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## Intellectual capital and company value

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### Abstract

The bulk of traditional corporate valuation methods reflect historical performance, while it is necessary to also take into consideration the value which is off-balance-sheet and possible growth. Large differences exist between company market and book value, and a part of this can be explained by intellectual capital. The aim of the study is to make an empirical investigation of the impact of intellectual capital on company value. Empirical results show that one can find mixed results regarding relationship between value added intellectual coefficient VAIC<sup>TM</sup> and company value.

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*Keywords:* company value; intellectual capital; human capital; Tobin's Q; value added intellectual coefficient (VAIC<sup>TM</sup>).

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### 1. Introduction

One of the main objectives of a company manager is to maximize company value. Company value is at the center of corporate finance, however, calculating a value for a company is not easy. First, different companies should be valued differently (for example, public company vs. private company). Second, company value depends on the aim of the valuation as well (one company can have several values, depending on the method). The last two decades have seen a stream of innovation in financial markets, yet corporate valuation methods have not changed significantly. Traditional corporate valuation methods include discounted cash flow valuation, liquidation and accounting valuation, relative valuation and contingent claim valuation (different authors propose various groupings

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of valuation methods). The bulk of these methods reflect historical performance, while it is necessary to also take into consideration the value which is off-balance-sheet and possible growth.

Traditional corporate valuation methods are based on balance sheet, income statement or cash flow statement; however, intellectual capital is an asset as well. Yet it is valued at zero on the balance sheet. Large differences exist between company market and book value, and a part of this can be explained by intellectual capital. Even though there is no universal definition of intellectual capital, its information provides an indication about the future potential of a company.

The aim of the study is to make an empirical investigation of the impact of intellectual capital on company value. The tasks of the research are as follows: to analyze the significance of intellectual capital and review the results of previous research on VAIC<sup>TM</sup>; to evaluate the relationship between VAIC<sup>TM</sup>, its components and company value; to make conclusions and work out recommendations for improvement of traditional corporate valuation methods.

The analysis is conducted on a sample of 64 Baltic listed companies (Baltic Stock Exchange) over the period from 2005 to 2011. In the research paper, the following qualitative and quantitative methods of research are applied: the monographic method, descriptive statistics and correlation analysis. The research is based on published papers on intellectual capital and VAIC<sup>TM</sup>, as well as the information provided by the Baltic Stock Exchange.

The remainder of the paper is organized as follows. Section 2 describes the intellectual capital and recent empirical findings on this subject; Section 3 illustrates the sample and methodology of research; Section 4 contains the analysis carried out and the discussion. The final section concludes the paper.

## 2. Intellectual capital

There are many corporate valuation methods. Nevertheless, studies find contradictory results, and the corporate finance community is not even close to a universal methodology of company valuation. Different methods have different advantages in different situations, and some capture important aspects of valuing a business, which are not recognized by others. Traditional company valuation methods pay more attention to either historical figures (based on the balance sheet, income or cash flow statement) or inexact forecasting [for example, free cash flow and weighted average cost of capital (WACC) for subsequent periods]. These methods are mostly taking into consideration the physical assets of the company, while in the knowledge-based economy more emphasis is put on employees and intellectual capital. Therefore, afore mentioned corporate valuation methods are not suitable in today's world.

In a knowledge-based economy, one must take into consideration not only the traditional ways to measure the company value, but it is necessary to recognize intellectual capital as well. Traditional measures of a company's performance, which are based on conventional accounting principles, may be unsuitable in the knowledge-based economy which is driven by intellectual capital (Gan & Saleh, 2008). Although intellectual capital and knowledge assets are difficult to discern and quantify, their results will nonetheless be reflected in the company's greater productivity, efficiency, and overall profitability. The limitations of financial statements in explaining company value underline the fact that the source of economic value is no longer the production of material goods, but the creation of intellectual capital (Chen, Cheng & Yuchang, 2005).

Intellectual capital is intangible and cannot be accurately measured. For example, Frykman & Tolleryd (2010) define intellectual capital as all non-financial assets of a company that are not reflected in the balance sheet. Yet Tawy & Tollington (2012) have observed that there is no universal definition for intellectual capital and the cause and effect relationship between intellectual capital and value creation is, at best, indirect.

Bayburina & Golovko (2009) emphasized that intellectual capital is the "intangible safety - cushion", which can be used only by companies who have created it years before. Therefore it is necessary to focus on sustainable development. The panel data analysis of before mentioned study revealed that the human capital can be considered the key factor of the long-term growth of BRIC companies. Brown *et al.* (2005) emphasize that intellectual capital has ascertainable monetary value, provides a company with a competitive edge, and enables it to differentiate itself from its competitors.

Value Added Intellectual Coefficient (VAIC<sup>TM</sup>) is a method developed by Pulic (2000), which monitors and measures the value creation efficiency in the company according to accounting based figures. The VAIC<sup>TM</sup> model is intended to measure the extent to which a company produces added value based on intellectual (capital) efficiency or intellectual resources (Stahle, Stahle & Aho, 2011):

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