UNIVERSITY ALEXANDRU IOAN CUZA IAȘI

FACULTY OF ECONOMICS AND BUSINESS ADMINISTRATION

PhD THESIS- ABSTRACT

Statistical evaluation of non-financial factors determinants of enterprise value

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CONTENTS

Introduction

In the last two decades, fundamental changes have been produced in the economic system by shifting interest from resource-based economy to knowledge focused economy. These major changes have determined a reduction of tangible contribution in creating added value and simultaneously shifting the focus to other kinds of resources called non-financial factors.

The importance of non-financial factors in creating added value was achieved gradually with the emergence of a growing number of knowledge-intensive businesses that have low levels of tangible assets but show high levels of profits and revenues.

Existing studies up to present (Riohi and Belkaoni, 2003; Kaplan and Norton, 2004) showed a positive relationship between non-financial factors and the company's value, which expresses their role in creating financial performance.

The present thesis takes on the aforemention direction, its purpose being statistical evaluation of non-financial determinants factors influence of enterprise value. Since non-financial factors are upon future and continuity of any entity, the importance of the research is to estimate the value creation through non-financial factors as explanatory elements of the results.

Objective pursued by this approach is achieved through the following objectives:

1. Analysis of the main concepts used in defining the non-financial factors and the interdependence between them.

2. Critical approach of assessment methods of non-financial factors in order to detect main trends and gaps in research.

3. Detection of non-financial determinants factors of enterprise value.

4. Identification of key features of each sector in terms of size ratio between the market value and the book value of the company.

5. Analysis of variation of repeated measurements on non-financial factors.

6. Statistical evaluation of the influence of non-financial determining factors over the enterprise value.

The role of the first two objectives are to present the existing theoretical framework by identifying the main directions of research and issues studied. The third objective of the research was focused on identifying the non-financial determinants factors of enterprise value from the non-financial reporting perspective.

The last four goals of the research have an empirical character and study the non-financial factors in terms of corporate social responsibility.

Statistical analysis methods applied are nonparametric test for intragroup design studies, nonparametric test for intergroup study design and data analysis panel.

Chapter 1. Concepts on enterprise value and non-financial factors

Non-financial factors are the assembly an organization's resources without physical form with a significant contribution to value creation and consists of all organizational processes, patents, employee skills and information about customers, suppliers and business partners.

In the study of non-financial factors are used several concepts: intellectual capital and intangible intangible assets. Regardless of the concept used, most definitions of non-financial factors are pulsating economic value created by them and their ability to generate sustained competitive advantages.

In terms of the relationship of inclusion between the concepts, intangibles include within their scope of analysis, intellectual capital and intangible assets. The concepts used can be associated with certain subjects so that intangible assets are used in accounting, intellectual capital demonstrates its usefulness in human resources and management, while economists prefer to use intangible concept.

A significant number of non-financial factors that can have a significant influence on their enterprise value was classified by the following structure: human capital, structural capital and relational capital.

Human capital is the whole knowledge, experience, skills and capabilities of the employees in carrying out their duties. Non-financial factors specific human capital can be divided into two groups: (1) non-financial factors of each employee that can be evaluated by the level of formal education, years of work experience and innate abilities and (2) non-financial factors obtained through organizational learning .

Structural capital represents all working procedures, computer programs, databases and organizational culture that supports employees in their work. Structural capital refers to the internal organization that supports human capital in current activities to create innovative products and services.

Non-financial factors in terms of relational capital is quantified as brands, alliances and partnerships, distribution channels and relationships with customers and suppliers.

Chapter 2. Non-financial factors evaluation methods

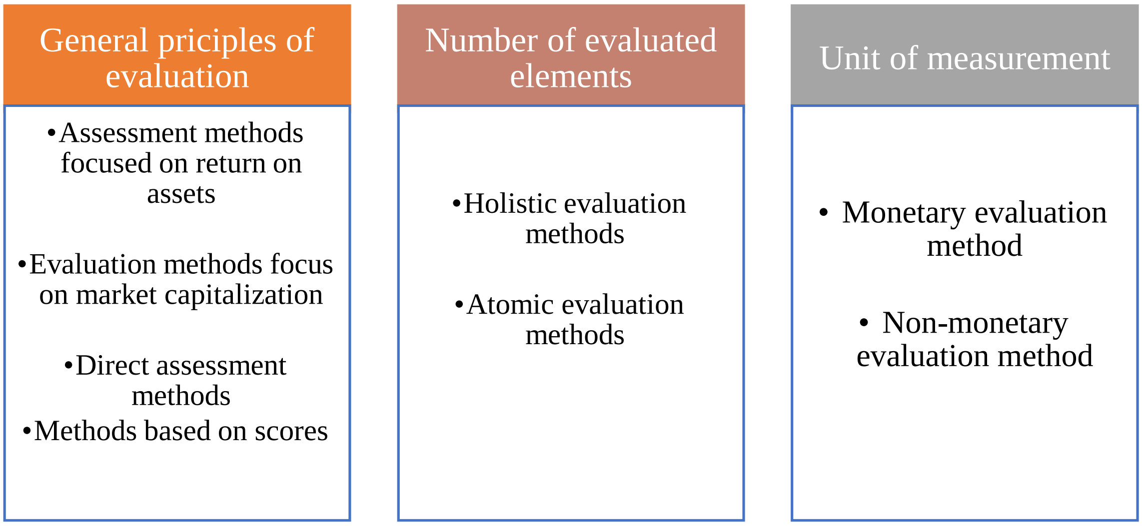
The importance of non-financial factors in generating economic benefits has led to the need to assess their efficient use, but there is a significant number of non-financial factors and their heterogeneous character gave rise to a wide range of assessment methods.

Large number of evaluation methods have determined their classification according to two characteristics:

- Monetary nature (quantitative) or non-monetary (qualitative) assessment method
- Evaluation method orientation to quantify individual non-monetary factors or a shift towards global assessment of the entity's intangible resources.

Based on these characteristics, methods of evaluating non-financial factors can be classified into four categories: assessment methods focused on return on assets, evaluation methods focus on market capitalization, direct assessment methods and methods based on scores.

Figure 1. Classification of non-financial factors rating methods



Source: own elaboration

Evaluation methods focused on return on assets have a profound monetary character and are built around financial indicator rate of return on assets. According to these categories of methods, any return of a entity superior to competing entities is associated with the presence of non-financial factors

Evaluation methods focused on market capitalization accomplish an overall financial assessment of non-financial factors, arguing that their value is quantified as the difference between market value and book value of the company.

Direct assessment methods are directed toward a direct assessment of those non-financial factors considered readily separable, applicable to the resources of intellectual property and human resources of the company.

The newest trend in the non-financial factors evaluation are the assessment methods focused on scores. These evaluation methods shows its usefulness in case of internal evaluation of non-financial factors, as they may be applied at every level and so the scores used can be tailored to the specific enterprise.

Table 1. Comparative analysis of assessment methods

Characteristic	Method of evaluation			
	DIC	MCM	ROA	SC
Monetary/Non-monetary	Non-monetary	Monetary	Monetary	Non-monetary
Individual evaluation/global	Individual	Global	Global	Global
Allow comparation of the entities	Yes	Yes	Yes	No
Use of accounting data	No	Yes	Yes	No
They can be applied at every level of organization	Yes	No	No	Yes
Can be linked to financial market information	No	Yes	Yes	No

Source: own elaboration

Despite having a large number of assessment methods, none of them respond to the current requirements for identifying and evaluating non-financial factors. As regards the methods of assessment at the moment, it is noted following features:

- Using financial ratios for assessing non-financial factors. This category includes evaluation methods focused on market capitalization and return on assets. The ease of their application through the use of financial data from the annual financial statements is offset by the low degree of relevance in quantifying non-financial factors.

- Assessment methods aimed at assessing specific elements of non-financial factors such as human capital, brands, patents or patents. In this category are the methods of direct evaluation of non-financial factors.

- Construction of non-monetary indicators in the form of non-financial factors specific scores that can be customize for each entity. In this category are focused on the scores evaluation methods. The main problem in applying this class of methods is the freedom given to managers to select the most appropriate indicators for evaluation, and the inability to track trends and make comparisons between entities.

Chapter 3. Detection of a profile of enitities by non-financial factors

Since not all non-financial factors are determinants of enterprise value, attention is directed to identify and assess those resources can be created through which financial performance.

Studies to date have shown that non-financial factors that have a significant influence on enterprise value are skills management, employee satisfaction, motivation and employee experience (Miller, 1999), implementation strategy, market share, innovation and the company's ability attract and retain talented employees (Bournemann, 1999), the quality of production processes, innovation and customer satisfaction (Frottie and Andrieu, 1998) and experience management, market share and brand awareness (Garth, Cats-Baril Grinell and 1997).

The existence of a large number of non-financial determinants factors of enterprise value as well as multiple facets of these terms determined the position on a segment of analysis. From this point of view, the study of non-financial factors influence over the value of the company is done from the perspective of corporate social responsibility. This choice is based by modern entity's role in terms of sustainable development and popularization of the idea that the interests of shareholders are the most important and management attention should focus on to meet their need for information for economic decision making.

Establishing methodological approach for the practical part of this thesis has its starting point in defining non-financial factors as the difference between market value and book value of the company. In this direction, the methodology used to answer each of the targets is shown in the following figure.

The study population consists of all multinationals that preparers non-financial reporting under the Global Reporting Initiative. To ensure data comparability, the following restrictions have been imposed: the existence of financial and non-financial data throughout the analysis period and financial statement to be made on 31 December. Based on the restrictions applied, it was selected a total of 364 European companies, representing 1,456 records for 2009-2012.

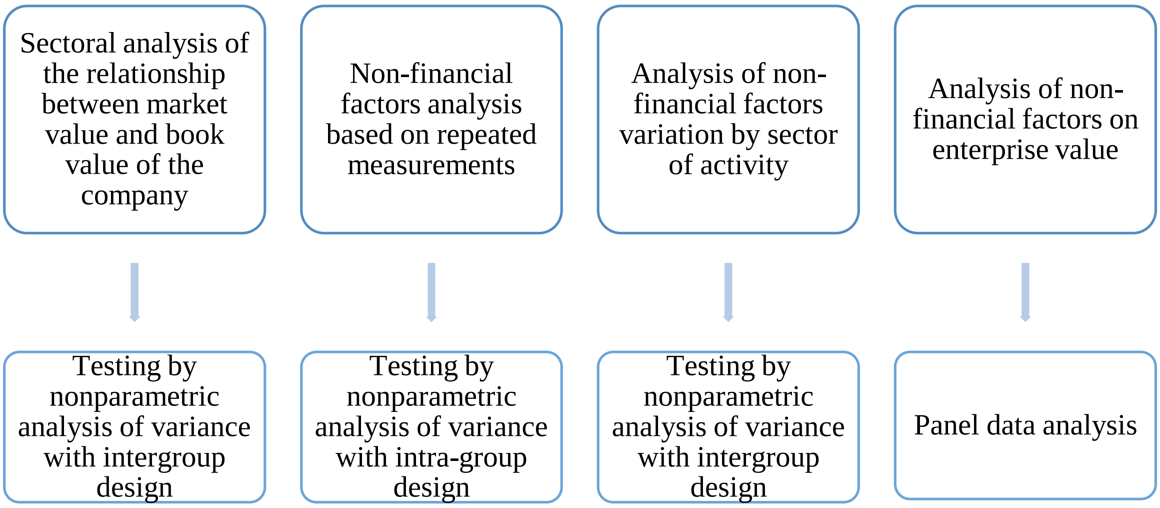


Figure 2. Statistical analysis methods used to achieve the research objectives

Source: own elaboration

The sectoral distribution of entities according to sector of activity showed more than 50% employment of corporations analyzed in the industrial, financial and raw materials and confirms the existence of a large number of operators in these market niches. On the other hand, is the utilities sector, energy and information technology, characterized by a small number of sellers who have a high degree of innovation, specialized products and the use of advanced technologies.

In studying the influence of non-monetary factors on enterprise value, market capitalization was selected as a tool for assessing the market value and the carrying value of non-financial factors and a number of non-financial factors.

Non-financial factors were taken from the csrhub database, database specialized in the collection, handling and data encryption on corporate social responsibility.

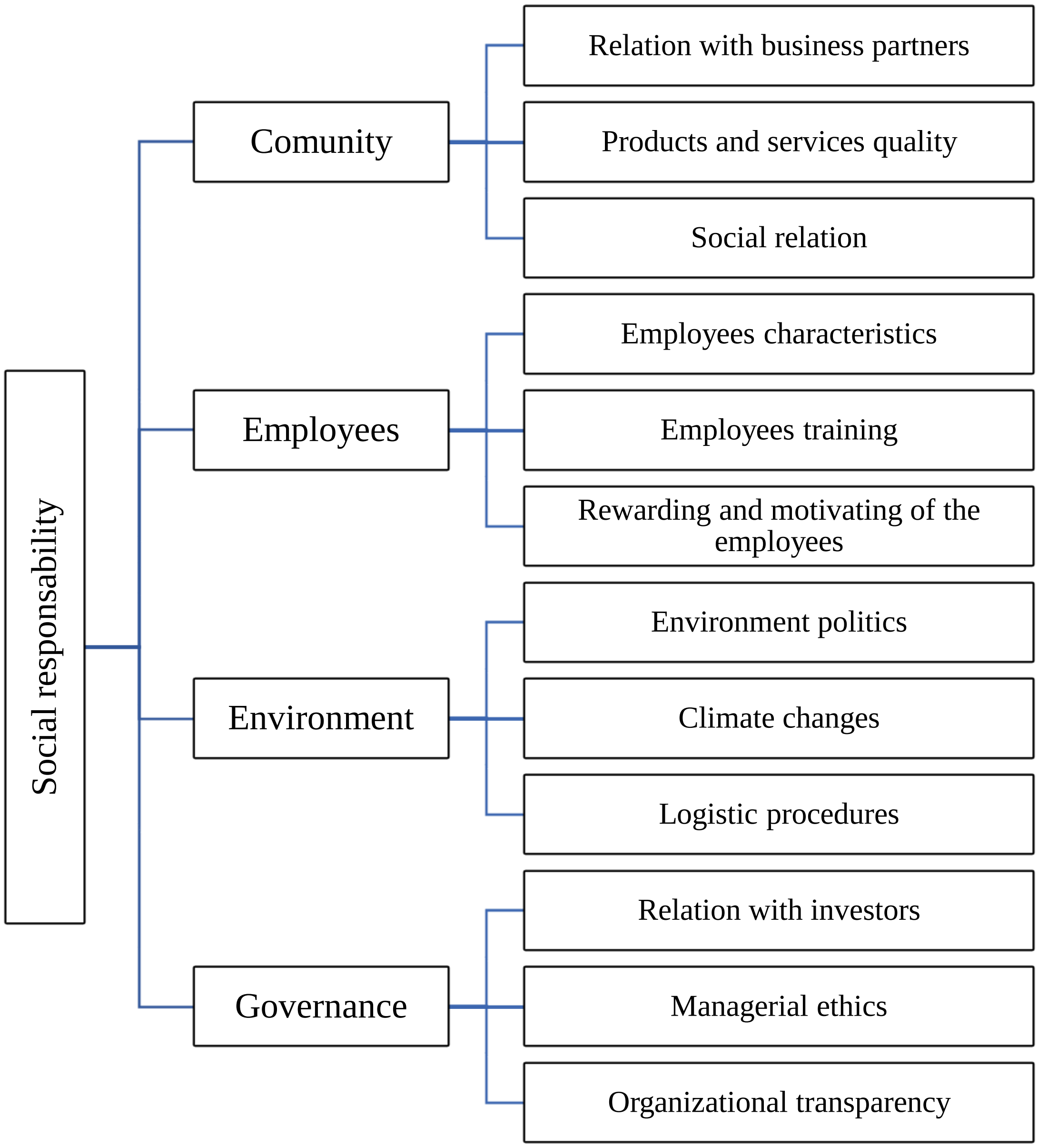


Figure 3. Use of non-financial indicators

Source: csrhub.com

Analysis of the relationship between market value and book value of the company

In the statistical analysis of the non-financial determinants factors of enterprise value , the first operational objective was to study the relationship between market value and book value of the company depending on the sector, based on the assumption that non-financial factors are quantified on this difference. Despite it can not consider the non-financial factors fully explain this gap, the analysis of this report is a first step in evaluating non-financial factors.

The results of this study showed that the financial sector and utilities have the lowest scores for the ratio between market value and book value of the company, while the health sector goods, consumer discretionary and information technology are the most high for this indicator.

This highlights the fact that relatively new sectors have low book value due to few tangible assets and their attention is focused on the research and development and innovative character of the products and services provided.

Analysis of variation of repeated measurements on non-financial factors

In the study of non-financial determinants factors of enterprise value, it is important to identify the distribution of non-monetary factors on the sector of activity as well as their evolution as a result of European regulations imposed on non-financial reporting.

On the other hand, non-financial factors of a company can not indefinitely an upward trend, but there is an optimum level between the impact of their influence and the costs assumed by the entity to support these resources. On the other hand, an entity can not hold all the non-financial factors, but must focus on those resources that can be exploited in order to obtain maximum results.

Analysis of non-financial factors variation on repeated measurements showed that relations with business partners, logistics procedures, quality products and services and characteristics of employees are crucial to creating economic value. These results indicate that these non-financial factors can have a steady improvement and hence can be exploited all possibilities of development of an organization.

In addition to non-financial factors already mentioned, should not be lost sight of rewarding and motivating employees, social relationships, ethics management and investor relations. These non-financial factors are the creators of economic value by themselves, but keeping them at optimal contribute to the development of the first-mentioned categories of intangible resources.

Non-financial factors specific to environmental protection, climate change and environmental policies are non-financial factors and determinants of enterprise value and the management is not concerned about their development.

Analysis of non-financial factors change depending on sector of activity

Analysis of non-financial factors change depending on the sector has shown that organizational ethics management and transparency are evenly distributed and can not be considered specific to a particular sector. They can also be identified a few significant differences for social relations, relationships with business partners and environmental policies, showing interest entities in every sector of activity for relational capital.

Social relationships are well highlighted in the consumer goods sector, while commodity sector entities are not interested to be involved in developing social framework in which they operate. Of all analyzed non-financial factors, social relationships have the lowest scores for all sectors.

Relations with business partners is a relatively homogeneous non-financial factor so that most entities have similar views on its role in maximizing enterprise value. It can detect significant discrepancies for the financial sector and the information technology so that entities in the first sector believe that the relationship with customers and suppliers contribute significantly to creating economic performance.

Non-financial factors specific to human capital are well highlighted in the financial sector and utilities, showing concern for the development of training and professional development of employees leading to the creation of added value. Also, weak investor relations is highlighted in the raw materials sector, but is manifested in strong commodity sector, finance, information technology and telecommunications.

Analysis of non-financial factors on enterprise value

Analysis of non-financial factors on enterprise value by analyzing panel data shows that intangible resources selected explains 33% of the company value. This highlights the role of non-financial factors in maximising enterprise value and the need to pay particular attention to the analysis of their efficient use. Of these, social relationships and organizational transparency have a positive influence on enterprise value, showing that non-financial factors specific to relational capital are determinants in creating value added.

On the other hand, climate change, ethics management and environmental policies show a negative influence on enterprise value, showing that these non-financial factors lead to the creation of uncertainty by their specific.

Conclusions

The main problem in analyzing non-financial factors influence the value of a company is the very evaluation itself. Based on these arguments I consider that non-financial factors evaluation should be carried out an by an external perspective by using a completely indicators system so that each non-financial factor is the result of a large number of indicators. This would allow a transparent evaluation and comparisons of the company for making business decisions and follow the trend for making predictions.

Survey results highlighted the role of relational capital in generating economic benefits, indicating that these non-financial factors are relatively evenly distributed to the entities examined.

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