Does Intellectual Capital Reporting Matter to Financial Analysts?

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Abstract:

The purpose of this paper is to describe how intellectual capital reports affect the valuations of creditworthiness of companies. Some German companies – mainly SMEs – have started to generate Intellectual Capital Reports (ICR) in order to enhance the management and reporting of their intellectual capital (IC). While the positive impact of more transparency about IC on the corporate management is widely assumed, it was so far unknown, if an IC Report has any impact on the financial rating or the assessment of creditworthiness of a company. The research question of the study described in this article and originally conducted by "Arbeitskreis Wissensbilanz AKWB" was: Is it possible to show a significant impact of additional transparency gained from ICR in the process of assessing SME creditworthiness?
Based on literature reviews and expert interviews, a test design was developed. It builds on an expert workshop with financial experts, a quantitative survey and an experiment to assess creditworthiness and future development of SMEs based on two independent case studies involving 17 high level analysts from 9 different institutions.
Utilizing and following the findings from the AKWB-study regarding structure, content and length, it can be observed that an IC report complementing financial reports contributes to more homogeneous financial ratings of SMEs by financial analysts than ratings based exclusively on information from financial reporting.
The same experiment revealed that additional insight and transparency about a company based on ICR leads to more homogeneous assessments of the future earnings potential of the organizations.
It can be shown in the concluding discussion that according to the efficient market theory, additional information from plausible IC Reports lead to better transparency about both, advantages and maybe so far hidden disadvantages of an organization. This reduces risks for banks and other financial investors.
Based on these findings, the article concludes with the hypothesis that in the future ICR might enable SMEs to raise capital at fair costs and thus contribute to economic development.

Key words: intellectual capital report, analyzing creditworthiness, rating of SME, future earnings potential, German guideline for intellectual capital

1. Background

Organizations are still predominantly assessed according to their financial key figures. But financial reports hardly cover information about intangible assets which constitute a relevant share of corporate value. This information asymmetry is a source of possible errors in assessing risks and future developments of an organization and consequently can lead to misallocation of budgets.

Intellectual capital reports contribute to higher transparency of organizations by explaining hidden value and long term development options. Yet, the major interest of the study that forms the background of this article (Wuscher et al. 2006; Will et al. 2007) was to identify the necessary elements and structure of an intellectual capital report as the interface between banks and SME and to assess the impact of such a report on analysts' ratings and expectations about the future earning potential of SMEs.

The study was developed and conducted by Arbeitskreis Wissensbilanz (www.akwissensbilanz.org) lead-managed by Fraunhofer IPK, Berlin. It is part of a larger-scale project entitled „Wissensbilanz – Made in Germany" sponsored by the German Ministry of Economics and Technology (BMWi). The primary objective of this project was to develop an instrument for managing and reporting intellectual capital in the context of SMEs (Bornemann et al. 2005). One result was the German Guideline for Intellectual Capital Reporting (Alwert, Bornemann & Kivikas 2004), tested in 50 German SMEs.

Although the distribution of the method is considerably high in Germany (30,000 copies of the guideline and 15,000 copies of the supporting software have been requested so far) the impact of intellectual capital reports in the financial market is not quite clear.

The assumption of the study is that intellectual capital reports can support more homogenous ratings regarding the status quo of an organization and more homogenous expectations for the future development.

2. Research Design

2.1 Research questions

The following questions were discussed and resolved:

- How important is intellectual capital of SMEs for analysts when assessing corporate value?
- Do intellectual capital reports influence the evaluation of an organization?
- Which structure and content of an intellectual capital report is favored most by representatives of the capital market?
- Does an intellectual capital report result in a more accurate assessment of the credit worthiness (rating) and future development of an organization than an appraisal which is based solely on data from the organization's annual report?

2.2 Methodology

The study comprised four stages (see Figure 1). Part one covers a preliminary survey of already existing literature (stage 1) complemented with expert interviews (stage 2). Part two supported the validation and refinement of the intermediate findings by conducting a quantitative survey (stage 3) and a qualitative oriented case study experiment (stage 4). Participants were experienced bankers, auditors and financial analysts from leading German financial institutions.

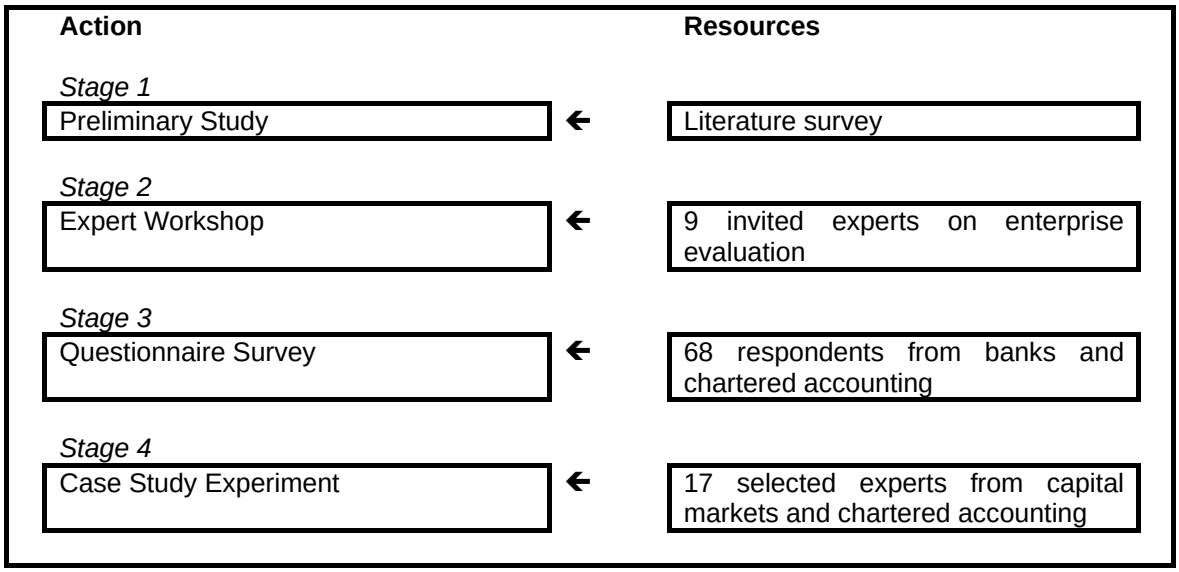

Figure 1: Research design

3. Preliminary study

By extensive literature research and by analyzing already existing data the legal and scientific background was defined. Based on these results, a draft structure for an intellectual capital report for stakeholders from the financial market was developed.

3.1 Legal issues and international practice

The legal background related to reporting of intangibles is vast and not within the scope of this paper. Therefore only some selected legal constraints and requirements are described.

In September 1998, the International Accounting Standard 38 (IAS, since 2001 IFRS - International Financial reporting Standard) has defined procedures for the reporting of „intangible assets“ (IASB 98). The German regulation adopted these recommendations and issued DRS 12 - Standard for Intangible Assets (DRSC 2002) as well as a DRS 15 - Standard for Management Reporting of Corporate Groups (DRSC 2005).

Both standards iterate that intangible assets are to be included in regular reports. However, because of the criteria of “clear identification” and “independent marketability“, only few intangible assets are currently activated in financial reports. For all the remaining intangible assets, a detailed account in the management report is suggested by DRS 15, revealing all data with the power to reduce information asymmetry between the target group of the reports and corporate management. Intellectual capital should be illustrated with indicators. DRS 12 explicitly uses the term “intellectual capital” and follows the recommendation of the German “Schmalenbach-Gesellschaft” to differentiate between Human Capital, Customer Capital, Supplier Capital, Investor Capital, Process Capital, Location Capital and Innovation Capital (Schmalenbach 2004).

In spite of these newly available regulations, the gap between intangible assets that exist in the organizations and the reported ones is not closing. Therefore, many countries suggested frameworks for voluntary disclosure, particularly for not-stock-quoted companies (see Table 1). They offer certain structures and content for intellectual capital reports in either the appendix of the annual report or as an independent chapter.

Type	Institution/Country	Initiative	Scope	Application	Year[18]	Reference
Narrative/non-financial reporting (e.g. contextual information on major factors affecting a company's performance)	**European Union**	Public	All companies except SMEs	Mandatory	2003	Business Review- Modernisation Directive (4th and 7th Directives)
	Australia	Public	Listed companies	Mandatory	2003	ASX Listing Rule 4.10.17, Australian Stock Exchange
	Canada	Public	Listed companies	Mandatory	2003	Management Discussion and Analysis under NI 51-102, Continuous Disclosure Obligations, Securities Administrator
	Germany	Public	All companies	Mandatory	2004	GAS 15 Management Reporting, DRSC
	United Kingdom	Public	Quoted companies	Voluntary	2005	Operating and Financial Review, Department of Trade and Industry
	United States	Public	Listed companies	Mandatory	2003	Management Discussion and Analysis, Securities and Exchange Commission
Specific reporting about intellectual assets (*e.g.* stand-alone reports on intellectual assets)	**European Union**	Public	All companies	Voluntary	2002	Guidelines for Managing and Reporting on Intangibles, MERITUM Project
	European Union	Public	SME	Voluntary	2006	RICARDIS report, DG Research
	Australia	Public	All companies	Voluntary	2002	Australian Guiding Principles on Extended Performance Management, Society for Knowledge Economics
	Austria	Public	Public universities	Mandatory	2002	Austrian Universities Act, Federal Ministry of Education, Science and Culture
	Denmark	Public	All companies	Voluntary	2003	Intellectual Capital Statements- The new guideline, Ministry of Science, Technology and Innovation
	Germany	Public	SME	Voluntary	2004	Intellectual Capital Statement- Made in Germany, Federal Ministry of Economics and Labour
	Japan	Public	All companies	Voluntary	2005	Guidelines for Disclosure of Intellectual Assets Based Management, Ministry of Economy, Trade and Industry

Table 1: International frameworks for the corporate reporting of intellectual assets (OECD, 2006)

With reference to voluntary disclosure, there are different schools of thought:

- Some suggest disclosing a supplementary report covering the soft elements. This avoids the obligation for certification; however, the auditor needs to „read over the non-audited but disclosed information critically".
- To enhance credibility of the report on soft elements, others suggest including this part into the audited management report of the annual report. This in turn touches the heavily discussed problems for auditing intangible assets.

3.2 Essential principles

Independently if intangible assets are disclosed within the audited or non-audited part of company reports it has been observed that some essential principles must be taken into account:

- Principle of Economic Efficiency: not only the direct costs of the report, but implementation and maintenance costs for the reporting system need to be in balance with the benefit (Birk 1991, p. 59).
- Principle of Relevance: The provided data should be relevant and in reasonable detail in order to provide the addressee with a sufficient basis for decision making (ibid.).
- Principle of Speed: Reports need to be made available within reasonable time (ibid.).
- Management Approach: External reporting of intellectual capital should be coherent with internal reporting (Schmalenbach 2002, p. 2337).
- Principle of Comparability: Data presentation should support periodical (ibid., p. 2340) and functional comparability (Schmalenbach 2003, p. 1234), in a continuous presentation layout (Birk 1991, p. 57), and free of arbitrariness (Schmalenbach 2003, p. 1235).
- Additional principles refer to clarity and completeness (ibid.).

As this study aims to analyze practitioners' demands regarding reporting intellectual capital the theories of measuring and reporting of intangibles are not discussed here. For further interest it is referred to the literature where it is covered extensively (e.g. Reinhardt & Bornemann 2001, p. 794 sqq.; Andriessen 2004; Mertins, Alwert, Heisig 2005).

4. Expert workshop

4.1 Procedure and sample

In the first phase of the German project “Wissensbilanz”, 14 intellectual capital reports were analyzed with regard to their content and their structure. Based on these findings and according to the legal and theoretic requirements, a first conceptual structure was presented to the participating experts from the capital market. Therefore a call for contribution was addressed to all major German banks as an open invitation. They were asked to specify their requirements for a report intended to communicate intangible assets in a qualitative and quantitative form. Nine representatives from well-known banks and auditing companies participated in this expert workshop in May 2006.

Based on the above described structure, a mock report was developed and presented to the experts. They were asked to asses the future prospects of this organization and to provide critical feedback on the report. This procedure allowed for a quick orientation of the participants in the new form of presentation of intangible assets and supported a focused discussion on the structure as well as content. One of the most striking results of this first test was that the participants were able to deliver a rough assessment of the organization within minutes. Particularly flaws of plausibility were detected immediately and in their entirety. Consequently, these flaws led to deteriorating ratings for future potential. Apart from these areas, the workshop yielded valuable inputs for improving the structure of the report and developing a set of hypotheses to be tested in a survey.

4.2 Draft structure for an intellectual capital report

Based on the feedback of the experts the following revised structure on an IC report was developed:

	Content
1	Summary
2	Data related to market and industry (business environment)
3	Description and explanation of the business strategy
4	Definition and explanation of the most relevant IC factors
4.1	Data about the current status quo of intellectual capital
4.2	Analysis of intellectual capital
4.3	Measures for the utilization and development of poor performing IC factors
5.	Appendix

Table 2: Revised structure of an intellectual capital report

Business environment

This part is about the company’s main activities, its industry background and intensity of competition.

Business strategy

The second section shall give an overview of the major strategic objectives and how the intellectual capital is connected with them.

These two sections are essential, if the report is to be used as an independent publication and not as part of the annual report. They provide the context and background for assessing intellectual capital. Without this information it would be impossible to draw reasonable conclusions.

Intellectual capital

This section lists all IC factors including a short organization-specific definition. Complementary details and more elaborate definitions should be covered in the appendix.

Status quo of intellectual capital

Apart from the qualitative description of the current state of intellectual capital this part should include corresponding indicators to allow quantitative analysis (see Table 4). If available, a timeline of the appropriate indicators, with two years of history and a forecast should be provided and explained. In the German guideline for intellectual capital reporting, a differentiated assessment of quantity, quality and systematic management of IC factors is suggested (Alwert, Bornemann & Kivikas 2004).

Analysis of intellectual capital

As a result from the analysis of intellectual capital it has been identified which areas of intellectual capital should be developed. It should be described which factors have the highest influence but are valued lowest as these are the most promising factors for development. In the German intellectual capital report this is visualized by a portfolio chart which shows the expected impact of managerial intervention on the vertical axis and the average value of each IC factor on the horizontal axis (Bornemann & Alwert 2007). In order to make the development of intellectual capital transparent the management should justify its decisions in reasonable detail.

Development of intellectual capital

This part comprises a list of measures for developing intellectual capital including assigned budgets and expected impact. The description should not exceed one page per measure. The measures have to be consistent with the information about business environment, business strategy, and status quo of intellectual capital.

5. Questionnaire survey

5.1 Procedure and sample

The questions covered following areas:

- participants' general demographic and organizational data to support differentiated analysis
- the structure of the intellectual capital report
- specific IC factors and indicators for intellectual capital
- relevance and requirements for interventional measures

Between June and September 2006 representatives from 45 major German banks and chartered accountants returned 68 questionnaires. Almost all participants are seniors in financial analysis, banking or auditing with several years of professional experience.

5.2 Main Findings

The full analysis is published by Wuscher et al. 2006. In the context of this paper, the following findings seem to be most relevant:

Requirements to an intellectual capital report do not differ significantly between banks, financial analysts and auditors.

This is of particular interest and contrary to our expectations, because professional focus and target group of these professionals differ considerably. Generally, it is assumed that in particular the requirements of the capital market are higher for listed enterprises. However, this assumption was not supported by this survey.

As a consequence, there seems to be no need for differentiating organizations according to their source of funding. A standard report for all interest groups within the capital market seems to be possible.

Disclosure of data related to intangible assets contributes to better corporate reporting.

89% of respondents indicated low or no transparency at all for intangible assets. This supports the above stated hypothesis of perceived information asymmetry. 97% of respondents expect more reliable assessments of company value from more disclosure, 76% expect high or very high benefits from intellectual capital reports.

Indicators appear more important than contextual statements and data interpretations.
85% of respondents consider indicators as important in an intellectual capital report. 80% consider qualitative statements as important, but only 50% give priority to additional interpretation.

This is relevant, because intangible assets are hard to quantify, almost by definition. Hence, a descriptive approach that highlights the specific context is the only promising way to handle them. Indicators regularly illustrate only fractions of the full complexity of intangibles and fall short to deliver a comprehensive picture. Consequently, the interpretation of indicators opens many alternatives and, depending on assumptions, might justify contradicting conclusions.

An intellectual capital report should not exceed 10 pages.
90% of respondents favor a report with less than ten pages, 43% prefer only five pages. But all agree it should not exceed 20 pages. Requirements for disclosing "all relevant data" and squeezing this into a few pages are contradicting. Even though the vast majority attests high relevance to intangibles, their readiness to extend the approximately 40 pages of an average annual financial report is limited.

Analysts rate the importance of intangibles different than companies.
Alwert (Alwert 2006) identified in a qualitative case study the most important intangibles from the management perspective of German SME. The here described survey identified the most important intangibles from the viewpoint of analysts.

Managers	Experts from the capital market
Motivation of employees	Customer relations
Leadership competence	Relations to the capital market
Product innovation	Product innovation

Table 3: Divergent rankings of top 3 IC factors between stakeholder groups

While analysts e.g. rate the relations to the capital market as the second most important IC factor, it is ranked last by SMEs. One reason for this difference in perception might be a bias in SME selection for the case study. Most of the SMEs included in the German intellectual capital reporting project and therefore in the case study research, were economically sound and stable organizations. Therefore the relative importance of relations to the capital market might be lower than in other companies.

Another explanation could be that relations to capital markets are not part of daily operations and maintained only by top management. Therefore their relative weight – compared to factors with daily importance for almost all employees like motivation, competence and customer relations – is in fact lower and might be overestimated by analysts, which normally have contact to companies that are right in the situation to negotiate for capital. This could explain a part of the perceived information asymmetry.

There is a set of highly relevant indicators for analysts.

#	Indicator
1	Education and qualification of employees
2	Fluctuation (recruits and exits)
3	Turnover per customer segment
4	Customer satisfaction based on surveys
5	Number of customer complaints
6	Number of new products in development
7	Average costs of capital
8	Dependency on key suppliers
9	Rate of absence and illness
10	Financial rating
11	Defined successors for top management and key personnel
12	Share of turnover with new products
13	Structure of customer base (regular vs. new)

Table 4: Indicators ranked high by analysts

As stated above, indicators are important for analysts and contribute to the credibility of a report. International examples of intellectual capital reports and the literature show that indicators are either highly industry specific and specialized (e.g. the Austrian set of indicators for universities) or largely neglected. Based on a set of 63 indicators deduced from the literature and international practice, the survey identified 13 indicators which are perceived as highly relevant and important for analysts (see Table 4). Timelines of indicators is a major requirement. A minimum of two years from the past and a forecast of one year should be provided, according to the respondents.

Planned measures for the development of intellectual capital should be described in reasonable detail.

According to the respondents, planned measures should be disclosed in reasonable detail and should be accompanied by corresponding budget figures (e.g. estimated expenses for planned measures). This allows checking plausibility of the data and helps to decide about management's quality.

6. Case Study Experiment

6.1 Procedure and sample

Based on the idea of the "Schroders-Test", originally conducted by PricewaterhouseCoopers (Alison 2003, p. 79 et seq.), the already available reports of two companies were framed according to above developed requirements for a case study test.

The test, conducted in a one-day workshop in Frankfurt, shows differences in the assessment of the credit worthiness and future earnings potential of the organization, based on two independent peer groups, one with a dataset of the classic financial annual report and one with the additional intellectual capital report. In contrast to the original Schroders-Test, this test is based on two cases A and B to increase validity.

Both case studies were generated based on the intellectual capital report, the annual report and the audit certificate for 2005. The restriction of ten pages could not be met; the report of company A is 16 pages long, the one of company B covers 12 pages.

17 analysts were selected after a public call for participation. Selection criteria were experience in financial analysis, reputation of the delegating institution, function and rank within the institution. Due to the fulfillment of these criteria the participants can be described as the best available experts who could contribute relevant feedback based on their professional knowledge.

The sample size is certainly not representative for the whole financial market. However, in regard of the qualitative selection of participants and the Delphi-methodology-like design of the study, we think this is the most promising research design considering the high opportunity costs of the experts. In any case, it allows identifying qualitative trends.

6.2 Influence of IC reports on the rating

The Standard&Poor's scale was used for rating the companies with AAA for the highest financial standing and lowest default risk and D for insufficient financial standing and high risk for bankruptcy.

Figure 2 shows the frequency distribution of the ratings for case A. In line with the research design, two groups rated this company, one with a classic set of data (annual report and audit certificate) (lined bars) and the other with the additional intellectual capital report (full bars).

The spread of rating of the second group with intellectual capital report is with seven categories lower than of the control group with eight. 76% of the ratings with intellectual capital report are concentrated on 2 categories BB and BB+, while 75% of ratings with the classic set of information are concentrated on 3 categories (BBB, BBB-, BB). The average rating with intellectual capital report is one category lower than without.

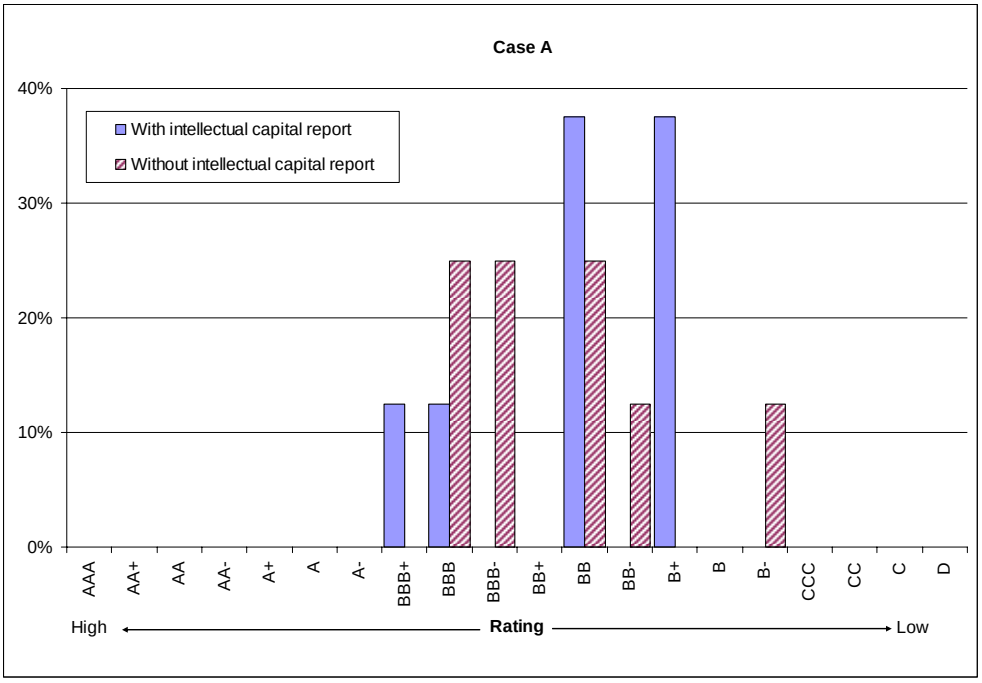

Figure 2: Frequency distribution of ratings for case A

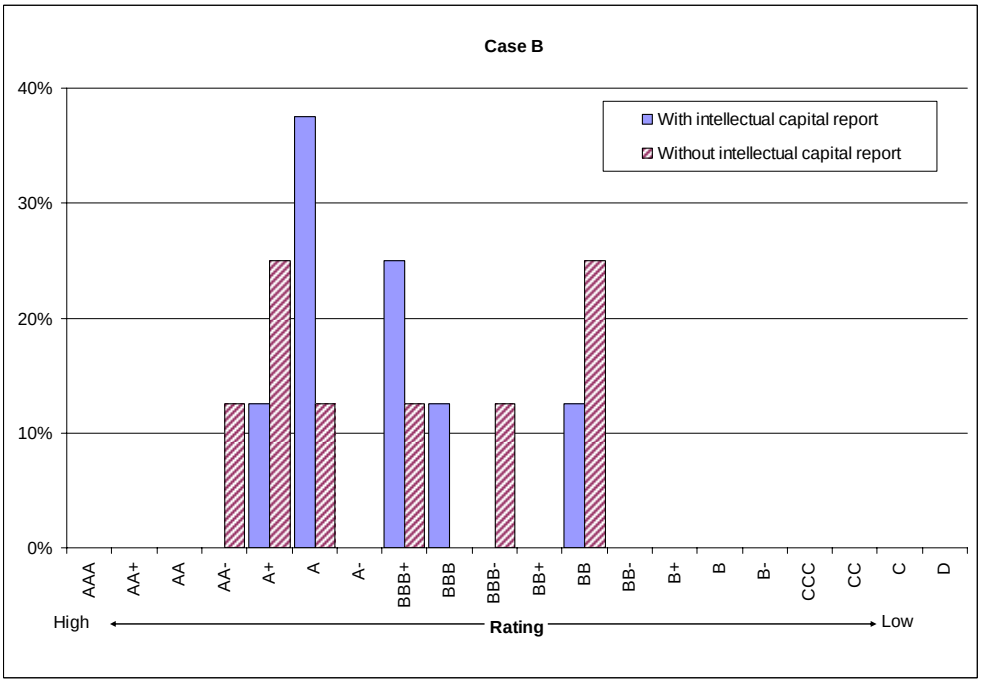

Figure 3: Frequency distribution of ratings for case B

Figure 3 shows the frequency distribution of ratings for case B. Again, the spread of rating categories with intellectual capital report comprises one category less than without. There is a concentration of ratings based on intellectual capital reports near A und BBB+ (63%), while the distribution of the ratings without intellectual capital report shows two relatively distant peaks and is therefore uneven.

This time, the additionally available data from the intellectual capital report leads to a rating which is – on average – one category better than without.

Analysis of standard deviation supports these results, as shown in Figure 4. Additional (relevant) data reduces – perfectly in line with the conventional expectation – information asymmetry and yields more homogeneous ratings. In case B, the deviation falls from 3.06 to 2.27 quite substantially, in case A the harmonization is lower, but traceable.

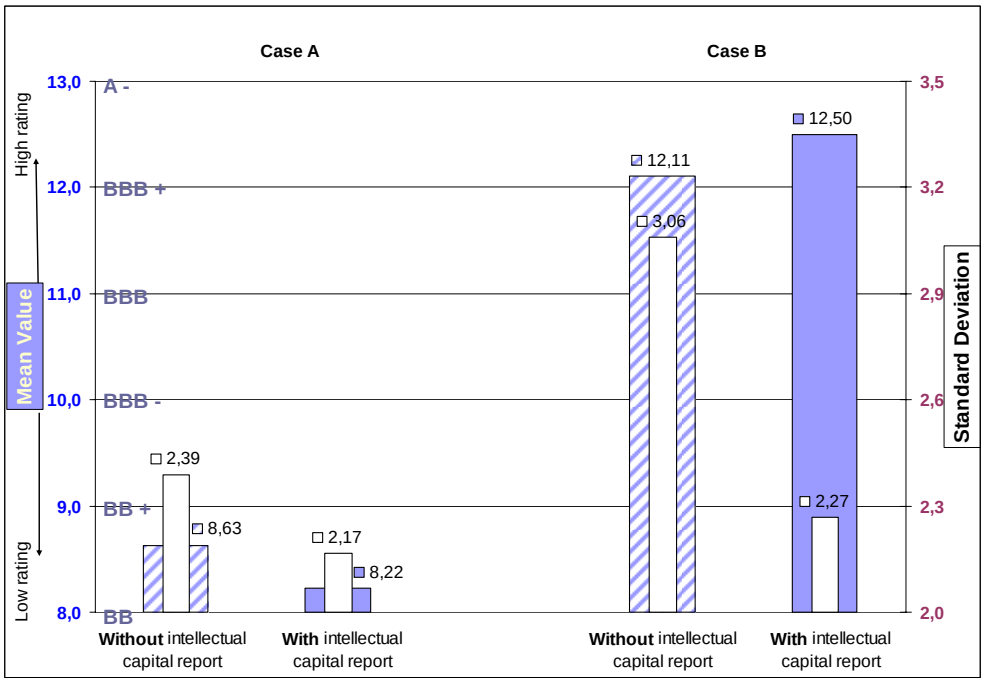

Figure 4: Standard deviation of both cases

This experiment supports the hypothesis that additional data presented in the intellectual capital report contributes to more homogeneous ratings. However, an intellectual capital report does not necessarily lead to a "better" rating, as case A suggests. More insight reveals inconsistencies in the business model or strategic positioning in the same way, as it helps to understand a consistent story. The higher homogeneity of the rating however is beneficial for both, SMEs and the capital market, as it can reduce the long term costs of being rated erroneously and thus improves financial planning.

6.3 Influence of IC reports on the estimation of future development

Assessing the status quo of an organization is essential for decision making, more important however, is the future development of the organization. The second item tested in this experiment therefore was the expectation of the experts regarding the future development of both case study organizations. The scale is – mainly because of the explicit requirement of the financial market for a "quick scan", partly because of constraints in time for detailed analysis – very simple: "positive", "neutral" or "negative".

Figure 5 visualizes the expectations of the expert group for both cases A and B. The lined bars present the spread based on data from the annual report and the audit certificate, full bars present the spread of expectation with the additional information of the intellectual capital report.

Again, the additional data leads to more homogeneous expectations. Based on classic data, the future of the organization of case A was predicted negatively by a majority, 15% were positive. With the intellectual capital report, the perspective changed significantly in favor of a negative future prospect (almost 80%). A very similar shift can be reported for case B, this time in the opposite direction. Based on classic data, the majority expected a neutral future; the rest predicted a positive development. The impact of the intellectual capital report changed the expectations dramatically, now almost 90% expected a positive future.

Both cases strongly support the hypothesis that additional data presented in an intellectual capital report allow a more homogenous assessment of the future development of organizations.

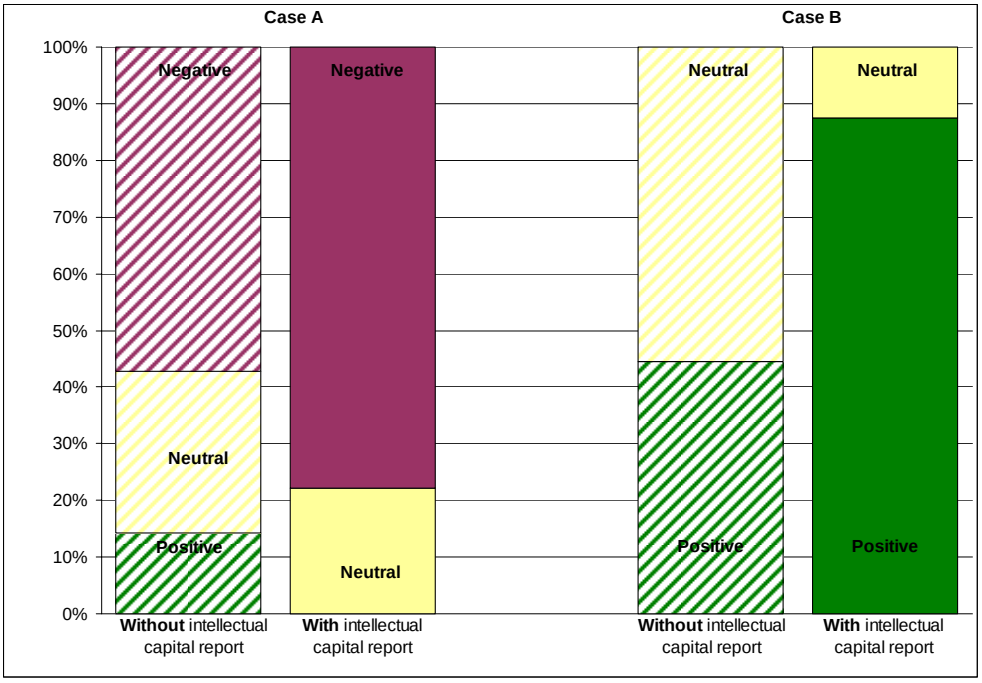

Figure 5: Expected future development for case A and B

6.4 More qualitative evidence

In the informal discussion after the actual experiments, the experts were asked for qualitative feedback related to the cases and the methodology.

They agreed on the perceived effect of the additional data presented in the intellectual capital report to be rather low but of value regarding the plausibility and appropriateness of measures to improve the utilization of intangibles. For organization A, the communicated management actions were seen as not adequate for achieving the strategic ambitions in the current business environment and therefore resulted in a lower rating. The case of organization B was more convincing in the description of management actions and plausibly could argue how to improve the business options.

Not surprisingly it emerged that the alignment of business strategy and measures for developing intellectual capital is of major importance for the participants.

7. Conclusion

The questionnaire survey in the beginning of this study yielded findings regarding the basic requirements for IC reports. Financial analysts from banks and other financial institutions and auditors seem to have similar requirements to an intellectual capital report. However, financial experts have other expectations for intellectual capital reporting than corporate management. This is particularly relevant for the relative weight or importance related to various factors of influence

Furthermore specific requirements of financial analysts regarding the content and structure of an IC report have been investigated. Qualitative descriptions are considered as important. Still more important are indicators which help to quantify the information. A set of indicators with high relevance for most analysts could be identified. Especially the timeliness of indicators is a major requirement for ensuring quality of the information.

Basic elements of an intellectual capital report should cover the business environment, business strategy, a detailed analysis of intellectual capital as well as planned measures to develop intellectual capital in order to achieve strategic objectives.

An intellectual capital report should preferably not exceed ten pages.

A case study experiment with selected financial analysts helped to understand how an IC report affects the valuation of financial analysts. Adding intellectual capital reports to the classic set of annual report and audit certificate contributes to more homogenous results in the rating of credit

worthiness of organizations and to more homogenous results in the assessment of the future development of organizations. Additional data does not necessarily lead to a „better“ rating, as it improves transparency regarding strengths as well as weaknesses of the organization.

These findings indicate that IC reports help to reduce risks for banks as they allow a more homogenous evaluation of the company. Hence, IC reports could contribute to more accuracy and fairness in the process of raising capital for both, SMEs and bank.

For the purpose of efficient communication with the capital market, these findings suggest to combine the annual report with an intellectual capital report. It remains open, if this should be done in an integrated form as part of the explanatory part of the annual report or independently. However, an intellectual capital report without any reference to the financial data seems to be of little benefit.

Future research should investigate how far these findings are applicable to other contexts, such as international environment, larger companies, etc.

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