

# **The Earnings Capability Index (ECI)<sup>TM1</sup>**

## **- a statement of a firm's qualitative and quantitative strategic success factors**

Inge Wulf/Guido Pfeifer/Mart Kivikas\*

- 1 Introduction
- 2 Importance of Intangibles for Sustainable Financial Performance and development of Key Performance Indicators (KPI)
- 3 Selected Performance Measurement Systems
- 4 Background of the Earnings Capability Index (ECI)<sup>TM</sup>
  - 4.1 Definition of the Earnings Capability Index (ECI)<sup>TM</sup>
  - 4.2 How the Earnings Capability Index (ECI)<sup>TM</sup> connects Strategic Management with Operational Management
- 5 Structuring the Earnings Capability Index (ECI)<sup>TM</sup>
- 6 Case Studies
- 7 Summary

---

<sup>1</sup> Or Zukunftsfähigkeitsindex (ZFI)<sup>TM</sup> after Pfeifer/Kivikas/Wulf is a protected trademark after German and international law .

\* Inge Wulf is professor in accounting at TU Clausthal, Germany. Her fields of research are international accounting standards, the internal and external financial reporting with special focus on intangible assets/intangibles.

Guido Pfeifer, degree in Management Accounting (Dipl.-Bw.) and Investmentanalyst (DVFA), and Mart Kivikas, degree in Management Accounting from the Stockholm School of Economics, are independent strategic financial consultants. Since 2004, they are working for the German Federal Ministry of Economics and Technology to develop a more sustainable reporting on intangibles including the Management Commentary and the Intellectual Capital Statement (Wissensbilanz).

## Introduction

Intangibles have so far played a rather insignificant role in the management of a firm. Although gaining in importance for financial success over time and in management awareness, it still seems to be difficult to find adequate reporting, especially on an aggregated level. Investments in intangibles usually have a negative cash flow in the short term, but significant advantages in the mid and long term to secure the market and competitive situation of a firm. In order to secure this, a better understanding of which management actions can be made to improve performance over time and how to visualize and measure these intangibles is necessary.

The following paper will start with an overview of selected current Performance Measurement Systems and then is devoted solely to the structures and usage of the Earnings Capability Index (ECI)<sup>TM</sup>. The index is based on financial and non-financial key performance indicators (KPI) in three dimensions: present earnings situation (short term), competitiveness (mid term) and ability to change (long term). Two case studies will show how important it is to include all aspects of ECI before deciding on any management action. The wrong approach or only using parts of ECI can lead to wrong decisions.

## Importance of Intangibles for Sustainable Financial Performance and development of Key Performance Indicators (KPI)

The „Resource Based View“, considers Intangible values as crucial to the future competitiveness of a company (Penrose, 1959; Wernerfelt, 1984, S. 171-180). These resources guarantee the base for the business success and financial performance as well as its sustainability (Servatius 2003, S. 155). Due to the trend towards more businesses operating in the service sector than in the classical industry, the importance of intangibles has risen. However, in its nature, the return on investments in intangibles takes longer than for tangible assets or resources. The best way to describe this cause and effect over the time period from investment to profit is depicted below in picture 1.

**Pic. 1: The Process of Sustainable Value Creation**

In spite of the increasing importance of intangibles for the sustainable profitability of a firm, management accountancy/reporting has so far not been able to show the connections from intangibles into monetary values. As long as these non-financials are not really measured, they will not be taken into account on management decisions and will utterly lead to sub-optimal decisions with negative consequences for the firm. The usual critics on traditional indicators and financial data are:

- too much focused on what happened in the past and on internal stakeholders;
- too much focus on an aggregated level and less on an operational level, like performance on processes and the qualification and motivation of employees and managers;
- financial indicators usually lead to short term instead of long term optimum;
- customer value is not adequately taken care of;
- no cause and effect (interdependency) analysis between financial indicators and the creation of intangibles;
- financial indicators are not optimal to evaluate strategic performance or projects to raise output or sustainable customer (and company) value.

As a consequence of these increasing insights over the last decades, the Performance Measurement approach started in the nineties with the objective to improve the implementation of business strategies (Günther/Grüning 2002, S. 6). The achievement of objectives will therefore be supported by showing the link between strategy, management actions as well as the budget process and management controlling of the relevant factors.

**Features of Performance Measurement Systems are:**

- quantitative and qualitative indicators in consideration of past and future relevant information;
- a balance between different stakeholders and adaption on reporting for their respective needs;
- reporting adapted to different needs on different hierarchical levels within a firm. More focus on operations and employee needs than on general management is needed.
- to start focusing on long term value creation and not short term profit optimization;
- an understanding that hard facts (quantitative) are as important for good financial performance as soft facts (qualitative);
- the need to brake down vision, mission and strategic goals into understandable and realistic indicators for the operations and employees (Baum et al. 2007, S. 363-364).

There exist various concepts of Performance Management Systems using the same development process (Grüning 2002, S. 13ff). Starting point of the process is to define vision, mission and strategic goals. The next step is to define indicators on the management actions necessary to reach those goals, i.e. to consider dimensions like finance, customer, learning, development and business processes as defined by the Balanced Scorecard (Kaplan/Norton 1996, S. 76). Subsequently only those indicators relevant to reach the defined goals are being managed and measured. With help of target values, the fulfilment of the objectives can be determined. The Performance Management systems is a balanced way to consider quantitative (hard) factors and qualitative (soft) factors for a company on how well it has reached its strategic (financially long term) goals.

## Selected Performance Measurement Systems

Various concepts of Performance Measurement systems show a very high interest in intangibles such as Quality Management, EFQM (EFQM 1999), Balanced Scorecard (Kaplan/Norton 1997), Intellectual Capital Statement (Wissensbilanz) (Arbeitskreis Wissensbilanz, 2005), Key Performance Indicators etc. The Balanced Scorecard (BSC), as well as the Skandia Navigator combines financial and non-financial indicators. The **Balanced Scorecard** tries to break down the strategic goals into few operational indicators that are regarded crucial to reach the goals. In order to stay focused, it uses the following four perspectives: finance, customer, internal processes and growth. Each of these strategic goals are divided into several operational goals and initiatives to improve performance to reach defined goals. Those indicators can be either cumulative, comparative, competitive or combined. In order to avoid a biased focus on only cost/income, the indicators will be visualised in a “strategic map” where cause and effect are depicted to include all four perspectives. This “strategic map” tries to shift the focus and find a balance between the financial (usually past oriented) indicators and the non-financial and more future oriented indicators. (Kemper/Sachse 1999). De facto the Balanced Scorecard of today is more a set of indicators and not a method to improve the implementation of a company’s strategy (Speckbacher et al. 2003).

With the Intellectual Capital Statement (IC Statement, in German Wissensbilanz), the objective is to describe and report on an organisation’s intangibles in any form. It tries to fulfill a gap by reporting on all items that are not in the financial balance sheet. It is divided into the three categories of human-, structural- and relational capital. Other features are to add quantity, quality and systematic to the assessment as well as an impact matrix (interdependency analysis). This matrix shows strengths and weaknesses in a firm’s intellectual capital (Arbeitskreis Wissensbilanz 2005; Edvinsson/Kivikas 2007). The IC Statement supports a better understanding and communication of an organisation’s IC. The IC Statement is not a balance sheet with assets and liabilities, but a way to report on what management has been doing over a certain time to create value out of its IC resources. Some of the investments go into creating intangibles assets, but some investments are also used to continue improving the IC in order to keep a competitive position on the market (Leitner 2003; Kivikas/Wulf 2006). Similar models are the Austrian ARCS-Wissensbilanz (IC Statement) and the Danish Guideline for Intellectual Capital Statement (DMSTI). The similarities are to have comparable data within an organisation based on mostly non-financial indicators and the cross-impact matrix. It has proven useful for the internal management of IC, however a clear connection to financial goals is not yet explicit (comments for instance Günther 2005).

In the following chapters, the Earnings Capability Index (ECI)<sup>TM</sup> will be presented. It is a connection of classical company analysis extended with the experiences and results from the IC Statement the authors have made. Instead of using the IC Statement in its defined form, an adjusted Balanced Scorecard could be used and in most cases the outcome will be similar. The result will be a refined evaluation of strategically important IC factors based on quantity, quality and systematic. With the cross-impact matrix, the connection between tangibles and intangibles will be visualised over time together with their

strengths and weaknesses. The defined indicators are weighted related to their strategic importance and added into an overall index of the future earnings possibility of a firm.

## Background of the Earnings Capability Index (ECI)<sup>TM</sup>

### 1.1 Definition of the Earnings Capability Index (ECI)<sup>TM</sup>

The future earnings capability of a firm can only be assessed under the premises that the material, financial and intangible resources are secured.

The financial data or hard facts from an organisation show the current financial status and are the base for any future economic activities. However, they can only show the short term of the **earnings capability**. The ability to make money in the mid or long term can only be secured by investing in intellectual capital (or intangibles). These investments are usually difficult to find in the accounting system, because they are usually booked as cost in the income statement although those investments could be the ones that give an organisation **competitive advantages** in the future. For instance, investment in a new product generation does not give an immediate competitive advantage, but could secure new customized products or services for the future which will guarantee the survival in five to ten years. Classical financial indicators are not adequate to manage those resources. In this case, the context over the interdependency analysis and how intangible factors influence qualitative factors like profit is more adequate as information for managers to make good strategic decisions. This is why it is extremely important to understand those rather abstract connections and their strategic consequences for the organisation. The clearer this picture is, the higher the likelihood that managers have the right information for decision making and therefore have a better control of the outcome. Of equal importance is, to quickly find out if management has made a wrong decision and to be able to react in a correct and timely manner (early warning). With the mid and long term earnings forecasts, relevant risks and opportunities can be covered in order to secure the future competitive position of a firm.

With this background, the future earnings forecast shows:

- The earnings capability as base for future business success and profitability (cash flow)
- How to find and secure intangibles (and IC) potentials as a base for future earnings and profitability (cash flow) as well as
- an understanding of how qualitative and quantitative factors act together and what impact management decisions will have in the organisation when these are affected or changed, also over time.

The following picture 2 clarifies this context:

**Pic. 2: How qualitative and quantitative factors affect the future earnings of an organisation**

The perceptions and expectations from different stakeholders outside as well as inside an organisation have gained in importance for sustainable earnings and can no longer be neglected. Management mistakes in these areas can lead to a loss of image or reputation which leads to customers boycotting its products or services or not motivated employees who only work at a minimum of their potential, which has a negative impact on corporate earnings. The harsh public criticism on the Shareholder Value concept, has forced company leaders to be more aware of the consequences their short term decisions have on the mid or long term earnings. A loss of public trust to the strategy of a firm eventually leads to liquidation under existing market conditions. Today it is expected from international companies to take responsibility for their actions also in a social and long term context (Haller 2006, S. 64). The vision and mission of sustainable growth includes an understanding of what impact environment and socio-economics have on a company's earnings and the other way around.

This Sustainable Value approach is also called Triple Bottom Line Performance. Companies are being evaluated from external stakeholder as well as themselves on how well they perform in this respect. This trend is in line with the movement, that our present generation should not use resources on the cost of future generations (abbreviated definition after Brundtland-Report; see also Future e. V. 2000, S. 4). This means, that managers today have to take these trends into consideration and make them part of day-to-day operations. A real sustainability management including socio-economics and environmental aspects will therefore lead to a better reputation and eventually to higher future earnings. Those aspects are integrated parts of the ECI. In some respects the words earnings capability forecast and sustainable profit are equivalent.

## 1.2 How the Earnings Capability Index (ECI)<sup>TM</sup> connects Strategic Management with Operational Management

Strategic management deals with the planning, implementing and controlling of corporate strategies. It can be divided into definition of goals, business environment analysis, company analysis, selection of strategy and the implementation of this strategy (Bea/Haas 2005, S. 49-50). The most important goal of an organisation's strategy is to secure the long term survival. After defining the **strategic goals**, an **analysis of the business environment** follows. In this analysis, the so called **SWOT** (strengths, weaknesses, opportunities and threats) method is successfully proven and follows a specific pattern with questions to find out where the company stands compared to competitors and can also be adjusted to different scenarios, like economical, technological and political changes (Müller-Stewens/Lechner 2005, p. 205-206). Relevant parameters are the existing resources within the company and its core competencies (Küpper 2005, S. 442-443). With this, the comparative advantages as well as disadvantages can be found, especially in the area of strategic intangible resources.

Changes in the market environment, as we have seen in the current financial and economical turmoil, are today not yet part of the ECI. However, the overall score can in specific cases be adjusted to those circumstances and the interval

in the tool changed or widened, a justified “override”. The reason for this override can be used in the tool, for instance regarding special limitations on sustainability issues.

The ECI<sup>TM</sup> integrates strategic management with the operational level (see pic. 2). The factors under competitiveness and ability to change are parts of the index and show the strengths and weaknesses in the strategic process of the firm, primarily based on indicators. The usually already existing financial indicators are used to evaluate the current earnings status of the firm. In combination, a holistic view of the organisation is possible, based on existing information and then aggregated over financial and non-financial indicators to get the whole picture of where the organisation stands in order to meet its future financial (and strategic) goals.

## Structuring the Earnings Capability Index (ECI)<sup>TM</sup>

The ECI<sup>TM</sup>, as an aggregated management tool, is an important component to assess the future earnings possibility of a firm. This “fit for the future” test includes seven steps as the following table shows (pic. 3):

### **Pic. 3: The seven steps of “fit for the future” (extract)**

The starting point in the “fit for the future” test is to analyse the classical financial data in order to assess the current earnings situation (step 1). This data will be completed with facts and data on competitiveness (step 2) and ability to change (step 3). The result of the three steps ends with a preliminary ECI<sup>TM</sup>, a forecast on the company’s future earnings capability (see pic. 4 below). The outcome of step 1 to 4 will be summarized in an activity plan (step 5) with management action items to improve the overall ECI score and therefore the overall value of the firm. This activity plan is the base for the implementation (step 6) on the operational level as well as the follow up (step 7). After implementation and the time of impact as agreed in the activity plan (usually between 6 – 24 months), the results of the action items will be analysed. If the results do not reach expectations, the activity plan (step 5) must be revised and adjusted. The objectives in the activity plan should be realistic and agreed upon with the managers and employees responsible to make them operational.

With the ECI<sup>TM</sup> tool, quantitative (hard) and qualitative (soft) success factors are made compatible to the firm’s strategic goals and prepared for implementation. To verify those factors, classical financial data as well as indicators from the analysis of competitiveness and ability to change are used as well as qualitative methods like Balanced Scorecard or the IC Statement (Wissensbilanz). Regarding the qualitative methods or reports, it is important to include the time horizon in order to avoid unrealistic expectations. The logic of how the total score is reached is depicted in picture 4. The major difference to existing management tools is the shift from focusing primarily on financial and quantitative indicators to a more clear concentration on the qualitative factors.

### **Pic. 4: The logic behind the Earnings Capability Index (ECI)<sup>TM</sup>**

The predefined financial and non-financial indicators or data used in the ECI<sup>TM</sup> will be evaluated in a scale where the highest score is 100. Through an industry specific weighting, the data is transformed into an index score in order to aggregate to the next level. Each index score will then be weighted regarding its relevance to the three time perspectives short, mid, and long term. With this, the company can get an overview of its different abilities to earnings today and also in the future. To get the overall scoring, the results of the three time perspectives are added into one value, the ECI<sup>TM</sup> score. In order to get the total score, the interdependency matrix will also be taken into account.

The authors assume that the systematic from the ECI<sup>TM</sup> can be used in any company and business sector. However, an adjustment of the weighting must be made regarding the type of industry, market maturity and socio-economic conditions. To handle this, a basic questionnaire has been developed but with different indicators to be used. The score to be used for comparison and the specific weighting for specific branches is still under development.

## Case Studies

After this introduction on how the ECI<sup>TM</sup> is built up, two company cases will show the information advantage the ECI<sup>TM</sup> gives compared to classical financial data and indicators. Due to confidentiality, the individual values are put at zero. In the following two pictures, the upper side depicts the data used from the auditing association to assess the future value and current business risk of those two cases based on classical data adjusted with the ECI<sup>TM</sup> weights. In the bottom part, extracts of the ECI<sup>TM</sup> is shown, deviating from the picture 4 above. The qualitative data in those cases are gathered from the companies respective IC-Statements (Wissensbilanz).

Using classical data in case 1 would lead to an overall score of 242, which is derived from the sum of 91 (current earnings), 67 (competitiveness) and 84 (ability to change). As the following picture 5 shows, this result is different from the result of the ECI<sup>TM</sup>. In this case the score is 230, the sum of 87, 76 and 67 respectively.

**Pic. 5: ECI<sup>TM</sup> - Case 1**

The integrated evaluation and analysis from quantitative and qualitative factors with the ECI<sup>TM</sup> does not lead to any revolutionary differences compared to existing (classical) evaluation approaches. However, looking at the three time perspectives short, mid and long term, the differences become significant. Firstly, the classical approach shows a bigger variation between the three columns of current earnings, competitiveness and ability to change. Secondly, there is a significant difference in the long term column, ability to change, where the classical analysis reaches 84 compared to 67 with the ECI<sup>TM</sup>.

Case 2 shows only slight differences in the classical analysis over time, 81, 82 and 78, total score 241. However, as picture 6 shows, with the ECI<sup>TM</sup>, including

the qualitative factors, the score is significantly lower in all three categories. The total ECI<sup>TM</sup> score ends with 207 (73+70+64).

**Pic. 6: ECI<sup>TM</sup> - Case 2**

This case shows that using classical indicators, no real management action is needed to secure the future of the firm. They have an estimated good market position today and for the future. With the ECI<sup>TM</sup>, however, the result shows that immediate action is needed in order to remain competitive. In this case, especially the columns competitiveness and ability to change must be improved.

## Summary

To secure the survival of a firm in a competitive market, qualitative and non-financial factors like employee motivation, brand reputation and customer value are essential. This article explains the management tool ECI<sup>TM</sup>, which combines the quantitative and qualitative factors in order to support management with the correct decision making information and an understanding of the consequences of their decisions. The tool can be seen as a management cockpit with an early warning system in case the company would lose track of their strategic direction.

Two case studies show how different the interpretation of future earnings can be using ECI<sup>TM</sup> or classical, quantifiable, tools. Especially the long term column, ability to change, shows significantly different results. It is recommended, that management focus should be more on the quality factors in the third, long term, column, than on short term quantifiable factors. If more effort would be made on this, a company will be better prepared to market changes and can act instead of react before it is too late to get back on track.

## Sources

Arbeitskreis Wissensbilanz am Fraunhofer Institut Produktionsanlagen und Konstruktionstechnik (2005), Wissensbilanz – Made in Germany, Wissensbilanz-Toolbox, Lastenheft Version 5.0, Berlin 2005.

Baum, H.-G./Coenenberg, A. G. /Günther, T. (2007), Strategisches Controlling, 4. Aufl., Stuttgart 2007.

Bea, F.X./Haas, J. (2005), Strategisches Management, 3. Aufl., Stuttgart 2005.

Edvinsson, L./Kivikas, M. (2007), Intellectual capital (IC) or Wissensbilanz process: some German experiences. Journal of Intellectual Capital, Vol. 8 2007, Nr. 3, S. 376-385.

- Edvinsson, L./Malone, M. S. (1997): Intellectual Capital. realizing your company's true value by finding its hidden brainpower, New York 1997.
- Future e. V. (Hrsg.) (2000), Nachhaltigkeit jetzt. Anregungen, Kriterien und Projekte für Unternehmen; abrufbar unter [http://www.future-ev.de/uploads/media/Leitfaden\\_Nachhaltigkeit\\_jetzt.pdf](http://www.future-ev.de/uploads/media/Leitfaden_Nachhaltigkeit_jetzt.pdf) (20.03.2009).
- Grüning, M (2002), Performance-Measurement-Systeme, Messung und Steuerung von Unternehmensleistung, Wiesbaden 2002.
- Günther, T. W. (2005), Unternehmenssteuerung mit Wissensbilanzen – Möglichkeiten und Grenzen, in: ZfCM, 49. Jg. 2005, Sonderheft 3, S. 66 – 76.
- Günther, T./Grüning, M. (2002), Performance Measurement-Systeme im praktischen Einsatz, in: Controlling, 14. Jg. 2002, S. 5-13.
- Kaplan, R. S./Norton, D. P. (1996), Using the Balanced Scorecard as a Strategic Management System, in: Harvard Business Review, Vol. 74 1996, No. 1, S. 75-85.
- Kemper, O./Sachse, D. (1999): Die Balanced Scorecard als Bestandteil eines Frühwarnsystems, in: Henckel v. Donnersmarck, M./Schatz, R. (Hrsg.): Frühwarnsysteme, Fribourg 1999, S.49-68.
- Kivikas, M./Wulf, I. (2006), Wissensbilanzierung als Element des Value Reporting, in: Fischer, T. M. (Hrsg.): Zeitschrift für Controlling und Management, 50. Jg. 2006, Sonderheft 3, S. 32-50.
- Küpper, H.-U. (2005), Controlling – Konzeption, Aufgaben, Instrumente, 4. Aufl., Stuttgart 2005.
- Leitner, K.-H. (2003), Wissensbilanzierung – Ein neues Instrument für die Steuerung und das Reporting von Universitäten; abrufbar unter [www.reko.ac.at/upload/wissensbilanz\\_20030624.pdf](http://www.reko.ac.at/upload/wissensbilanz_20030624.pdf) (03.06.2008).
- Müller-Stewens, G./Lechner, C. (2005), Strategisches Management, 3. Aufl., Stuttgart 2005.
- Speckbacher, G./Bischoff, J./Pfeiffer, T. (2003), A descriptive analysis on the implementation of balanced scorecards in german-speaking countries, in. Management Accounting Research, Vol. 14 2003 No. 3, S. 361-387.