellectual capital; H2 - Almost a half of disclosed information on intellectual capital is about human capital; H3 - Most of the disclosed information on intellectual capital is presented as text;
H4 - The extent, structure and technique of the disclosed information on intellectual capital are not dependent on the industry branches. The research results are presented in the following part.

4. Results

Having researched annual reports of 8 Lithuanian enterprises listed in the Baltic Stock Exchange, it is evident that the general level of extent of the disclosed information on intellectual capital was decreasing. Figure 1 reflects the results of the present and the previous (Vaškelienė et al., 2008) researches. Considering the difference of the number of the enterprises explored in the researches, Figure 1 presents average values of units of information of intellectual capital disclosed by an enterprise.

![Figure 1. Disclosure of information on intellectual capital (average units per enterprise)](image)

When analyzing the obtained results, it is possible to observe that the general level of information on intellectual capital was similar in 2003, 2009 and 2012, also in 2006 and 2010 while the extent of this information significantly decreased in 2011. In comparison with the previous period, the decrease reached 29% and if comparing with the top period, i.e. the level of the year 2006, it decreased by 35%. It was likely impacted by the decrease of the list of mandatory annual statements, i.e. from 2007 onwards, Lithuanian joint stock enterprises have not been obliged to present annual statements (prospectuses).

Hence when testing the first hypothesis of the research concerning the variation of the extent of information on intellectual capital in time on the grounds of the results of the present research, a claim may be produced that the motivation of Lithuanian enterprises over the explored period varies yet the general trend is negative. Even though the results of the earlier research showed that Lithuanian enterprises were gaining better understanding of the role and importance of intellectual capital in business and were providing more qualitative information on their potential thus becoming more transparent, the results of the present research revealed the opposite trend. According to the research results H1 (Lithuanian enterprises increase annual disclosure of information on their intellectual capital) is rejected.

Figure 2 presents the results of this and the previous researches on the structure of the disclosed information on intellectual capital. An analysis of the obtained results shows that in 2003 and 2006, attention was mostly dedicated to the information on human capital while in 2009, 2010 and 2012 this part significantly subsided while it slightly increased in 2011. The totally contrary situation is seen when dealing with two other components of intellectual capital (organizational capital and relational capital): in 2003 and 2006, the types constituted roughly a half of all the information disclosed on intellectual capital while its amount in 2009 to 2012 significantly increased and even reached almost 90%.
Agne Ramanauskaite, Kristina Rudzioniene

TRENDS OF THE DISCLOSURE OF INFORMATION ON INTELLECTUAL CAPITAL IN ANNUAL STATEMENTS IN LITHUANIAN ENTERPRISES

Figure 2. Structure of disclosed information on intellectual capital

Hence when testing the second hypothesis of the research concerning what information on intellectual capital is revealed by Lithuanian enterprises in terms of content on the grounds of the conducted research it is evident that the amount of information on human capital disclosed by Lithuanian enterprises substantially decreased in comparison with the years 2003 and 2006; it constitutes merely about 15% instead of 45% (as previously) of the whole disclosed information on intellectual capital. Meanwhile, the remaining part (i.e. 90%) in almost equal parts is made of information on organizational and relational capital. According to the research results H2 (Almost a half of disclosed information on intellectual capital is about human capital) is rejected.

Figure 3 presents the results of this research on the techniques employed by Lithuanian enterprises when presenting information on intellectual capital. The results show that the major part of information is presented as text and only 2% is shown visually (i.e. by charts, figures, pictures, photos, etc.).

Figure 3. Applied techniques of disclosing information on intellectual capital

When testing the third hypothesis of the research concerning the techniques of disclosing intellectual capital used by Lithuanian enterprises on the grounds of the research results it is possible to claim that information of this type is rarely disclosed by Lithuanian enterprises with visual tools (roughly 2%) while the share of information presented in tables generally ranges from 5% to about one third (as stated in previous research). The results of both researches show that the major share of information on intellectual capital is presented as text. According to research results H3 (Most of the disclosed information on intellectual capital is presented as text) is accepted.

Figure 4 presents the results of this research on the differences between two industry branches (manufacturing and trade of dairy products and alcohol). It is clear that there are differences: the first group of enterprises shows the consistent growth of disclosed information on intellectual capital while the second one shows constant variation and negative trend (as presented, the extent of this information significantly decreased in 2011).
The structure of disclosed information on intellectual capital in both industry branches is different as well. The first group of enterprises discloses more data on organizational and relational capital (approximately about 90% in almost equal parts) while the second one presents more information on human capital (approximately about 20%), therefore less data on organizational capital (approximately about 35%) and relational capital (approximately about 45%). By analyzing the technique which is used for disclosure substantial differences were not found: about 91-96% of information is presented as text. Although, the first group of enterprises uses more tables (5% while the second one - 4%) and visual tools (4% while the second one - 0.5%). According to research results H4 (The extent, structure and technique of the disclosed information on intellectual capital are not dependent on the industry branches) is rejected.

5. Discussion

Having analyzed aspects of application of the method of content analysis it was established that this method is widely applied in researches of various authors when dealing with disclosure of information on intellectual capital by various enterprises. A uniform technique of the application of this method has not been established; yet, 6 fundamental steps of method application may be singled out: 1) selection of the data sample; 2) development of a system of intellectual capital categories; 3) establishment of units of analysis; 4) definition of coding rules and codification scale/system; 5) data scanning/overview and analysis of calculation units; 6) analysis of results. In each of the steps, various choices are available; they depend on the objectives set in each particular investigation.

Having explored aspects of specific steps of the method of content analysis, the following patterns were established: 1) when designing an intellectual capital category system, 3 components are usually singled out (human, organizational and relational), yet the number of derivative elements of intellectual capital varies from 18 to 86; 2) sentence is usually selected as a unit of analysis as it is easy to quantify, is a reliable and most finite unit of analysis; however, this type of research should also investigate visual information (i.e. figures, photos, pictures, diagrams, etc.); 3) in order to achieve the objectives that have been set, the success and the high quality of the
research requires a definition of transparent coding rules and the development of a corresponding system/ scale of the codification of variables which is aimed to help reveal the features of the analyzed data.

Content analysis of the annual reports of Lithuanian enterprises of the years 2009 to 2012 revealed that the general amount of information on intellectual capital was decreasing. It was likely impacted by the decrease of the list of mandatory annual statements, i.e. from 2007 onwards, Lithuanian joint stock enterprises have not been obliged to present annual statements (prospectuses). The extent of information on human capital disclosed by Lithuanian enterprises recently decreased significantly in comparison with the years 2003 and 2006 and in comparison with 45% currently constitutes about 15% of the whole information disclosed on intellectual capital. Meanwhile, the remaining part (90%) of the information is almost equally divided by information on organizational and relational capital. The majority of information on intellectual capital is presented as text. It was found that there are differences between information on intellectual capital disclosure in separate industry branches.

References


