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The impact of business intelligence recognition on goodwill valuation

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Abstract

The purpose of this paper is to determine the value of business intelligence software in the adjusted net assets value used in the process of evaluating a company's goodwill. The paper starts with a literature based approach for asserting the added value brought by business intelligence software in a company which will be used as a support for proposing a new method of determining the adjusted net assets value. These new market value oriented approaches are benchmarked for a diverse sample consisting of both BVB and NYSE listed companies. The estimated result of this research is the determination of an adjusted net assets valuation method that will take into account the value of business intelligence software a company uses and correct its goodwill. The research presents an extensive literature review and adopts a positivist paradigm in evaluating the theoretically constructed method. It also consists of a critical approach of case studies presented by literature. The importance of this research is to provide the investors with a better way of valuating adjusted net assets and, as a consequence, a company's goodwill, which can lead to better investing, practices in the future. Also, this research can provide a new and improved tool for anyone who wishes to adapt their valuation instruments to the changes resulted from technological progress.

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Keywords: fair value; corrected net assets; goodwill

1. Introduction

Scientific innovations have long paved the road to prosperity for humanity. Since the circles of Pythagoras to the complex algebra employed today, the degree of abstractization has been steadily increasing in both scope and quality, paving the way for the development of innovative techniques. Technology has been the great equalizer between the developed and developing worlds, as the capital structure required for financing the operations of an IT company are significantly smaller than that of energy, industrial or agricultural company. Moreover the human resources trained and employed by such companies are subject to improvement. By the end of the fiscal year 2008, five of the fifteen top countries by PCs in use were developing countries, and even those countries selected for the purpose of the rating were populous ones. Less populous developing countries such as Russia were ahead of more populous ones such as India. With IT professionals becoming the world pioneers in the exploration of a modern "El Dorado", improving the business valuation methodology to account for the boom and bust of this industry and its clients without ignoring other sectors of the world economy have become a necessity for the accounting profession.

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New forms of organization, particularly business intelligence are steadily replacing old hierarchical tools for business planning. With successful business models developed in the IT industry such as Apple and Microsoft gaining more and more of the world corporate wealth, a question for the business valuation expert arises. Can a business valuation method provide a reliable measure of Goodwill based upon the realities of the 21 century?

The Anglo-Saxon experience is not an encouraging one. In what later became known as the dot-com bubble, during the early decade of the 21st century, a large number of US IT corporations had their stock prices fall. The collapse of the bubble took place during 2000-2001. Some companies, such as Pets.com, failed completely. Others lost a large portion of their market capitalization but remained stable and profitable, e.g., Cisco, whose stock declined by 86%. Some later recovered and surpassed their dot-com-bubble peaks, e.g., Amazon.com, whose stock went from 107 to 7 dollars per share, but a decade later exceeded 200. Authors such as Anthony Hopword acknowledge the fact that the purpose of accounting has long shifted from documenting economic facts to changing user behaviour. In a sense accounting has shifted from being an objective measure for determining an entity's wealth to a social control practice, by which certain business get favoured. A series of articles pertaining to the involvement of special interests' lobby in the setting of accounting standards like the ones provided by (Ramana, 2008), (Cortesse, 2010)and (Koh, 2011)are relevant in that matter. Even though the IT sector has expanded greatly since the crash and more and more business solutions are provided to the world economy, without appropriate accounting measures to encourage spending in R&D as well as software will undoubtedly have unwanted consequences on the world economy.

2. The concept of business intelligence

The concept of business intelligence (BI) is used to refer to various processes, products, techniques, or tools that enhance the decision making process. Using BI tools, a company can anticipate and understand various phenomena and trends in its market areas and, also, learn more about its customer's preferences and competitors actions. Usually, a BI system is used by managers and different other stakeholders in order to gather more in-depth insight from raw data originating inside or outside the companies environment. (Pirtimmäki, 2007)

Öykü Işık et al. identify five business intelligence capabilities: data quality, integration of the business intelligence system with other systems, user access, flexibility, and risk support (Işık, 2013). Integration of informatics systems represents the unification of three major components: processes, systems and/or data belonging to those systems (Seddon, 2010). Integration of BI with the other systems ensures that the BI tools are provided with relevant data which can be used in the decision making process. Furthermore, the level and quality of integration between BI and other systems is dictated by the type of data needed by the business. Some business sectors require real-time data, like companies that engage in financial trading or e-commerce companies that need product recommendations or price optimization, while other sectors can work well with historical data. This means that the first group needs a tight integration of its information systems, whereas the latter can afford redundancy. (Işık, 2013)

A high level of data integration represents the starting point for achieving BI system maturity (Seddon, 2010). According to Popovič et al., a mature BI system can integrate large amounts of data from disparate heterogeneous sources and can also provide analytical capabilities in order to analyse such data. With the increase in system maturity, users can find relevant information from various data sets in a timely manner and with the help of advanced analytical technologies such as data mining and OLAP cubes, BI systems significantly advance from low-level operations to a strategic tool (Popovič, 2012)

Another aspect of a BI system is the data being fed in. For BI systems, data has two characteristics: quality and accessibility. In a mature BI system users will opt for a higher data quality and accessibility. (Popovič, 2012) Nevertheless, data quality is a controversial subject in the literature. Some authors argue that data quality is an important issue when dealing with decision support (Graham, 2008) (Popovič, 2012), others have devised empirical tests that reveal the low importance of data quality (Işık, 2013). Nevertheless, data quality tools have become important for companies that implement BI systems, being considered relevant in enhancing the decision support processes (Firedman, 2012). For storing data, BI systems use data warehouses. This part of the system must have the ability to store large amounts of data in an easy-to-query format. In 2012, the data warehouse market was no longer defined by solutions that only included a database management system running a primary repository, but there was an increase in solutions which included virtual data stores, federation and even distributed processing across clusters. As Beyer et al. noticed a bubble forming in the data warehouse market, caused by the large request and the opportunity for the vendors to oversell infrastructure. (Beyer, 2013)