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The global performance of the company and
the determinants for value creation

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sustainability

the value of the company

Z-score function

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INTRODUCTION



The current business environment is in a process of paradigm shift, from the doctrine of the reputed economist Milton Friedman from the 1970s - maximizing shareholders' wealth, considered "the greatest idea in the business environment" and a fundamental theory in corporate finance in which dominated the short-term objectives, a narrow vision on performance, in which the sole responsibility was to increase the shareholders' wealth - to the modern doctrine regarding the long-term performance of the company and how the value is created and distributed to all the stakeholders of the company - shareholders, employees, customers, suppliers, local community, non-governmental agencies, local authorities, etc.

The approach of short-term performance by large corporations still predominates in the business environment due to large investors in the capital markets: pension funds, mutual funds, sovereign investment funds, which puts pressure on short-term results. Excessive focus on the short-term performance of company and investor management combined with insufficient attention to long-term strategy can create destructive ways of value for all market participants, undermine the company's credibility and ability to create long-term value.

When discussing the role of value creation in the business environment, meanings and interpretations of "value" are essential for understanding its contextual manifestations. In economics, accounting, management, marketing, but also in other academic disciplines, specific interpretations and models of value measurement have been developed depending on the topic under discussion. In a narrow sense, the concept of "value" is related either to the process of creation or to the process of co-creation. However, most often, the concept of "value" is seen as synonymous with the profit or gain obtained from the process of exchanging goods and services. Looking back in the past, this interpretation of value has its roots in Adam Smith's research - 'The Father of Economy', in which he studied the importance of exchange value. This interpretation was used as an indicator to measure the wealth or benefits that a person or group of people obtain. However, returning to the present, when we analyze the "value" at the company level, two significant perspectives stand out. The first perspective concerns the fundamental value of the business model of the company, and the second perspective concerns the value incorporated in the company's products and services, and this value is passed on to customers through exchange value, as Adam Smith emphasized two centuries ago.

The issue regarding the financial performance of the company and the value created for shareholders on the one hand and the costs incurred by the stakeholders on the other has grown and acquired new dimensions, due to an imbalance between the benefits obtained and the risks assumed. As Nassim N. Taleb argues, when 'putting your skin in the game', using symmetry as an attribute, you must equally participate in both benefits and risks. In the case of large corporations, there is a widespread perception that they thrive to the detriment of the community or other categories (e.g. employees, suppliers, local authorities, minority shareholders). Thus, the creation of value has been added new dimensions, starting from a shareholder-focused vision to one that also considers other factors of influence as a very different way of looking at the impact of the business and responding to the needs and interests of the stakeholders. Sustainable development is a factor that in the modern language has become a balance between the damage caused to the environment and the depletion of natural resources. In the business environment, investors approach and expansively measure sustainability through three categories: environment, social and governance, an approach that has become known as 'ESG - Environmental, Social and Governance'. The first category, the environment - deals with issues regarding greenhouse gas emissions, water use, waste disposal. The second category, social - concerns diversity, labour relations, product safety, employee health and safety, local community development. The third category, governance - targets issues such as ethics, diversity and composition of boards of directors, shareholder rights, commitments within the supply chain. The managers of companies, as well as the investors, give increasing importance to the concept of sustainability. Moreover, in 2018, Yahoo announced that it would begin publishing sustainability ratings for publicly traded companies. Another influencing factor is "creating shared value", the concept that recognizes the needs of society, not just current economic needs. Social damage or weaknesses often create internal costs for businesses - such as energy or raw materials, the need for training to compensate for shortcomings in education. However, by solving them, companies can innovate by using new technologies, operating methods and management approaches - hence increasing productivity and expanding into new markets.

Through the proposed research topic "*The global performance of the company and the determining factors for creating value*", we consider that important topic is addressed, current with significant impact in both practice and economic theory, and these fall within the area of concern of the management field. As a result, *the fundamental question* we started from in this

approach is how we can manage and measure the performance of companies given the complex and changing environment we are?

Taking into account the central elements addressed in the research: performance, value creation, management and performance measurement, at critical points in the management field but also the limits identified based on the analysis of the current state of knowledge, the following *presumptions* are outlined:

- to better capture the global performance of the company, it is necessary to approach the performance from both the financial (quantitative) and non-financial (qualitative) perspectives;
- performance management in the knowledge-based society is treated from a broad perspective, addresses issues such as social, environmental and corporate governance, and also takes into account the needs and interests of stakeholders and not just those of shareholders;
- the discrepancy between the number of systems, models and methods of performance management and measurement proposed in the specialized literature and those that have imposed in practice is mainly due to a limited understanding of how they contribute to the management performance and measurement practices of the company;
- the concept of value is a multidisciplinary one, and its meanings and interpretations can be distinguished; a conceptual clarification it is required at the level of the management discipline;
- the paradigm shift from maximizing shareholder value to maximizing stakeholder value (investors, employees, customers, suppliers, governments, local communities) has led to a prioritization of needs and interests through stakeholder impact analysis;
- the value created is one of the essential elements in the evaluation of the performance; therefore, an analysis of the factors that determine the creation of value at the company level it is required;
- the increasing impact of intangible assets on the performance of the company to the detriment of the classic assets in the case of sectors of activity (for example the 'Information Technology' sector) has determined a reconfiguration of the importance of the elements within the chain of value of a company;
- within the models of performance measurement, but also of the value created by the company, indicators that may be irrelevant for some sectors of activity or companies it is used (e.g. brand value is significant for companies in the luxury sector);

- designing an efficient performance management model that can be applied regardless of the sector of activity represents a challenge due to the difficulty in using and interpreting non-financial indicators;
- the domestic business environment differs significantly from that of the developed states mainly due to the factors that determine the creation of value; thus it is challenging to implement within the Romanian companies the models and theories of management;
- the concept of sustainability has become a widely debated topic in the literature, appearing as a component of corporate ethics in response to public dissatisfaction over long-term damage, but we do not find a consensus regarding the methodology of measuring the sustainable performance of companies;

Given the current results in the field of management and starting from these assumptions, fueled by the influence of globalization and the paradigm of change, it is necessary for scientific research in this field to keep up with trends, so the impact of these changes will be more natural to mitigate and adapt much faster. As a result, we *aimed* to design a performance management model, but this is not an easy task, it requires a holistic approach that integrates knowledge from disciplines such as management, economics, finance, accounting, but also rigorous scientific methods. Moreover, through this scientific endeavour, we want to clarify at least some of the issues that are less addressed in the specialized literature and to highlight the importance of performance management and value creation within the company from the perspective of theoretical and empirical approaches, applied at national and international level.

The objectives outlined around the fundamental purpose and the research theme within the doctoral thesis are noted by reconsidering and redefining theoretical aspects such as performance management, value creation, at the company level, and through the pragmatism of the solutions regarding their measurement mode, thus the *objectives* refer to:

- highlighting the importance of financial and non-financial performance within the company;
- identifying the approaches regarding the performance management of the company;
- analysis and evolutionary classification of the most established systems, models and methods of management and measurement of company performance;
- conceptualizing value and creating value at the company level;
- substantiating the determining factors for long-term value creation;

- analysis of methods and techniques for measuring value in a company;
- substantiating the indicators on measuring the overall performance of the company;
- the analysis of the theoretical and practical aspects of the mathematical and statistical methods for establishing the links between the analyzed variables and for constructing a Z-score function for measuring the performance of the company;
- proposing a model of company performance management;

Research methodology

The peculiarities of the proposed scientific approach can be found in its object and its specificity, in the objectives that it sets, in the way in which it defines its research problem, bases its variables, selects and collects its data and outlines the solutions, the research methodology is in full accordance with the objectives assumed. The mechanism of the proposed fundamental scientific research aims to use a varied and appropriate range of methods and techniques that include:

- *dynamic analysis* of the research of the concepts, phenomena and processes that are the subject of the study: accessing the specialized bibliography - books, monographs, articles, studies belonging to the Romanian and foreign authors devoted to extracting the main directions of evolution of performance management and value creation through capture the different stages of development; accessing the annual financial statements of the companies - balance sheet, income and expenses statement in order to collect data;
- *fundamental and applicative investigation*: identifying the approaches through which performance management is treated; classification of the most established systems of performance management and measurement; identifying the factors that determine the creation of value and the methods and techniques of measuring the value; substantiating the performance indicators and their surprise within the performance management model; identifying performance criteria of successful companies;
- *statistical and mathematical analysis*: it was necessary to approach the company's performance and to construct the Z-score function through mathematics, starting from the consideration that mathematics is the best way to justify the theoretical consequences or theories following observations; statistical analysis came to the aid of testing the links between variables and performing descriptive statistics of the analyzed sample;
- involves the development of a performance management *model* to measure the performance of the company; to integrate the factors that determine the creation of value

taking into account the sector of activity, the business model and the specificities of each company;

- *logic*: it can be seen, used and formulated notions, judged and are reasonably inductive and deductive; making comparisons, identifying the elements of maximum generality and of the three strictly specific ones; approach both analytical and synthesized for processing and phenomena; abstracting - in the case of general extractions and concretization - for defining individuals regarding the identification of management models of the global performance of the company.

The paper is structured in such a way as to meet the objectives of the doctoral thesis. The paper is composed of three chapters presented briefly below, as shown in the accompanying systematic process.

In chapter I of the thesis, entitled *Performance Management within the company*, we set out to present different theoretical and conceptual considerations and approaches regarding performance, performance management and the performance management and measurement systems of the company. Starting from the changes generated by the scale of the knowledge-based economy, the need for in-depth study of this topic appears, and through the objectives pursued, this first chapter integrates perfectly into the structure of the doctoral thesis. These objectives relate to:

- performing a synthesis of the relevant literature for the research topic;
- highlighting the performance from the perspective of the stakeholders, not just the shareholders;
- achieving conceptual clarifications related to the perspectives from which performance management is addressed in this field, necessary for further research because there is a debate in the literature on this aspect;
- identifying the most critical approaches in performance management within the company;
- chronological presentation of the performance management and measurement systems;
- analysis of management and performance measurement systems by highlighting those with the most significant impact on management practice and theory;

Given the elements mentioned above, in order to achieve the proposed objectives, this first chapter of the doctoral thesis is structured in three sub-chapters.

Chapter I

MANAGEMENT OF GLOBAL
PERFORMANCE WITHIN THE
COMPANY

- 1.1. Theoretical considerations regarding performance
- 1.2. Landmarks and approaches in the performance management of a company
- 1.3. Classification of systems, models and methods of performance management and measurement
 - Conclusions of chapter I

Chapter II

CREATING AND
MEASURING VALUE
WITHIN THE COMPANY

- 2.1. Theoretical approaches to the concept of 'value'
- 2.2. The determinants of value creation: economy of scale vs creative economy
- 2.3. Methods and techniques for measuring value
 - Conclusions of chapter II

Chapter III

SELECTIVE
SCIENTIFIC
RESEARCH

- 3.1. Development of a performance management model
- 3.2. The substantiation of the variables in the analysis
- 3.3. Data selection
- 3.4. Research questions and hypotheses
- 3.5. Setting research objectives
- 3.6. Research methods used
- 3.7. Statistical methods used
- 3.8. Data analysis and interpretation
- 3.9. Application of the model
 - Conclusions of chapter III

Final conclusions, original contributions and future research directions

The systematic process of approaching the PhD thesis

Subchapter 1.1 will consider the conceptualization of the performance within the company by emphasizing complexity in approach and evolutionary character due to the change of perspective from maximizing the shareholders' wealth to the needs and interests of the stakeholders.

In the subchapter 1.2, the efforts of the established authors that will offer the most comprehensive approach to the economic, technical, social and managerial dimensions of performance are summarized in the specialized literature. Thus, the essential approaches from which the performance management within the company is treated are highlighted.

Based on an extensive study of the specialized literature (within the bibliography of this paper there is a selective presentation of it), will find: the fact that the performance management system also includes the performance measurement system; there is no chronological approach to the methods and models of performance management and measurement; but no synthesis of the systems, models and methods of performance management and measurement. Therefore, in subchapter 1.3, the confusion created by the two systems used in this study will be clarified, a chronologically ordered classification and an analysis of the most used systems, models and methods of performance management and measurement will be performed.

In chapter II of the doctoral thesis, entitled *Creation and measurement of value within the company*, we will set out to present different approaches of theoretical-conceptual, pragmatic and systematic nature of value, of the factors that determine the creation of value, of the methods and techniques of measurement of value and not least of the conceptual model of performance management. Through the objectives pursued, this second chapter integrates perfectly into the structure of the doctoral thesis. These objectives relate to:

- analysis of the concept of value in the field of management and its highlighting at the company level;
- presentation of the most influential theories that have influenced the evolution of the concept of value within the company;
- identifying the factors that determine the creation of value;
- analysis of specific methods and techniques for measuring value created within the company;
- proposing a conceptual model of company performance management that integrates the complexity of the connection between value creation and performance.

Given the elements mentioned above, in order to achieve the proposed objectives, the second chapter of the thesis is structured in three sub-chapters.

Apparently, we all know what "value" means, but if we try to explain this concept in different processes and contexts, concerning the various 'actors' involved, we may be surprised by the resulting interpretations. Therefore, subchapter 2.1 tries based on the analysis of the specialized literature to clarify the interpretations and meanings of the concept of value, but also of the process of creating value at the company level. Moreover, also within this subchapter are presented some theories such as shareholder theory, stakeholder theory and agent theory, through which we manage to capture how the value is created or in some cases destroys the value at the company level, but also on the actors involved in this process.

Regarding the factors that determine the creation of value, whether we refer to the classical approach - financial performance, or we take into account the new dimensions added to the domain and look beyond the value created only for shareholders, subchapter 2.2 analyzes factors such as shared value, assets intangibles and corporate social responsibility, which in the current context are crucial in creating long-term value and for all stakeholders of the company.

Subchapter 2.3 will begin by bringing to attention the methods and techniques of measuring the value treated in numerous scientific studies, some of which have become consecrated due to the extensive use in practice and theory, but also due to the passage of the test of time, as the analysis of DuPont, which although has a history of almost a century constitutes a classic method of measuring value, used today. Other methods more or less controversial due to the methodologies underlying them measure the value created by a company from the perspective of intangible assets, brand, goodwill. All of these are still controversial because they share the subjectivity regarding the accounting valuation, the goodwill only appears in the case of the acquisition and merger process being a 'premium value' paid over the company's market price, and the value generated by the brand - a symbol, a brand, a logo, a name, a word and/or a sentence that companies use to distinguish their products and services, is also subject to subjectivism and perception from customers.

The methods and techniques presented, taking into account the above, were aimed at reducing controversy and subjectivism on the one hand and the ease of application on the other. Therefore, methods such as 'Calculated Intangible Value' for the valuation of intangible assets, the Forbes method of valuing the brand, the analysis or the DuPont identity came to the fore of the classic financial analysis, together with the Enterprise Value method for evaluating the market value of the company.

The last chapter of the thesis, entitled *Selective scientific research on the global performance of the company and the ability to identify and use the factors that determine the creation of value*, will include the research activity carried out to substantiate the purpose of the work, but also certain aspects of the thesis from both the point of view. practical and technical-methodological view. Through the objectives pursued, this part of the paper fits perfectly into the structure of the doctoral thesis. They refer to:

- substantiation, description and scoring of the performance indicators proposed in the conceptual model;
- analysis and selection of data for the formation of the sample under investigation;
- analysis of research methods;
- establishing links between the analyzed variables;
- identification based on statistical and mathematical analysis of Z-score functions;
- validation of the model by testing the formulated hypotheses;
- applying the proposed model to a sector of activity within the research sample;
- analysis and interpretation of results;

Given the elements mentioned above, in order to achieve the proposed objectives, chapter III of the doctoral thesis is structured in nine subchapters. In the subchapter 3.1 will be presented the conceptual model of the management of the company's performance schematically and highlighted its necessity and purpose following a comprehensive analysis of the specialized literature. Also here are systematically presented and detailed elements of the conceptual model: value chain analysis, 'big data' analysis, setting goals, setting performance indicators, real-time analysis, generating dashboards, and finally analyzing scores. performance.

In subchapter 3.2 will be following a financial analysis, the indicators that capture the overall performance of the company from the perspective of market value, liquidity and solvency, asset and debt management, profitability and sustainability were selected. Also within this subchapter were proposed as a way of controlling the level of performance, the control variables in the form of growth rates - of profit, income, total assets, intangible assets and economic value-added, but also by calculating the average dynamic index.

In subchapter 3.3 based on an analysis regarding the access and availability of data for the formation of a sample as representative, the data from the annual financial statements for 358 companies from the Fortune Global 500 ranking, but also 69 companies from the Bucharest

Stock Exchange will be selected. Also, the national and international application of the performance management model was taken into account when the data were selected.

Subchapters 3.4 and 3.5 will consider the formulation of the research questions, the working hypotheses but also the objectives set considering the purpose of the paper, the variables and the data selected for the application of the proposed model.

Subchapter 3.6 will use statistical methods to perform a descriptive analysis of the equation under investigation but also to establish the existence and intensity of the links between the performance indicators. This process is performed using the IBM-SPSS application.

In subchapter 3.7, the method of data normalization will identify following the analysis of the reports 'World Economic Forum' on how to calculate the score used in establishing the ranking. Thus, based on this method, we set a range of the performance Z-score - [10,100], in which 10 represents the lowest performance score, and 100 represents the highest performance score.

In sub-chapter 3.8 the conceptual model of performance management will be applied to the 'Information Technology' sector, part of the sample under investigation; often this sector is most attractive to investors from any economy with a very high growth potential due to the involvement of companies in research & development, the production and distribution of goods and services based on technology. The objectives of this subchapter consist in the empirical verification of the proposed Z-score function for this sector consisting of 38 companies, the presentation of the Z-scores of performance with the help of the dashboard, but also the completion of the stages within the performance management model. Based on the statistical analysis, strong, direct links between the analyzed variables were identified, the extreme values were eliminated by distributing the values on a normal distribution, eliminating the values exceeding +/- standard deviations. The Z-score function for this sector is constructed from 4 indicators such as assets solvency, total assets return (ROA), DuPont identity (ROE), operating profit margin, and for adjustment two indicators of the debt ratio were used: the financial lever and the degree of long-term debt. Using the sector average as an attractor, the two indicators mentioned above adjust with +/- the values recorded below or above the sector average.

Subchapter 3.9 will be dedicated to the analysis and interpretation of the results, as a result of the research activity carried out. Moreover, the hypotheses from which we started in this process are validated, the links between the variables are identified, and through the research methods, the Z-score functions of performance have been obtained both at the global

level and at the sector level. Thus, these functions will contribute to the practical implementation of the conceptual model of performance management, by offering scientific instrumentation, which uses only data accessible to the public, thus facilitating comparisons between companies, at the sector or global level.

The concluding part of the doctoral thesis includes the synthesis of the conclusions drawn from the analysis of the phenomena studied throughout the paper, but not in an exhaustive way (preliminary conclusions are presented at the end of each chapter), by highlighting the relevant personal contributions and the elements of originality. that we have tried to bring today for the overall performance management of the company.

FINAL CONCLUSIONS, ORIGINAL CONTRIBUTIONS AND FUTURE RESEARCH DIRECTIONS

Final conclusions

Performance and value creation are the cornerstones of a company - which, managed within a management system, is vitally important to the economic health of all companies. Due to its importance, the management field should be widely and thoroughly understood, but this is easier said than done. The environment is a complex one due to the constant changes in the economic conditions makes this area a stimulating and exciting, but also challenging at the same time.

The main approach in the elaboration of this paper was not to study the problem of the management field in an exhaustive way but to present in the form of a thinking economy the main theoretical and technical-methodological aspects, which each one of those interested in this field must know. By presenting the results obtained in this paper, but also by highlighting our contributions, we will follow, in turn, the degree of achievement of the purpose and objectives initially set, but also to contribute to a better understanding of the field.

The first objective pursued in this PhD thesis was *to highlight the importance of financial and non-financial performance within the company.*

Following the study of the specialized literature, we identified that in order to determine the general state of the financial health of a company, how efficiently the assets are used to generate income, in a certain period, but also to compare similar companies or sectors. activity - financial performance is the method most often used both by managers, analysts, but also by investors. Often, the financial statements - the balance sheet, the income statement and the statement of cash flows, are used to measure the financial performance of a company. Moreover, based on the financial analysis and a set of indicators, the financial statements of a company are evaluated to determine the past, current performance, but also for the design of the next one.

However, based on the study, we also analyzed non-financial performance as a new approach compared to the traditional one (financial performance). Thus, it turns out that in recent years, companies have started to use non-financial indicators in evaluating the company's performance due to the popularity of scorecards as strategic management tools on the one hand, and on the other hand, these indicators - which include measuring customer satisfaction,

employee involvement. , openness to innovation, is designed to determine the growth of the company's long-term value, not just maximizing its short-term financial performance.

Starting from the two modes of approach to performance in management, they can be seen from the perspective of two opposed managerial styles, Newtonian and Darwinian. Quantitatively oriented Newtonian style - such as operations management and financial management, and qualitatively oriented Darwinian style towards behavioural areas - such as change management, ethics and leadership. The latter style regards people as well as human behaviour as the most important for improving performance. It is a way of thinking that refers to evolution, continuous learning, natural response and adaptation to the conditions brought about by changes.

The second objective referred to *the identification of the approaches regarding the performance management of the company, by carrying out a critical analysis taking into account the evolution of the concept and its main approaches.*

In this sense, we tried first to clarify the concept of performance management, this being treated by a multidimensional conception reflected in the primary research streams from which it was studied - operational perspective, strategic control perspective and accounting management perspective, and secondly, the approaches underlying the concept: the managerial, behavioural, systemic, sustainable approach and 'creating shared value'. These approaches are based on explaining the strategic behaviours of contemporary companies and on achieving the performance management objective of creating an environment in which employees can perform to the best of their abilities to produce the highest quality work effectively.

The third objective was *the analysis and evolutionary classification of the most established systems, models and methods of management and measurement of the company's performance.*

Analyzing the multitude of studies in the literature, we clarified that most authors define performance management in the field more as a system and less as a process. Clarifying this aspect, we first identified and structured the characteristics of a performance management system, the factors that determine its practical application within a company being a tool for performance improvement and strategic planning that is presently found in all sectors of performance. activity. Secondly, we presented the evolution of the systems, models and methods of management and performance measurement, starting from the industrial age and up to the present, realizing a classification of the most consecrated systems, models and methods of management theory and practice. Based on this analysis and classification of the systems,

models and methods of performance management and measurement, it turns out that the subject is one of capital interest for both theorists and practitioners, the proof being *'The Balanced Scorecard'* - the most popular model, result of the academic environment and successfully implemented in practice; The *'DuPont Model'* - comes from DuPont Corporation, which started using the idea in the 1920s, and more recently *'Deloitte Wheel'* - the integrated performance management system proposed by the consulting and audit firm Deloitte as well as the management system. of performance designed by management consulting firm Boston Consulting Group.

The conceptualization of the value and the creation of value at the company level was materialized in another objective initially established within the doctoral thesis.

In this endeavour, we can say that it is challenging to conceptualize value, as the philosophers Aristotle and Plato have shown us, who have devoted time to reveal the meaning and purpose of value. However, when we analyzed the concept at the company level, concerning the 'actors' involved in creating and distributing value, I found that in this context the value is identified with an indicator of performance, useful not only for the shareholders but also in the see all the stakeholders of the company. Taking into account the multidisciplinary nature of the management domain, in the process of conceptualizing value, the researchers formulated several theories, some of the most popular and with the most significant impact on the evolution of the concept of value at the company level are: the theory of maximizing shareholder value - fundamental doctrine from corporate finance; agent theory and stakeholder theory.

Another objective was to substantiate the determining factors for long-term value creation within the company.

Starting from the dimensions of value creation and the broad perspectives from which the concept is viewed, three factors create value: the individual, the company and the company. At the company level, the ability to create value is determined in turn by other specific factors that we can group into two broad categories: financial and non-financial. The first category highlights the financial performance as the most used factor for determining the value of a company through a set of financial indicators that evaluate the use of assets, liabilities, applied to the data published in the annual financial statements of companies - balance sheet, the statement of income and expenses, the statement of cash flows. The popularity of *financial standing* and at present as a factor that determines the value creation used by analysts, managers and investors are primarily due to secure access to financial data, and secondly, it allows

comparisons between companies and sectors of activity. But due to the increasing complexity of the business environment, the paradigm shift from maximizing shareholder value to maximizing stakeholder value, the impact that companies have on the environment but also on the value produced by intellectual capital, new factors have emerged that determine the creation of value within the company such as: 'shared value', corporate social responsibility and intangible assets.

Another objective of the thesis was *to analyze the methods and techniques for measuring value in a company.*

The results of this analysis of the methods and techniques of measuring the value, confirm that the value is a handy indicator in the evaluation of the performance, and the fundamental purpose of any company is the creation of long-term value. In order to measure the value created either we refer to the classic perspective of maximizing shareholders' wealth, or we refer to the new, modern perspective, in which the value created and the benefits target a broader category of 'actors' - stakeholders, methods and techniques used are: DuPont analysis or identity, the method that measures the return on equity (ROE); 'Enterprise Value' method, an indicator considered superior to stock market capitalization. These first methods focus on the classical perspective, but the following methods are focused on the modern perspective: the 'Calculated Intangible Value' method, for the evaluation of intellectual capital; the Forbes method of evaluating the company brand and the ESG method - Environmental, Social and Governance used as a tool for evaluating the sustainable performance of the company, expressed as a score.

Another objective was *to substantiate the indicators on measuring the overall performance of the company.*

Starting from the quantitative and qualitative analysis of the indicators the 22 variables resulted from that evaluate aspects such as the market value of the company; the liquidity and solvency of the company; profitability, asset and debt management; intangible asset management; sustainability. The importance of financial indicators within the company is already known, and if we take into account non-financial indicators as well, we obtain the 'overall picture' regarding the performance level of a company. Moreover, the information provided by the specialized literature has shown that it is not enough just to evaluate on the basis of the selected indicators the level of performance of the company or the sector of activity, but to be representative control variables and a standard are required (for example the sector average) with which to compare the performance. Thus, growth rates (of net profit, total assets,

intangible assets and economic value added) serve as control variables and the sector average as a reporting standard for the performance level obtained by the company.

We initially set within the thesis the objective according to which we *analyze the theoretical and practical aspects of the mathematical and statistical methods for establishing the links between the analyzed variables and for constructing a Z-score function to measure the company's performance.*

In order to establish the link between the performance indicators, following the application of the statistical analysis, respectively of the correlation analysis, we observed that there are strong and very strong links, with a level of statistical significance 0.95 and 0.99 in both positive and negative sense for most of the variables. Performing the correlation analysis for both the sample of Romanian companies and the sample of foreign companies the results were substantially equal.

To construct the score-Z function of performance measurement, we started from the analysis of the 'financial standing' - the model proposed by Altman, but we adapted it so that the variables included in the function and the coefficients of importance result as a result of the results recorded by the companies in the analyzed activity sector. Thus, the result score-Z function differs and measures the performance of the companies according to the specificities of the sector of activity of which they are part. As a result, 12 Z-score functions resulted as follows: for the Romanian companies - a general performance measurement function and one for each of the two groups in which they were divided (A and B); for foreign companies - a general function for measuring performance and one function for each of the eight sectors of activity ("communication services"; "consumer discretionary"; "consumer staples"; "energy"; "health care"; "industrials"; "Information technology" and "materials").

Another objective was based *on the proposal of a management model of the company's performance.*

In this approach, we started from the fundamental question we asked in this paper how can we manage and measure the performance of companies given the complex and changing environment we are? Thus, we started from the analysis of the performance management and the most critical approaches from the perspective of which it is treated in the specialized literature, which allowed us to use the systemic approach as a basis for the performance management model is a multidisciplinary approach with a degree. high complexity and practicability, with the long-term strategy as a fundamental objective. Then, we conceptualized value and value creation within the company, establishing that it represents the best measure of

the company's performance, we identified what are the factors that determine the creation of value, taking into account the classical paradigm - maximizing the value for shareholders, but also the modern one - maximizing the interests and benefits of all stakeholders, we managed to select the most suitable methods and techniques for measuring value, we formalized the link between value creation and performance by selecting and substantiating indicators and by constructing the Z-score function. At the same time, we incorporated within the model the effect of digitization that changed the business environment, by using 'big data', as well as interactive dashboard tools as a way of reporting the most critical performance results of the company in intelligible way to all stakeholders by facilitating an overview of the company's situation.

Also, in order to facilitate the practical measurement of the overall performance of the company, we managed to propose a performance management model based on a long-term strategy that uses only publicly available data for its implementation, thus facilitating its use at both levels. national as well as international, for comparison between companies or with the level of the sector of activity of which it is part. The results obtained from the application of the model in the form of 'outputs' represent 'inputs' for the resumption of the process in the next financial year, having the essential feature to improve during the application.

Original contributions

Given the current results of research in the field of management, on the one hand, and their reflection in the concrete economic reality, on the other hand, the aspects proposed in this doctoral thesis for the improvement of knowledge can be found in the original contributions presented briefly below, from many points of view:

1. Theoretical and conceptual:

- ❖ approaching the performance of the company both from a classical point of view, using financial indicators but also by including non-financial (qualitative) indicators and establishing their importance according to the industry in which the company is active and the specific of the company;
- ❖ synthetic critical analysis of opinions on the large-scale use of non-financial indicators as a feasible option in measuring the company's performance and their usefulness in the decision-making process;
- ❖ clear definition of the concept of value creation, taking into account the significant differences of opinion on its;

- ❖ identification of the necessity and usefulness of developing a global philosophy by the company, which represents the basis of elaborating its strategy for the global market in order to influence the external environment manifested through globalization and its effects on the company;
- ❖ a multi-level approach on how value is created and on sustainability, in terms of the implications they have on the company of the future, in particular, and on the global business environment in general;
- ❖ identifying the need and usefulness of a new model of company performance management, when the previous models are outdated, can be manipulated and no longer represents a method that includes essential elements within a company, namely the contribution of intellectual capital and sustainable development;

2. empirical:

- ❖ we tested the hypothesis that the overall performance of the company is based on both financial and non-financial indicators. Correlation analysis demonstrates strong and in some cases very strong links between intangible asset management variables and sustainability with many of the financial variables;
- ❖ another empirically tested hypothesis was that the Z-score function on the sector allows comparison between the performance levels of companies both at the sector level and at the general level;
- ❖ highlighting the impact of investments in R&D and sustainability on the overall performance of the company as factors that create long-term value in sectors such as 'Health Care' and 'Information Technology', by measuring the very high-performance score obtained by companies in these sectors.

3. methodological and instrumental:

- ❖ we have developed a set of Z-score functions to measure the overall performance of the company, which takes into account the specificities of each sector of activity, which allows us a comparative analysis of the performance both at the company level, sector level, but also at the general level;
- ❖ considering that the performance management models of the company established in the specialized literature are based on data specific to companies or a sector of activity, making them practically useless in a comparative analysis, we have proposed a performance management model that can be applied to any company, regardless of the

sector of activity, using public data, easy to access and based on a systemic approach, includes the use of technology and has as a fundamental objective the performance and the creation of long-term value.

Through the novelty elements brought by the doctoral thesis, the added value and new opportunities can be created for both practitioners and theoreticians who will implement them by raising awareness about the factors that determine the value creation within the business model, by improving and maintaining it. a long-term performance level. Moreover, all these aspects are systematically captured within a performance management model of the company.

Regarding the dissemination of the results obtained as a result of the scientific research with the mention that this is a continuous process that started from the time of the scientific doctoral preparation and that was materialized by the publication of scientific articles in specialized magazines from the country and abroad, participation in conferences, but also for research projects. The results of the research, used to date, are as follows:

✚ Scientific papers sustained and presented in the conference volumes:

- Şerban, R.A., (2016), *Paradigm change in company performance measurement*. Emerging Markets Economics and Business. Contributions of Young Researchers, Oradea University Press, nr. 4, p.170.
- Şerban, R.A., (2017), *Firm Performance - From How to Measure to How to Manage. An Overview*. Bulletin of the Transilvania University of Brasov, vol. 10(59), Special Issue no. 2 – 2017 Series V - Proceedings of the International Conference of PhD Students (IPC 2017), Ediția a III – a.
- Şerban, R.A., (2018), *Shared Value - Is this the right direction?*. Revista Economică, 3(70).
- Şerban, R.A., (2018), *Short-termism: A step forward towards long-term performance or a dead-end*. Springer Proceedings in Business and Economics, Emerging Business and Economic Issues in the Global Economy – Proceedings of the 2017 International Economic Conference in Sibiu (IECS).
- Şerban, R.A. (2018), *Is corporate governance the proper tool for enhancing long-term company performance?*. 35th International Scientific Conference on Economic and Social Development – „Sustainability from an Economic and Social Perspective”: Book of Proceedings, 705-713.

- Şerban, R.A. (2019), *The influence of intangible assets in the company performance: The case of the world's most profitable corporations*. IECS Conference Proceedings entitled 'Organizations and performance in a complex world'.

✚ Scientific papers published in specialized journals:

- Herciu, M., Şerban, R.A., (2016), *Creating value - from corporate governance to total shareholders return*, Jurnal: Studies in Business and Economics, nr. 11 (2).
- Şerban, R.A., (2017), *The impact of big data, sustainability, and digitalization on company performance*. Jurnal: Studies in Business and Economics, nr. 12 (3).
- Herciu, M., & Şerban, R. A. (2018), *Measuring Firm Performance: Testing a Proposed Model*. Jurnal: Studies in Business and Economics, 13(2), 103-114.
- Şerban, R.A. (2018), *Measuring Brand Value: The Case of Romanian Public Traded Companies*. Jurnal: Studies in Business and Economics, 13(3), 206-213.
- Şerban, R.A., & Herciu, M. (2019), *Performance Management Systems – Proposing and Testing a Conceptual Model*. Jurnal: Studies in Business and Economics, 14(1), 231-244.

✚ Research projects - scientific paper sustained and presented at the 39th International Scientific Conference on Economic and Social Development - "Sustainability from an Economic and Social Perspective", within the research projects funded by Hasso Plattner:

- Şerban, R.A. (2019), *Does sustainability impact company performance? The case of listed companies on the Bucharest Stock Exchange*. Lisabona, Portugalia.

The activity of disseminating the research results is a process that will continue in the following period by participating and supporting scientific papers at national and international conferences, by publishing scientific papers in prestigious specialized journals, by writing and publishing a scientific book, all of which will create added value in the theory and practice of company performance management.

Future research directions

Regarding the future research directions, these are outlined around the directions analyzed in the doctoral thesis and refer to:

- deepening the research regarding the paradigm shift from economies of scale to economies of creativity due to the impact on theory and practice by reconsidering the systems, methods and techniques of measurement and management of performance used to date;
- analysis of how investments in research & development could influence the performance of Romanian companies, given that at present the investment decisions and business models of Romanian companies ignore these value-creating factors that international companies have implemented and successfully used for to increase its performance;
- developing a methodology for measuring the ESG indicator for Romanian companies, requiring new theoretical-conceptual, but also methodological contributions regarding the impact of sustainability on Romanian companies due to the lack of criteria for reporting any action regarding the sustainability of companies on the Bucharest Stock Exchange;
- analysis of the possibilities of measuring and managing the performance of the company through a model implemented within a software application that allows real-time monitoring to be able to act promptly, applicable to any company regardless of the sector of activity;

In conclusion, given the environment in which the only constant changes, companies can only be successful in the long run if they understand the fundamental way in which their business model creates value and thus obtain the competitive advantage needed to outperform the competitors.