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Disclosure of intellectual capital in financial reports: case of Latvia

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Abstract

Research background: Intellectual capital and its elements, such as reputation, customer relationships, staff competence, are an essential part of a company's value. However, the issues regarding its recording in company's accounting books have not been solved. Proper disclosure of an intellectual capital in financial reports will increase the transparency of company-related information, thus improving the quality of reporting.

Purpose of the article: The paper aims to investigate the opportunities of intellectual capital disclosure in company's financial reports from the viewpoint of accounting experts.

Methods: Financial and accounting managers, board members of accounting services, companies and auditors were surveyed, using the authors' developed questionnaire. The statements regarding the awareness of the intellectual capital and its disclosure-related questions, as well as a respondent profile section were offered to respondents for evaluation. Data was processed in SPSS, applying the method of frequency analysis and categorical Principal Component Analysis (CATPCA).

Findings & Value added: The research results indicate the problem of inconsistency between understanding of intellectual capital and its elements in management theory and accounting practice. The existing accounting standards and regulations do not allow for making a full disclosure of all companies' assets. Thus, a reliable information about company's value is not available for shareholders, executives and other stakeholders. The authors suggest using a non-financial reporting practice to reflect the real situation in all companies, irrespective to their status within the meaning of the European Directive on non-financial information disclosure. Current research results will be used for future research and elaboration of recommendations to companies for better disclosure of their assets. Besides, there is a potential for future studies regarding non-financial reporting practice and disclosure of intellectual capital in neighboring countries.

Introduction

Intellectual capital plays a significant role in company's competitiveness and sustainability. There are plenty of studies devoted to the issues regarding the intellectual capital management, intellectual capital investments and their impact on a company performance. However, there is still no consistency between the awareness and perception of intellectual capital in management and accounting. Financial reporting practice that is based on the existing accounting standards does not allow disclosing all the company's assets. As a result, stakeholders do not have full information about the company's value and its potential to create value. Nowadays, a number of non-financial reporting practices and guidelines are being elaborated on. The main goal of that reporting is to disclose information about intellectual capital and to balance the incompleteness of the traditional financial statements. The reporting is used for many purposes: to disclose all assets of a company and estimate its competitiveness and sustainability, to explain how value is created, to explain differences between book value and market value of a company etc. Disclosure of intellectual capital benefits to different stakeholders' groups such as owners, shareholders, employees, financial institutions, policy makers, customers and others.

The goal of the paper was to investigate the opportunities of intellectual capital disclosure in company's financial reports from the viewpoint of accounting experts. This research continues a series of previous studies in the field of intellectual capital management in Latvian companies (Lentjušenkova *et al.*, 2018, pp. 215–223.; Lentjušenkova *et al.*, 2016, pp. 94–101; Lentjušenkova & Lapina, 2014, pp. 93–100).

To achieve the research goal, experts — mainly accounting managers representing different Latvian companies — were surveyed, using the questionnaire developed by the authors.

Respondents were offered to evaluate the statements about the essence of the concept of intellectual capital, its elements, and its disclosure issues.

This paper reflects the results of the survey regarding only the IC disclosure in financial reports.

The survey period covered 3 months — from December 2018 till February 2019. All the technical data processing procedure were performed in SPSS 19.0 environment, applying such methods and techniques as frequency analysis, reliability analysis (testing the scale for internal consistency), and dimension reduction by means of a categorical Principal Component Analysis (CATPCA).

The paper is divided into six main parts, apart from the abstract and introduction. The first and the second parts of the paper are devoted to the literature review on intellectual capital concept, its structure and the issues regarding its accounting disclosure. The third part is explaining the research methodology and summarising the information about the research instrument (questionnaire), respondents and data processing methods. In the remaining part of the article the authors describe the research results, provide the interpretation and conclusive remarks within the sections *Discussion* and *Conclusions*.

Concept of intellectual capital

Despite the fact that the concept and nature of intellectual capital have been studied at large, there is a lack of a common understanding of its role in the company's sustainable development along with the changing environment and situation in the world economy and in each separate country. In the scientific literature, intellectual capital is interpreted in different ways: as a resource, as an intangible asset, or as knowledge. This concept has been frequently studied and is still being studied in the context of changes in the company's financial performance, or when trying to find out how intellectual capital affects the profit margins and the company's value. Some examples of IC definitions are summarized in Table 1.

Apart from a different approach to defining of the concept of intellectual capital, researchers suggest different types of its structure as a combination of different intellectual capital components. Traditionally, intellectual capital is divided into three groups/components: human capital, organizational capital and relational capital. Each component of intellectual capital consists of several elements, definitions of which differ widely as well. In previous studies, the authors proposed to structure intellectual capital into four components, which would allow for simplifying the process of the recording and analysing: 1) human capital, 2) business processes, 3) technologies and 4) intangible assets (Lentjušenkova & Lapina, 2016, pp. 610–631).

Each of these components consists of several elements, such as knowledge, intellectual property, computer networks, brand, qualification etc.

In previous studies conducted by the authors, it was found, that one of the factors which influenced intellectual capital development is lack of unique understanding of the concept of intellectual capital. There are different concepts used in scientific literature, legislation and accountancy standards (Lentjušenkova *et al.*, 2018, pp. 215–223.). This factor plays an important role in intellectual capital management and development at the enterprise level.

Intellectual capital disclosure

Despite the strategic role of intellectual capital in company competitiveness and sustainability, it is difficult to manage and account the intellectual capital.

Current accounting standards do not adequately address accounting for intellectual capital, and thus intellectual capital remains largely unaccounted for and unreported in the financial reports of a company (Ordones de Pablos & Edvinsson, 2018, p. 316).

The valuation of intellectual capital and its investments within accountancy framework raises several problems relating to their identification, measure and control (Zeghal & Maaloul, 2011, pp. 262–274.). According to IASB rules, the accounting treatment of internally generated intangible assets is less rigid, but it remains deficient. Under International Accounting Standard 38, to be recognized on the balance sheet, intellectual capital and its investments must meet the identification criterion, which has two aspects: the asset must be separable from entity and arise from contractual or legal right. Therefore, intellectual capital generally lies outside the traditional accounting framework (Beattie & Smith, 2013, pp. 243–254).

In the Latvian law that regulates accountancy, intangible investments are included in the annual financial statement as part of long-term investments (Law on the Annual Financial Statements and Consolidated Financial Statements, 2015). Intangible investments are intangible properties other than financial assets and complying with both the following classification criteria: 1) they can be separated or divided from an undertaking and sold, transferred, licensed, rented out or exchanged (individually or together with another liability or asset), or they have arisen from an agreement or other rights regardless of whether such rights are transferrable or separable from the undertaking, or from other rights and obligations, 2) an undertak-

ing intends to use them for more than one year and expects economic benefits to be received from holding such properties.

While using accountancy standards, the disclosure of the intellectual capital is limited, many kinds of non-financial reporting practices and guidelines are developed. For example, „Intellectual Capital Statement-Made in Europe (InCaS)” (Ordones de Pablos & Edvinsson, 2018, p. 316; Mertins *et al.*, 2006, pp. 21–25), „MEasuRing Intangibles To Understand and improve innovation Management (MERITUM)” (Canibano *et al.*, 2002), „Intellectual Asset-based Management (IAbM)” (Sumita, 2008, pp. 206–227), Danish guidelines (Mouritsen *et al.*, 2001a, pp. 399–422; Mouritsen *et al.*, 2001b, pp. 735–762) etc.

These guidelines are voluntary and enterprises do not use them without certain needs. However, since 2009 Danish Commerce and Companies Agency has required the country’s largest companies, state-owned enterprises and institutional investors to state in their annual reports whether they have corporate responsibility policies and how they implement them. Since 2007, the Swedish government has required all state-owned companies to produce sustainability reports in accordance with the GRI (Global Reporting Initiative) Guidelines. In April 2014 the European Parliament adopted a long-awaited Directive on the disclosure of non-financial and diversity information by certain large companies. It means that more than 6000 EU large companies will prepare reports and become more transparent for the society.

The main purpose of non-financial reporting practices and guidelines is to disclose information about company’s hidden assets and its role in value creation. The most of existing guidelines helps company’s stakeholders and financial capital providers understand how value is created.

Companies can derive economic and social benefits from a disclosure of their intellectual capital by preparing non-financial reports. Information about the intellectual capital, which is not included in financial report, could decline company’ assets underestimation risk (Branswijck & Everaert, 2012, pp. 39–56) and increase investors’ interests (Holland *et al.*, 2012, pp. 562–581; Abhayawansa & Guthrie, 2012, pp. 398–415). As a result, positive impact on company’s value and share price could be observed (Abeysekera, 2011, pp. 319–338; Haji & Ghazali, 2012, pp. 377–397; Mouritsen, 2003, pp. 18–13). The experience of adopting IabM Reporting in Japan shows that there are many advantages not only for companies, but for financial institutions, too. Financial institutions emphasize the importance of intellectual capital measures when making their loan decisions. Some of Japanese banks are supporting small and medium compa-

nies for preparing non-financial reports (Ordones de Pablos & Edvinsson, 2018, 316 p.).

Since 2009, integrated reporting was proposed and promoted by the International Integrated Reporting Council as a new reporting tool. The integrated reporting benefits ~~to~~ all stakeholders interested in company's value creation (IIRC, 2013, p. 35).

Comparing different reporting tools, practitioners and researchers, it was found that Integrated reporting is perceived as a set of reports and is too complicated for understanding. Japanese IAbM reporting is perceived as a whole report, which provides necessary information and a holistic view on the value creation process.

Research methodology

To achieve the research goal, the authors developed an original questionnaire consisting of two main sections: section 1 — respondent profile; section 2 — general questions regarding IC, its elements and disclosure issues. The structure of the questionnaire is presented in Table 2.

The statements offered to respondents for evaluation, as well as their labels used in data analysis, are presented in Tables 3, 4, 5 and 6. In the current paper, the authors focused only on analysing the responses provided within the questionnaire blocks C and D. Block C provides general statements regarding IC disclosure. Block D involves specific items that potentially can be reflected in financial reports.

Respondents were offered to use Likert-type 5-point scale for grading, where “1” indicates “absolutely disagree” and “5” — “absolutely agree”.

The sample consisted of 29 representatives of the Latvian business sectors, holding the positions of accounting managers, financial managers, board members of accounting services companies and auditors. The survey period covered 3 months — from December 2018 to February 2019.

Initial analysis was performed by calculating “frequencies” in SPSS environment. Procedure of ranking was made, based on the ratings “4”+“5” frequency.

The data set, completed from the respondents' responses to the questions of the questionnaire block D was investigated separately, applying techniques that are more sophisticated. First, the reliability of the scale was checked by assessing an internal consistency with application of Cronbach's alpha. The critical value for the coefficient was determined at 0.7 level, following the arguments of Cortina (1993, pp. 98–104) regarding the scale with a large number of items (more than 20).

Dimension reduction was initially planned to be performed by means of factor analysis — specifically Principal Component Analysis (PCA). However, for questionnaire data analysis CATPCA is more preferable, because it is suitable for ordinally scaled data (Linting *et al.*, 2017, pp. 336–358). Besides, Kaiser-Meyer-Olkin test to measure a sampling adequacy yielded 0.474 value (i.e., data are not suitable for structure detection with PCA), based on Williams *et al.* (2010, pp. 1–13).

All the statistical analysis procedures were performed in SPSS 19.0 environment.

Research results

Table 7 and Table 8 present the results of frequency analysis (block C and block D data).

Respondents agree that the existing practices and accounting standards do not allow to disclose all company assets and their value. Most of respondents (58.6%) believe that it is necessary to prepare a non-financial report with the description of intellectual capital and its role in value creation.

Ranking the variables, based on “4” and “5” rates, yielded cost items, which definitely should be reflected in financial reports (most of respondents “agree”/“absolutely agree” with that). These are:

- Innovation (86.2%);
- Research and Staff training (79.3%);
- Brand and Patents (69%).

In turn, most of the respondents do not consider “Staff selection” and “Partners” as cost items that should be reported by companies as a part of Intellectual capital value.

As mentioned in Methodology section, block D provided data were analysed with application of more sophisticated analysis techniques.

Firstly, the authors checked the internal consistency between items in order to test the reliability of the scale. Cronbach’s alpha for the whole measuring scale was equal to 0.843, which points to a high level of internal consistency. Item-total statistics revealed that the second item (“staff training”) had a low correlation coefficient and its removal would increase the total Alpha to 0.846. However, our decision was not to change the scale, because this element is quite substantial in our understanding of Intellectual capital.

Within the next stage of the investigation, the authors conducted CATPCA procedures. To determine the number of components, the authors

firstly applied CATPCA for the maximum number (15), following Manisera *et al.* (2010, pp. 97–115). To take a substantiated decision, we should consider “eigenvalue greater than 1 criterion” (Fabrigar *et al.*, 1999, pp. 272–299). Eigenvalues for the first five components were greater than 1.

Taking this as a starting point, we performed CATPCA with five components only, and a screeplot was developed to see an “elbow” (Figure 1).

Based on the “scree criterion” (Fabrigar *et al.*, 1999, pp. 272–299), the last component that “accounts for a considerable amount of variance in the data” (Linting *et al.*, 2017, pp. 336–358) is either the third or the fourth.

Applying “eigenvalue greater than 1 criterion”, in both cases (selecting 3 or 4 dimensions) we have acceptable VAF and in both cases components together accounted for a considerable proportion of the variance in the transformed variables (68.32% and 78.54%, respectively).

The third criterion is an “interpretability in the solution” that is based on factor loadings. Following Manfredi *et al.* (2009, pp. 165–180), we used 0.6 as a critical value for factor loadings. Results for 3-dimensional and 4-dimensional solutions are presented in Table 9 and Table 10.

Analysing the dimension within 3-dimensional and 4-dimensional solutions, the authors concluded the lack of interpretability. The third dimension has only one component with a loading greater than 0.6. Thus, 2-dimensional solution was accepted as the most appropriate one. The results are presented in Table 11. However, in this case the authors followed the experience of the researchers accepting 0.5 loading (for instance, Abdullah *et al.*, 2010, pp. 542–555).

According to CATPCA results, two dimensions could be distinguished, which unites different items.

- Dimension 1: Research, innovation and technology;
- Dimension 2: Relational capital.

The first dimension includes all items related to research, innovation and technology, including patents, license and software. Second dimension “Relational capital” consists of items related to staff, marketing and customers.

The authors conclude that all expenditures are divided into two groups. One group is related to research and innovation, and the other group is related to relationship with people (staff, customers).

Discussions

The research results show that all expenditures associated with intellectual capital could be divided into two dimensions. The first dimension refers to

existing practice of intellectual capital disclosure and allows including expenditures on research, innovation and technology into financial reports. However, difficulties with in-house innovation disclosure are observed, because these expenditures do not meet certain criterion in the accounting standards.

The second dimension is related to relational capital, which is difficult to measure and include in balance sheet as a valuable asset. This part of expenditures could be included into non-financial reporting, and thereby stakeholders would get additional information about the company's assets. At the same time, in the researches about intellectual capital impact on company performance advertising, marketing and human resources expenditures are used as investments in intellectual capital. It shows certain inconsistency among scientific literature, accounting standards and existing practices.

Despite intellectual capital significance, there is no unique solution for intellectual capital disclosure. There are different non-financial reporting practices and guidelines, available for disclosure of intellectual capital. However, these guidelines are voluntary and not widely used.

The survey results confirm existing accounting practice in evaluation of company expenditures and including it into balance sheet. Two dimensions of expenditures were found: 1) research, innovation and technology and 2) relational capital. While the first dimension is clear for accounting standards, the second dimension is difficult to measure and list in the financial reports. Research shows that accounting practice and standards limit the disclosure of intellectual capital. As a result, a part of company's assets is not included in financial reports and stakeholders receive incomplete evaluation of company value. Latvian financial experts agree that one of the solutions of that problem could be using non-financial reporting for disclosure of all company assets, both tangible and intangible.

Conclusions

Understanding the nature of intellectual capital in management theory and accountancy differs significantly. This creates a situation where the company's assets are not fully reflected in the company's financial statements. In the course of the research, the authors found that the questioned financial and accounting experts and practitioners recognise this problem.

Existing accounting standards and regulatory enactments in Latvia do not allow the value of the assets of the business to be fully reflected because they do not include many elements of intellectual capital in the finan-

cial statements. The most important elements of intellectual capital that might be included in the financial statements as part of the company's assets are Innovation, Research and Staff training, Brand and Patents. Other elements, e.g. such as Staff selection, Partners, Customers, are difficult to assess in financial terms and could be included in the non-financial statements of companies.

Using the non-financial reporting practices, companies could make their activities more transparent and develop their reputation, as well as attract investors. However, it is difficult to implement such a practice in current situation in Latvia because of several reasons. The most important reason is lack of in-depth understanding of the nature of intellectual capital, lack of qualified staff and financial resources for additional administrative activities (such as report preparation). Now, some large companies and banks have to prepare non-financial report according to legislation. It is important to investigate their experience and estimate an opportunity to deploy that practice for other companies.

Within the framework of the study, the authors surveyed only Latvian finance and accountancy experts and practitioners, which does not allow for applying the results of the research to other countries. Further research may include studying the accounting practices of neighbouring countries and reflecting on intellectual capital in the financial statements of a company compared to the results of a particular study. It would be useful to study the practice of preparing non-financial statements in neighbouring countries, as well as its impact on the company's competitiveness.

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Annex

Table 1. The concept of intellectual capital in scientific literature 2000-2017

Author/Authors	Definition
Petty & Guthrie (2000, pp. 155-176)	Intellectual capital is an indicator that has the ability to generate future earnings or financial capital together with an organization.
Jurczak (2008, pp. 37-45)	Intellectual capital is all connected with each other: knowledge resources that the organization disposes in creating value needed to gaining competitive advantage in long term.
Kianto <i>et al.</i> (2013, pp. 12-22)	Intellectual capital comprises the valuable knowledge-based resources and the management activities related to them
Lentjušenkova & Lapina (2016, pp. 610-631)	Intellectual capital is the organization's asset that includes the organization's human capital, business processes (procedures and their descriptions), technologies, and intangible assets that can be transformed into tangible and intangible value.
Jordao & Novas (2017, pp. 667-692)	Intellectual capital is formed of intangible assets, but also of the relationships between all types of organisational resources, whether material or immaterial

Table 2. Structure of the questionnaire

Section I	Respondent profile	Comments
Q1	Experience in finance/accounting/related spheres	Closed: 3 alternatives
Q2	Business sector	Closed: 5 alternatives
Q3	Company's size	Closed: 4 alternatives
Q4	Company's operating age	Closed: 4 alternatives
Section II	General questions regarding IC	Comments
Block A	Core of Intellectual capital (assessment of the awareness)	5 statements A1-A5
Block B	Elements of Intellectual capital	9 elements B1-B9
Block C	Disclosure of Intellectual capital (general statements)	3 statements C1-C3
Block D	Disclosure of Intellectual capital (financial report items)	15 items D1-D15

Table 3. What of the statements is aligned with your understanding of Intellectual capital? (Questionnaire block A)

No.	Statement	Label
A1	Knowledge and experience of company's employees	Staff competence
A2	The company's non-financial and intangible resources that are completely or partly controlled by the company and that rise the company value	Resources
A3	Company's long-term intangible investments	Intangibles
A4	Intellectual capital is the organization's asset that can be transformed into tangible and intangible value	Value
A5	Company's human capital, structural capital and relational capital	Capital

Table 4. What elements Intellectual capital involves? (Questionnaire block B)

No.	Element	Label
B1	Knowledge and experience of company's employees	Staff competence
B2	Technologies and software	Technology
B3	Licenses	Licenses
B4	Patents	Patents
B5	Brand	Brand
B6	Schemes and description of business management process (incl. quality management system)	Business processes
B7	Data bases (customers, partners, staff and etc.	Data bases
B8	Marketing plans	Marketing plans
B9	Customer loyalty programmes	Customer loyalty programmes

Table 5. Do you agree with the following statements? (Questionnaire block C)

No.	Element	Label
C1	Item „Intangible investments” does not reflect business intellectual capital value in a full amount	C1
C2	Companies should prepare an Intellectual capital report to reflect a real business value	C2
C3	Item „Development costs” does not reflect business costs regarding Intellectual capital generation in a full amount	C3

Table 6. Do you agree that the following items should be reported by companies as a part of Intellectual capital value? (Questionnaire block D)

No.	Element	Label
D1	Staff selection	Staff selection
D2	Staff training	Staff training
D3	Development and improvement of business management systems	Business processes
D4	Enhancing collaboration with partners	Partners
D5	Purchase and implementation of technologies	Technology 1
D6	Modernization of existing technologies	Technology 2
D7	Research	Research
D8	Innovation	Innovation
D9	Purchase of patents	Patents
D10	Purchase of IT products (software)	Software 1
D11	Software upgrade	Software 2
D12	Purchase/receiving of license	License
D13	Development and realization of a marketing campaign	Marketing
D14	Development and realization of customer loyalty programmes	Customers
D15	Brand development and maintenance	Brand

Table 7. Frequency table (block C data)

	1	2	3	4	5
C1	-	3.4%	20.7%	51.7%	24.1%
C2	-	10.3%	31.0%	58.6%	-
C3	-	3.4%	13.8%	75.9%	6.9%

Table 8. Frequency table (block D data)

	1	2	3	4	5
Staff selection	-	48.3%	27.6%	20.7%	-
Staff training	-	-	20.7%	69%	10.3%
Business systems	-	3.4%	31%	51.7%	13.8%
Partners	-	27.6%	34.5%	37.9%	-
Technology 1	3.4%	6.9%	27.6%	41.4%	20.7%
Technology 2	-	6.9%	37.9%	37.9%	17.2%
Research	-	3.4%	17.2%	51.7%	27.6%
Innovation	-	3.4%	6.9%	55.2%	31%
Patents	-	6.9%	24.1%	48.3%	20.7%

Table 8. Continued

	1	2	3	4	5
Software 1	-	3.4%	31%	48.3%	13.8%
Software 2	-	10.3%	31%	48.3%	10.3%
License	-	6.9%	27.6%	51.7%	13.8%
Marketing	-	17.2%	31%	48.3%	3.4%
Customers	-	27.6%	27.6%	44.8%	-
Brand	-	10.3%	20.7%	48.3%	20.7%

Table 9. CATPCA results: 4-dimensional solution

	Dimension			
	1	2	3	4
Staff selection	0.511	0.476	0.198	-0.059
Staff training	0.043	0.556	-0.249	-0.504
Business systems	0.190	-0.068	0.974	-0.235
Partners	0.452	0.608	-0.171	-0.237
Technology 1	0.823	-0.070	-0.097	-0.197
Technology 2	0.842	-0.181	-0.161	-0.238
Research	0.189	-0.068	0.974	-0.236
Innovation	0.413	0.213	0.007	0.573
Patents	0.654	-0.586	-0.124	0.042
Software 1	0.873	-0.321	-0.187	-0.256
Software 2	0.860	-0.222	-0.098	0.022
License	0.509	-0.509	0.137	0.508
Marketing	0.427	0.712	-0.223	0.048
Customers	0.403	0.726	0.361	0.127
Brand	0.291	0.427	0.129	0.755

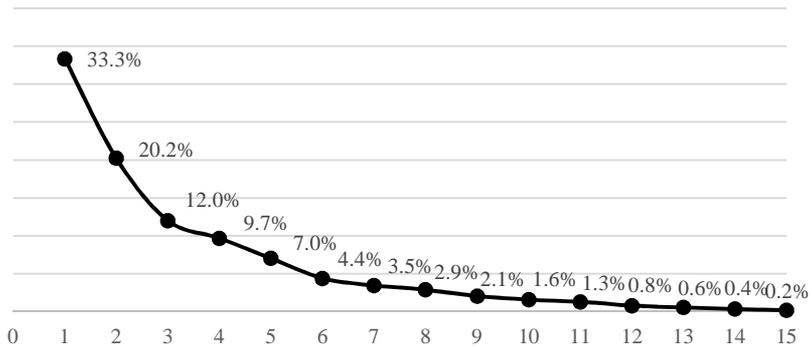
Table 10. CATPCA results: 3-dimensional solution

	Dimension		
	1	2	3
Staff selection	0.328	0.594	0.079
Staff training	-0.139	0.703	-0.363
Business systems	0.324	0.233	0.654
Partners	0.206	0.736	0.332
Technology 1	0.843	0.161	-0.102
Technology 2	0.847	0.074	-0.260
Research	0.665	-0.244	0.503
Innovation	0.616	-0.182	0.425
Patents	0.741	-0.333	-0.349
Software 1	0.860	0.003	-0.432
Software 2	0.817	0.047	-0.394
License	0.606	-0.473	0.102
Marketing	0.201	0.771	-0.120
Customers	0.209	0.785	0.187
Brand	0.554	-0.133	0.413

Table 11. CATPCA results: 2-dimensional solution

	Dimension	
	1	2
Staff selection	0.319	0.591
Staff training	-0.145	0.716
Business systems	0.360	0.246
Partners	0.226	0.735
Technology 1	0.840	0.232
Technology 2	0.848	0.073
Research	0.687	-0.256
Innovation	0.637	-0.203
Patents	0.749	-0.303
Software 1	0.878	-0.027
Software 2	0.823	0.032
License	0.599	-0.478
Marketing	0.196	0.774
Customers	0.159	0.801
Brand	0.558	-0.107

Figure 1. Screeplot of the 5-component CATPCA solution



Source: own calculations based on results of CATPCA analysis made in SPSS.