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# Identifying obstacles in the evaluation of companies based on the research cluster method

## Abstract

In the current context of accelerating digitisation in almost all areas of business, assessing the market value of a company has become a topic of debate both among practitioners and in the academic community due to a significant increasing presence of intangibles in the assets of these companies. Therefore, the purpose of our research is focused on the identification of existing impediments in the evaluation process of companies over time. The established objectives are: meta-analysis of the most relevant papers on company valuation and bibliometric analysis of WoS indexed papers, during the period of 1975-2021 having such topics as performance, corporate governance, information, market, company, fair value, intellectual capital and earnings management.

The research methodology is based on a database formed by all studies indexed in WoS in the last approximately 45 years with the mentioned topics and the obtained results consist in determining the structure of research clusters formed by the key concepts used in company evaluation. The usefulness of the results is confirmed by the creation of future research directions on the topic of company valuation, because having the help of the existing intensity of links between research clusters of this domain, it is much easier for researchers to approach new directions and themes related to this subject.

**Keywords:** Market Value; Intangible Assets; Company Valuation Process; Bibliometric Analysis; Meta-Analysis; Research Cluster and Scientific Production; WoS

**JEL Classification:** M40; C02; C40

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**Ідентифікація перешкод в оцінці ринкових вартості компаній  
на основі методу дослідницького кластеру**

**Анотація.** У сучасному контексті прискореної цифровізації практично всіх галузей бізнесу оцінка ринкової вартості компанії стала предметом дискусії як серед практиків, так і в академічному співтоваристві через значне збільшення присутності нематеріальних активів у складі активів цих компаній. Тому метою нашого дослідження є ідентифікація існуючих перешкод у процесі оцінки ринкової вартості компаній із часом. Встановлено такі завдання: мета-аналіз найбільш відповідних статей щодо оцінки компаній і бібліометричний аналіз статей, індексованих у WoS протягом періоду 1975-2021 років за такими темами, як продуктивність, корпоративне управління, інформація, ринок, компанія, справедлива вартість, інтелектуальний капітал й управління прибутком.

Методика дослідження заснована на створенні бази даних з усіма роботами, індексованими в WoS за останні 45 років з вищезгаданих тем, а отримані результати полягають у визначенні структури дослідницьких кластерів, сформованих ключовими концепціями, що використовуються в оцінці ринкової вартості компаній. Корисність отриманих результатів підтверджується створенням майбутніх напрямів досліджень з питань оцінки компаній, оскільки з використанням наявної інтенсивності зв'язків між дослідницькими кластерами в цій галузі дослідникам набагато простіше підходити до нових напрямків та тем, пов'язаних із цією темою.

**Ключові слова:** вартість компанії; нематеріальні активи; процес оцінки підприємства; бібліометричний аналіз; мета-аналіз; дослідницький кластер; WoS.

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**Идентификация препятствий в оценке рыночной стоимости компаний  
на основе метода исследовательского кластера**

**Аннотация.** В современном контексте ускоренной цифровизации практически всех отраслей бизнеса оценка рыночной стоимости компании стала предметом дискуссии как среди практиков, так и в академическом сообществе из-за значительного увеличения присутствия нематериальных активов в составе активов этих компаний. Поэтому целью нашего исследования является идентификация существующих препятствий в процессе оценки рыночной стоимости компаний с течением времени. Установлены следующие задачи: мета-анализ наиболее соответствующих статей относительно оценки компаний и библиометрический анализ статей, индексируемых в WoS в течение периода 1975-2021 годов по таким темам, как производительность, корпоративное управление, информация, рынок, компания, справедливая стоимость, интеллектуальный капитал и управление прибылью.

Методика исследования основана на создании базы данных со всеми работами, индексируемыми в WoS за последние 45 лет по вышеупомянутым темам, а полученные результаты заключаются в

определении структуры исследовательских кластеров, сформированных ключевыми концепциями, используемыми в оценке рыночной стоимости компаний. Полезность полученных результатов подтверждается созданием будущих направлений исследований по вопросам оценки компаний, так как с использованием имеющейся интенсивности связей между исследовательскими кластерами в этой области исследователям намного проще подходить к новым направлениям и темам, связанным с этой темой.

**Ключевые слова:** стоимость компании; нематериальные активы; процесс оценки компании; библиометрический анализ; мета-анализ; исследовательский кластер; WoS.

## 1. Introduction

Over time, depending on the scientific disciplinary context of reference, the term «value» has been used to identify different concepts with different meanings, depending on the field in which it has been used. In financial studies, a perhaps less metaphysical but certainly more useful concept of value has been defined: in finance, value has been understood as a measure of wealth, in business administration it has been defined in relation with the economic capital of the company and for several decades it has been assigned the role of an objective of the managerial action.

In this context, the topic of company valuation, both from the perspective of all financiers and shareholders, has been the subject of numerous academic and professional studies. *The relevance and topicality of this theme derives from the fact that the assessment of corporate value is a fundamental moment in the life of a company, influencing both strategic and operational choices.* This interest is attributed to the growing need for evaluation due to various factors, such as the tendency of companies to grow externally through sales and acquisitions and the need to acquire new control tools, including the quantification of the value that was created or wasted by management. The changes that are driven by globalisation and manifest in the economies of the world's countries, have also led to important changes in business, accounting and by implication, the corporate evaluation process. Another circumstance that makes the subject more topical than ever - including in the context of the crisis in the financial markets in recent years - is the fact that the valuation of a company's businesses should form the basis for the price of its shares on the regulated markets. This phenomenon, certainly not a recent one, can have various causes, most of which are attributed to information asymmetries caused by market imperfections, which cause the market value to deviate significantly from the intrinsic (fundamental) value and sometimes even from the initial issue value on the regulated market (IPO price).

Regarding the company valuation process, this is currently at the centre of debate, both among professionals involved in the evaluation work and among researchers in the field, due to the importance of this process in estimating the economic value of a company.

In this context, the *aim of our paper* is to provide a systematic review of the literature on company valuation, adopting two analytical approaches, concretized by the two objectives (*O*) of the paper, namely: *O*<sub>1</sub> - meta-analysis of the most relevant papers on the topic of company valuation and *O*<sub>2</sub> - bibliometric analysis of the papers indexed in WoS, in the period 1975-2021 having the following topics: *performance, corporate governance, information, market, company, fair value, intellectual capital and earnings management*. Through these approaches, research trends related to the topic «company valuation» were investigated. With the help of VOSviewer software (which is a software tool for constructing and visualizing bibliometric networks), a total of 2709 articles from Web of Science indexed journals were analyzed, 10 of which were considered in the meta-analysis. The results confirmed that the interest in company valuation has increased, especially in the last ten years, an aspect also observed by Romanian research in the field.

## 2. Brief Literature Review

In this paper, we refer to the concept of economic value of a defined and specific subject, namely the company. We have the opinion that the long-term success of a company depends on the way in which it is able to use its financial, material and immaterial resources in a unified manner. In recent decades, new business development conditions have led to a lack of success for companies that rely mainly on traditional tangible assets such as property, labour, financial capital and other physical resources. Such companies are now unable to cope with the new market rules and this has demonstrated the *importance of intangible assets as value drivers and sources of a company's competitive advantage* (Cosmulese et al., 2020).

Accordingly, these assets have been identified as key assets, helping to identify, estimate, manage and disclose appropriately in order to create value (Volkov & Garanina, 2008). Business logic in the knowledge-based economy is conveyed through the achievement of results and long-term success - the creation of value. One of the most important trends in the 21<sup>st</sup> century economy is the shift from tangible to intangible value creation. Without minimizing the contribution of these factors to company performance, intangible resources have acquired a fundamental role in determining the outcome of company performance (Purcarea et al., 2007) and of the competitive processes, to the extent that, in many strategic areas, companies seem to develop their own competitiveness and sustainable competitive advantage (Ocak & Findik, 2020), only to the extent that they have such resources. The study made by Ocak and Findik (2020) and that was carried out on firms listed on the Istanbul Stock Exchange, revealed the same conclusions: it unequivocally shows that the accumulated value of intangible assets positively affects firms' sustainable growth rates and company value.

In the same vein, the study undertaken by Rodionov et al. (2020) demonstrated that holding such assets has a major impact on the market capitalization and economic security of the company (Rodionov, Perepechko, & Nadezhina, 2020). Therefore, the elements on which companies can rely in order to distinguish themselves from competitors in the market are precisely those assets and competences that are difficult for competitors to imitate, namely: *the ability to innovate*, i.e. to regularly bring new products and services, although *innovations* (Dainienė & Dagilienė, 2014) are intangible assets of the company that create long-term value, which is not always properly recognized as an intangible asset; *adaptability*, i.e. the ability to change the way they operate and trade when market conditions change, i.e. gaining capabilities and competences (Mo & Zhou, 2003) in different forms, which are recognized as intangible assets of the enterprise; regular, loyal and well-trained *employees* and inspired leaders, because human resources are the intellectual capital of organizations, the only ones that can assimilate and - from the perspective of the new economy - value the most of knowledge (Grosu et al., 2012; Todericiu & Stăniș, 2014); *a successful brand and a good reputation*, which contributes to increasing the market value of the entity (Zager, Pavic, & Rep, 2020); *information, production and service delivery systems* that can give customers what they want and when they want it, minimising problems and reducing costs. In the last decade, there has been a proliferation of research aimed at demonstrating how intangible assets (Garanina & Pavlova, 2011) make an important contribution to value creation (Boyarko & Samusevych, 2011). However, some clarification is needed, as identifying intangible assets involves a very uncertain process, as it is virtually impossible to distinguish and isolate the contribution of each intangible asset to the achievement of competitive advantage (Socoliuc et al., 2018). Studies undertaken (Pastor et al., 2017) on this topic have led to the existence of an explicit link between competitive differences and intangible resources (Choi, Kwon, & Lobo, 2000). If we consider the resources that an entity must possess to generate competitive advantage, it is clear that these are largely intangible, but without considering that only intangible assets generate competitive advantage.

Thus, we see the importance of valuation - i.e. the quantification of a company's economic value - in the business decision-making process. Therefore, the entire decision-making process will be based on the results of the evaluation activity. This is due to the fact that nowadays, the overall objective of a company is no longer just to maximize profits, but also to increase the value of the company over the years (Barakat, 2014). This desire to increase the value of a company in the long term and to maintain a high company value in the market is identified with the concept of sustainable development of companies and can be achieved through a management that seeks to regenerate the invested capital to ensure that new resources can be created in the future (Ciubotariu et al., 2021). The relevance of this process also lies in informing the decision about investment opportunities in the financial market or trying to understand how the value of one's business may change as a result of different financing options and/or management strategies (Manni, 2016; Cosmulese et al., 2020), the need to sell part or all of the business to a third party, a merger, a separation and a decision to go public (Barakat, 2014).

The next section of the paper is dedicated to the research methodology through a bibliometric analysis, which provides very interesting clues and suggestions for future research, after presenting an analytical map of publications from the last 46 years and a meta-analysis which identifies the 10 most relevant works from recent years in this thematic area.



### 3. Research Methodology

On the one hand, this paper uses bibliometric analysis, which is a widely used research technique in economics and management, because it allows the achievement of a current state of knowledge related to the research objective. Bibliometric analysis facilitates the mapping of a large volume of scientific works, in a form similar to a systematic review of the literature, thus guaranteeing the quality of the used information and of the obtained results. We consider that there are different methods of systematizing contributions on a given topic, but we believe that the strength of the bibliometrics concept is that it is a simple, systematic and reproducible process, thus providing a synthesis of scientific reviews (Van Eck & Waltman, 2017) and being useful for avoiding research subjectivity.

This approach has grown together with the development of the scientific output on company valuation, the main advantage of the bibliometric approach being the one that it combines both evaluative and relational methods, traditionally considered as alternatives (Borgman & Furner, 2002). In this context, literature reviews have acquired significant restructuring to bibliometrics as a result of advances in information technology and the expansion of bibliometric databases such as ISI Web of Science (WoS), Scopus and Google Scholar (GS).

In the first part, this paper focuses on the analysis of the scientific mapping associated with the topic of company valuation, which addresses the existing relationships between disciplines, research areas, authors and papers and is structured as follows: data collection, data analysis, data visualization and interpretation of results.

Our research is based on a qualitative approach focused on the content analysis of the most relevant papers on the issue of company valuation published in leading journals in the field, as evidenced by the journal's influence score and the number of citations. In this regard, the considered *collection of studies* is based on common search procedures, through the ISI Web of Science (WoS) search engine, using as keyword «*company valuation*». The keyword «*company valuation*» was used within the Web of Science database in order to identify relevant literature. The bibliographic archive had records of over 5,000 multidisciplinary topics, with the data search adjusted using inclusion and exclusion criteria.

*The inclusion criteria* applied for the identified publications were as follows: selection of research articles that were in English and also that were published in the Web of Science database, as this database is more reliable and better structured than Google Scholar or any other search engine; selection only of the publications that were published between 1975 and 2021, which analyzed the topic of company valuation in the most relevant fields associated with economics, such as business, corporate finance and management.

*The exclusion criteria* are referring to areas and journals that do not fall under economics theme. Subsequently, the archive was extracted into an Excel file, exporting the information contained in article titles, abstracts, keywords, findings and other related information. The application of the inclusion and exclusion criteria resulted in a total of 2709 publications, in the form of research articles, reviews, editorials, book chapters and others.

*The interpretation of the results* was performed using the software VOSviewer 1.6.15 which allowed the generation, visualization and evaluation of bibliometric networks (co-occurrence networks), focusing on graphical representation of bibliometric maps (Van Eck & Waltman, 2010; Melega, 2022) of important terms selected from the scientific database associated with the «*company valuation*» topic and facilitating their interpretation due to its large display function.

Selected publications that met the inclusion and exclusion criteria were processed using VOSviewer software, resulting in visualization maps according to the selected concepts and their intersection points. These bibliometric networks can include, for example, journals, research or individual publications and can be built up on the basis of citation, bibliographic linkage, co-citation or co-author relationships. Therefore, to support the purpose of our research, we focused our attention on a bibliometric analysis of the normative framework and literature on the meaning of the company valuation concept drawn from the literature, briefly highlighting the evolution and correlation of this concept with others like *performance, corporate governance, information, market, company, fair value, intellectual capital and earnings management*, all reflected in the mentioned studies.

The analysis and interpretation of the results of the bibliometric analysis will be the subject of the results and discussion section of this study. The steps of the bibliometric analysis were as follows:

1. Search Criteria (Keyword: *company valuation*);
2. Web of Science Database;

3. Research Refinement (Query results before search refine: >5000 Documents, Dates: 1975 to 2021, Query results after search refine: 2709 Documents);
4. Result Analysis and Discussion;
5. Exporting of Final Data

In addition, in order to achieve the purpose of our research, we conducted a meta-analysis, examining the issues of the company valuation concept. According to Schmidt and Hunter (2014), meta-analysis is a technique of cross-referencing evidence (terms, variables, names, keywords, arguments and more) that makes possible to strictly associate previous studies on a particular topic, allowing an assessment of the overall effect of the conducted research. In this context, literature review can also be quantified with the help of meta-analysis (Borenstein et al., 2011), which refers to statistical method used in research synthesis to combine and integrate results from individual studies, making an important contribution to future research (Kepes et al., 2013). The meta-analysis in this study involves three steps, as depicted in Figure 1.

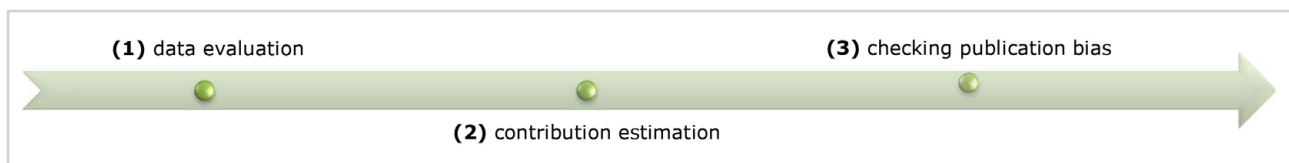


Figure 1:  
**Meta-analysis of the study**  
Source: Compiled by the authors

Therefore, for the present meta-analysis, the 10 most representative studies from the last 10 years were selected from those considered in the bibliometric analysis, taking into account three criteria, namely: research purpose, relevance of results and impact. Through this approach, we aim to identify the main trends in company evaluation research, thus allowing a better understanding of the evolution of this topic and implicitly identifying new research directions. To this end, we independently selected papers, extracted data and evaluated the results using the analysis process illustrated in Figure 2.

#### 4. Results

In order to achieve the first objective of our research - taking into account the literature - we will focus our attention on the analysis of the most important studies that have focused on the connection between company valuation and other concepts such as goodwill, fair value, market value, evaluation methods, International Valuation Standards, capital markets, evaluation of intangible assets, presented in the form of a meta-analysis illustrated in Table 1.

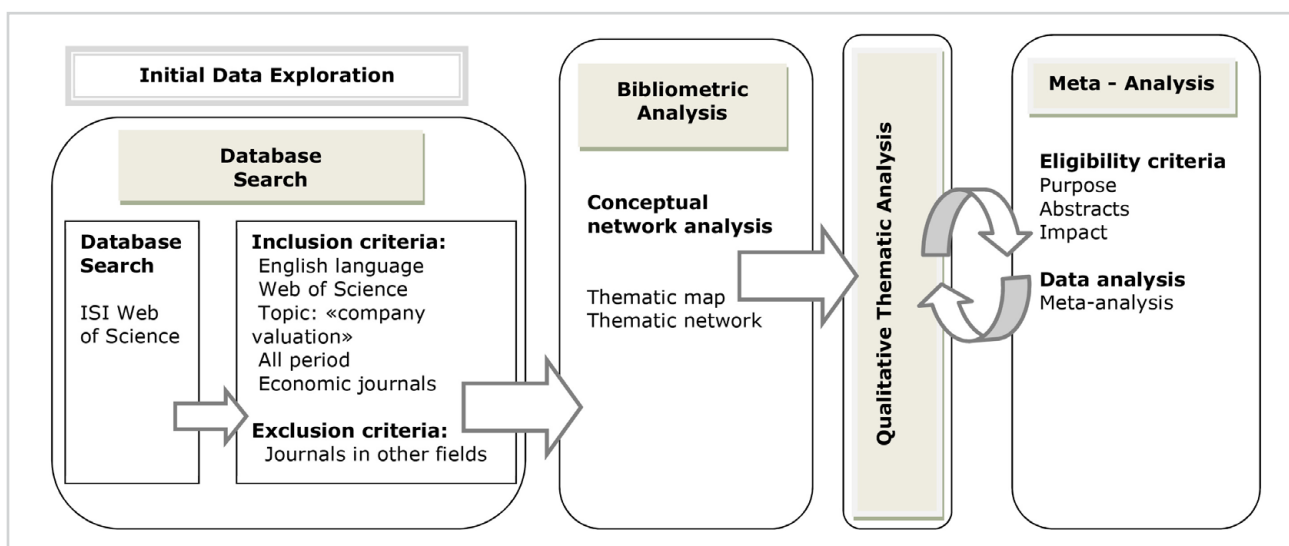


Figure 2:  
**Data collection and analysis phases**  
Source: Adapted by the authors from Zhichun et al. (2020)

Table 1 (part 1):  
Summary of the main impact studies on the field of research

Authors, Year	Purpose	Results / Conclusions	Impact
French et al., 2021	The purpose of this paper is to examine the definition of market value and how some market participants may misunderstand or even distort it.	This briefing is an analysis of the valuation concept definitions, clarifying what they do and do not mean.	This study provides guidance on how valuation definitions can be presented to the client in accordance with the International Valuation Standards.
Shen et al., 2020	The aim of the paper is to show how corporate social responsibility (CSR) can help a company create value from intangible assets.	This study highlights a new idea that firms can use CSR practices to realise the potential of their intangible assets.	This study also has important managerial implications.
Radionov et al, 2020	This study included an analysis of the impact created by the value of intangible assets and by intellectual property on a company's capitalisation and economic security, plus a regression model. An algorithm was developed to determine the economic security of a company based on the evaluation of intangible assets according to IVS .	The suggested algorithm can enable a company to effectively manage its intangible assets using IVS, which in turn will provide the necessary level of economic security for further development and achievement of strategic objectives by the business entity.	This paper considered the economic security of an enterprise in terms of the evaluation of intangible assets in accordance with International Valuation Standards (IVS).
Zager et al., 2020	This paper aims to compare different approaches to assessing the value of a company.	The research results showed that brand value and book value of companies usually differ. In all observed companies, goodwill as well as intangible assets do not have a significant share in total assets (book value of the company). Comparing the market value and enterprise value with the brand value, it can be concluded that for most companies the market values and enterprise value are higher than the brand value by up to 10 times.	Given the fact that the brand is of great importance to a company's business, it is expected that experts will work harder to find an appropriate measurement model and presentation in the balance sheet.
Abrami- shvili et al., 2020	The aim of the research was to answer the question regarding the relevance of assessing the market value of emerging market companies. We also aimed to demonstrate the lack of foundation of the traditional approach to market value valuation using computational models, which, strictly speaking, allow us to derive investment value.	It has been shown that in evaluating an emerging market business, the primary focus should be on the standard of investment value. The market value of the emerging market business is rather an assumed value that should be used with caution.	The research contributes to the development of the theory and methodology of business value assessment and partly to the current discussion on the content and defining characteristics of the emerging market.
Lind et al, 2019	The purpose of this paper is to discuss how the concepts of market value (MV) and exit price should be interpreted in narrow markets and how accounting rules may need to be changed to take account of these.	In a narrow market, actors can have quite different booking prices. In this case, the price will be set by negotiation and the agreed price may be considerably higher than the reserve price of the actor with the second highest reserve price. The exit price should be lower than the pre-transaction market value and the entry price and under current accounting rules, the balance sheet value should be lower than the paid price. In the authors' experience, however, this rarely happens in practice.	This is the first paper to examine problems in current concepts of value related to differences in reservation prices in narrow markets.
Hayoun, 2019	The objective of this paper is to problematise the fundamental hypothesis that is shared by standard setters and existing literature and taken for granted in the recent debate on accounting financialisation, that "fair value is a market-based valuation, not an entity-specific valuation" (IFRS 13.2).	Such an analysis leads to two main ideas. First, the entity-specific perspective is reformulated as being sensitive to the interrelationships between the value carriers in the statement, thus avoiding the frequently assumed, albeit contestable, dichotomy between objective present (market) facts and subjective (entity-specific) estimates of the future. Second, it demonstrates that fair value measurement incorporates - in a way that is inherent to the standard-setter's own perspective and not just a matter of imperfect implementation - both the market-based and entity-specific dimensions.	This paper analyses the valuation practices set out in the IASB's guidance to explain the underlying implicit concepts that are distinct from those formally proclaimed in the IASB's recent Conceptual Framework Exposure Draft (CFED).
Barth et al, 2018	Whether or not the fair value accounting should be used in financial reporting, has been the subject of debate for many years. A key dimension of this debate is whether fair value earnings can provide users of financial statements with useful information for their economic decision-making.	It shows how fair value gains can be disaggregated into components that can be used to assess firm value, as well as into components that provide information about various types of shocks to value, for example, the effects of changes in expected cash flows.	One criticism of fair value accounting is that fair value profit simply reflects value 'shocks' and therefore cannot be used to assess firm value.

Source: TrendEconomy (2021)



Table 1 (part 2):  
Summary of the main impact studies on the field of research

Authors, Year	Purpose	Results / Conclusions	Impact
Zamora-Ramirez, et al., 2018	The aim of the paper is to structure the literature according to the different lines of research and describe the findings for each of them.	The authors find that fair value is the model that better reflects risk management activities. Fair value information is generally relevant to investors.	In principle, the IASB and FASB conceptual frameworks are based on the utility paradigm and fair value should be used if it provides relevant information to investors.
Kurakova, et al., 2018	A comparative analysis of the Russian and international goodwill accounting practice is carried out.	The analysis concluded that there are no unified approaches regarding the evaluation and the accounting of goodwill and that further adaptation of Russian standards is needed to align them with IAS/IFRS.	The concept of goodwill and the immediacy of the issues surrounding the inclusion of this component in enterprise value are considered in this article.
Skalicky, 2017	The purpose of this paper is to verify - using brand evaluation data and company evaluations in the public markets - whether the brand financial evaluations contain some information about future company evaluations, or whether brand financial value estimates are rather a kind of residual of company market value that is not attributed to another company value driver.	The result of the analysed sample composed of selected brand companies, implies that the latter is probably closer to reality.	The focus is particularly on the brand's ability to influence consumer behaviour and thus gain economic advantages over competitors in the form of higher profit margins, market share, cash flow stability and so on.
Gorokhova, 2016	The paper is dedicated to the problems associated with asset valuation approaches, which in turn, cause misreporting of financial statements and distortion of a company's financial results, reducing its investment attractiveness.	Based on the analysis of Russian accounting standards, a classification of asset evaluation has been proposed. The use of this classification will improve the representativeness of the information in the financial statements, which may increase investors interest. Orientation towards international standards that differentiate fair value as the main valuation is recognised as a priority direction of development.	The authors examined different approaches to the definition of assets and analysed the types of valuation applied to assets in Russian accounting.
Pars, 2015	The aim of the article is to examine best practices in intangible asset valuation in Estonia.	According to experts, three classical methods are mainly used for valuing intangible property: the cost-based method, the market-based method and the income-based method. The option-based method has been adopted in only a few cases. The income-based approach is the preferred one, although the cost-based method has also been used. The market-based approach has often not been applicable due to the lack of comparable market transactions in Estonia.	The article provides an overview of the methods Estonian experts use to value intangible assets and compare them with the methods and approaches recommended by financial theory.
Dos Santos et al., 2015	This research aimed to examine if in the evaluation reports for the purpose of a Public Offer for Acquisition of Sares (POA), the relationship between the evaluation company and the evaluation contractor causes distortions in the fair value of the share, compared to the share price.	The results showed that there is a bias in the valuation process, especially in situations where the evaluation contractor is the company being valued.	The process of evaluating the companies is widely used and aims to achieve the fair value of the company.
Majercak et al., 2013	The focus of this paper is the enterprise valuation characteristics and value categories. The purpose of valuation is to determine enterprise value, this being one of the important tools of management.	The paper is developed at a theoretical level and defines company, business value and value categories.	Over time, four basic principles of enterprise valuation have been developed, namely: market value, subjective value, objective value and the Köln School.
Ionita et al., 2009	In this paper, the authors present the results of research initiated in the field of firm valuation, which is a current activity in Romania, generated by the privatisation process and other processes specific to the market economy.	The results of this research have enabled us to develop this field to a level that exceeds achievements both in Romania and in Europe. We are referring to the possibility of applying subtle sets to the evaluation of the goodwill elements that enhance the value of a company.	The valuation of these elements is currently done through an accounting approach, which does not meet the information requirements of future buyers.
Meca et al., 2009	The objective of this paper is to know the use and the opinion on International Assessment Standards in Spain.	The results of the study allow us to know a little more about the research field of international valuation in the firm valuation domain.	It takes into account the specific characteristics of the assessors in terms of experience, location, organisation and firm size. Views on the professionalisation of the valuation work and the regulation of liability were also considered.

Source: TrendEconomy (2021)



The reasons of choosing these papers were the field of research and the notoriety of the research journals. Thus, we selected only papers that were published in top journals and whose research focused on keywords such as company valuation and any other of the concepts mentioned above.

*The results of the meta-analysis* highlight the most current research trends on the issue of company valuation, being selected the most relevant studies, considering the *number of citations* and the *prestige of the journals* in which they were published over a 12-year period (2009-2021). Thus, studies were identified on the correlation between company valuation and concepts such as: *fair value valuation, impact of intangible assets, intellectual property on company capitalization and economic security, impact of SVI on economic security, valuation of goodwill and badwill, role of CSR in value creation.*

Metadata analysis made it possible to generate tables, graphs and illustrated maps. Network production was performed using the VOSviewer software, which allows the original ISI Web of Science research metadata to be imported into the database for further processing and estimation. The following analyses were generated:

- *relationship between articles for references;*
- *the relationship between keywords;*
- *the co-citation relationship between authors.*

Figure 3 shows the trend of increased publication on this topic in recent years, which illustrates the importance of this topic among international researchers.

Through the inclusion of the Web of Science database in the software, resulted the map below which illustrates the frequency of association between most terms and their occurrence found in the titles and abstracts of the 2,709 analysed publications in the most relevant fields, such as economics, business, corporate finance and management, published between 1975 and 2021.

As can be seen in Figures 4 and Figures 5, the frequency and density of the keywords are marked by the power of colour and by the size of shapes. Also, we find the existence of eight clusters, each one of them with a different color, the terms that are related to company valuation and that stand out in this map being: *valuation, performance, corporate governance, information, market, company, fair value, intellectual capital, earnings management.*

The co-occurrence keyword network reveals the intensity of concepts used in the analysed scientific publications. We observe that while in 2012 the focus was on structured capital, compensation, options, investment, industry, technology, etc., in the following years the studies focused on concepts such as evaluation, corporate governance, market, information, risk, model, etc., then

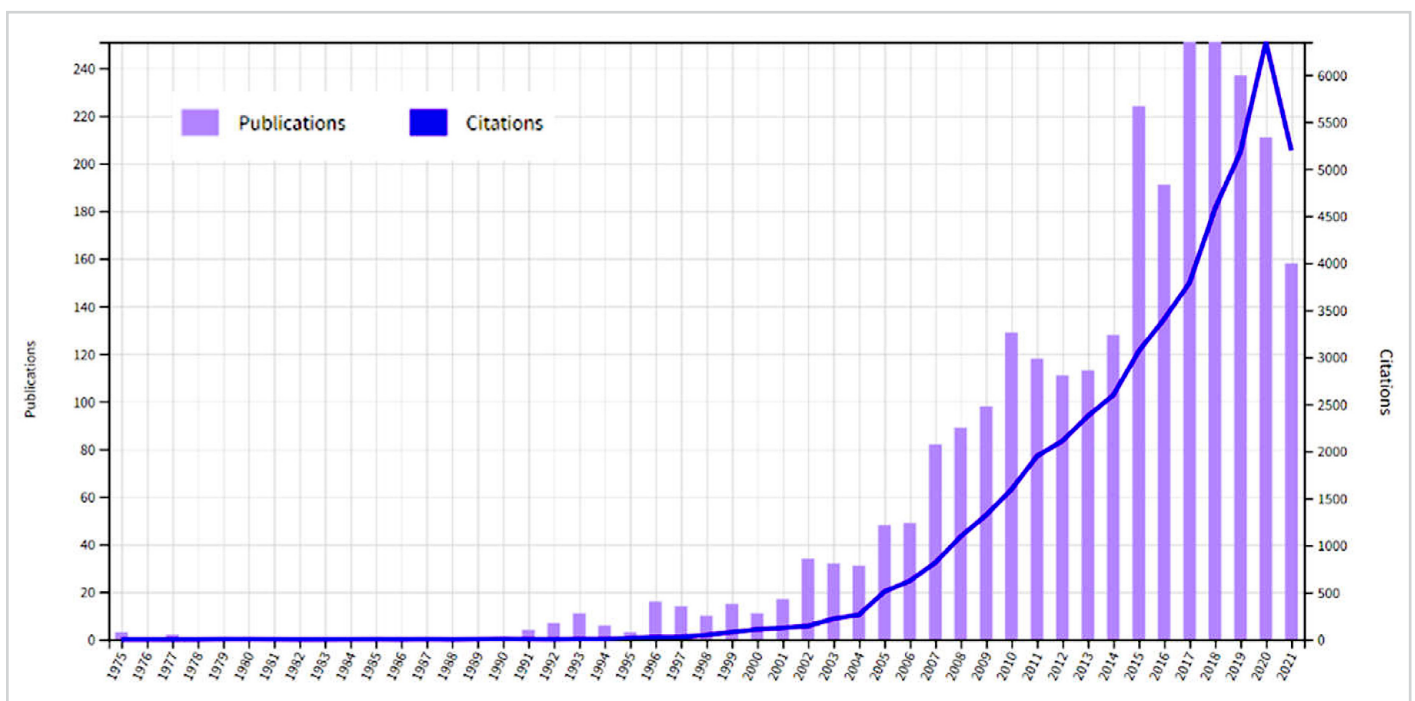


Figure 3:  
**Frequency of publications on company valuation topic between 1975 and 2021**  
Source: Web of Science

[illegible]



The fourth cluster is developing on themes focused on: *accounting information, capital markets, company value, corporate sustainability, credibility, economic performance, financial reporting, disclosure, goodwill impairment, IFRS, stakeholder theory, voluntary disclosure, etc.* (see Figure 9).

The fifth cluster is focused around topics such as *firm valuation, free cash flow, IPO, liquidity, valuation premium, venture capital, information quality, bidding, audit quality, decision, evolution, etc.* (see Figure 10).

In the sixth cluster, the main topics are related to: *acquisition, harmonisation, balanced scorecard, capitalisation, cash flow, entrepreneurship, knowledge, stock market valuation, merger, growth, etc.* (see Figure 11). The seventh cluster develops on themes oriented towards: *enterprise value, equity value, fees, internal control, financial crisis, political uncertainty, tax planning, taxes, etc.* (see Figure 12).

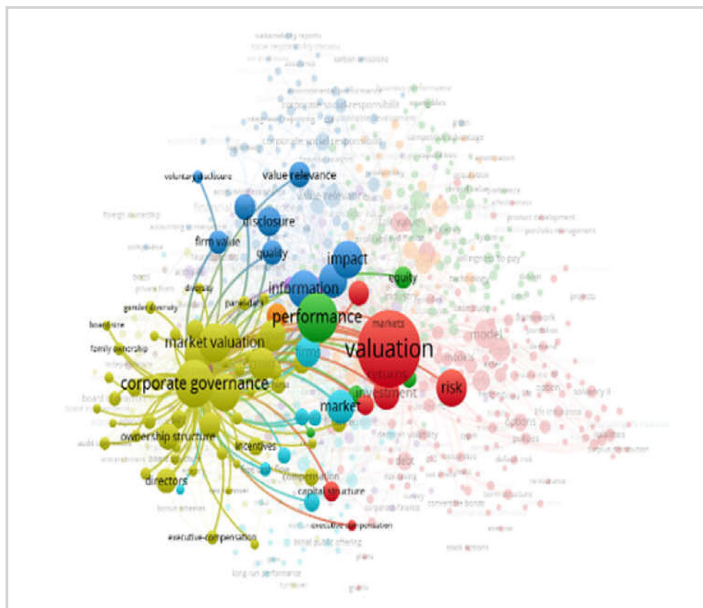


Figure 8:  
**Cluster 3: Corporate governance -**  
**Co-occurrence keyword network, 1975-2021**  
Source: Compiled by the authors with VOSviewer

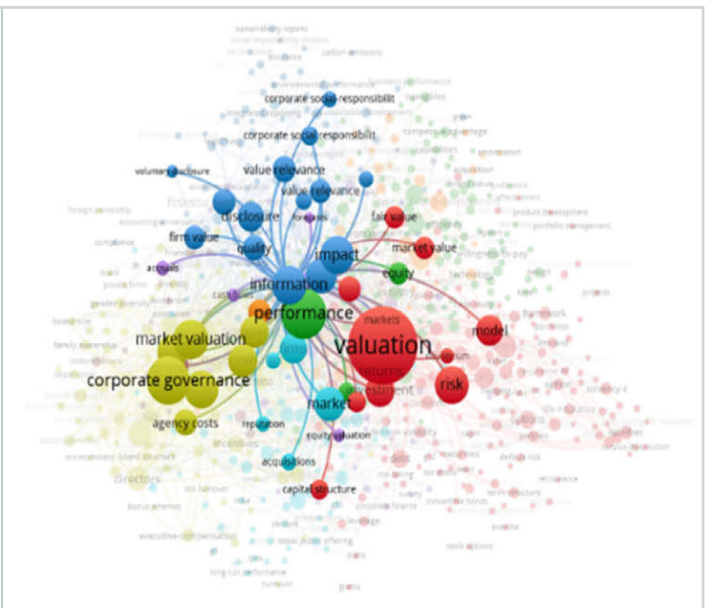


Figure 9:  
**Cluster 4: Information -**  
**Co-occurrence keyword network, 1975-2021**  
Source: Compiled by the authors with VOSviewer

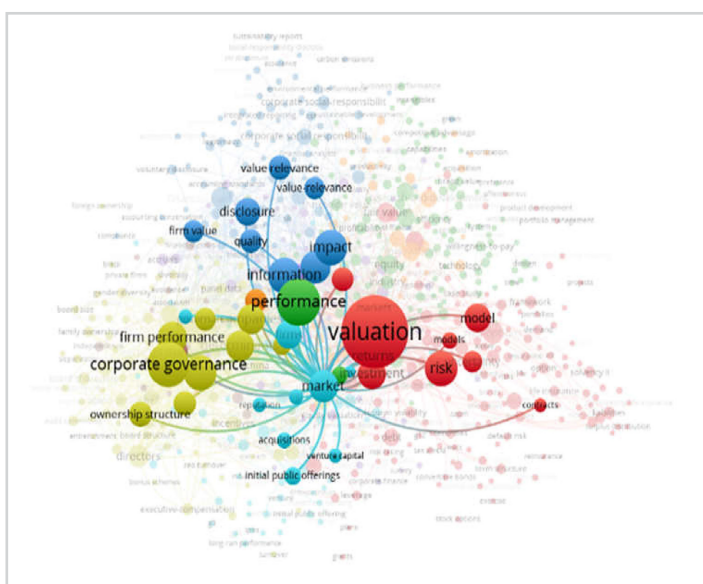


Figure 10:  
**Cluster 5: Market -**  
**Co-occurrence keyword network, 1975-2021**  
Source: Compiled by the authors with VOSviewer

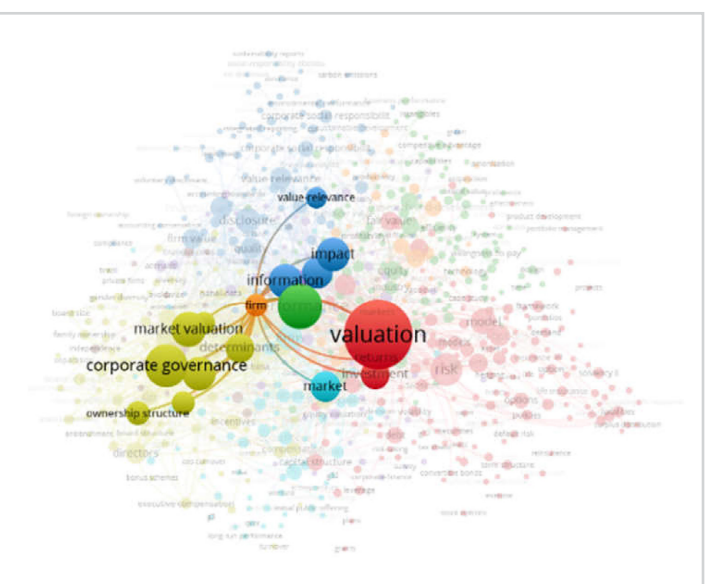


Figure 11:  
**Cluster 6: Firm -**  
**Co-occurrence keyword network, 1975-2021**  
Source: Compiled by the authors with VOSviewer



The last cluster has as central themes: *earnings, valuation, book value, capital market, cash flow, corporate finance, equity valuation, financial analysis, financial statements, market efficiency, risk analysis, etc.* (see [Figure 13](#)).

By querying the Web of Science database, we were able to identify the main countries with registered publications on the analysed subject between 1975 and 2021 (see [Figure 14](#)).

The results of mapping the scientific terminology used in relation to company valuation - using VOSviewer according to the Web of Science database - revealed that the terms and phrases most commonly associated with company valuation are: valuation, performance, corporate governance, market, risk, equity, fair value, goodwill and others. In fact, our aim was to present and investigate general topics from previous research in the field of company valuation. A methodological constraint of this research was the way of searching the analysed publications by limiting the software to the 2,709 publications from 1975 to 2021 in the most relevant fields. Therefore, we can point out that international research on company valuation is carried out in different contexts with different results, highlighting a variety of expansion trends between clusters.

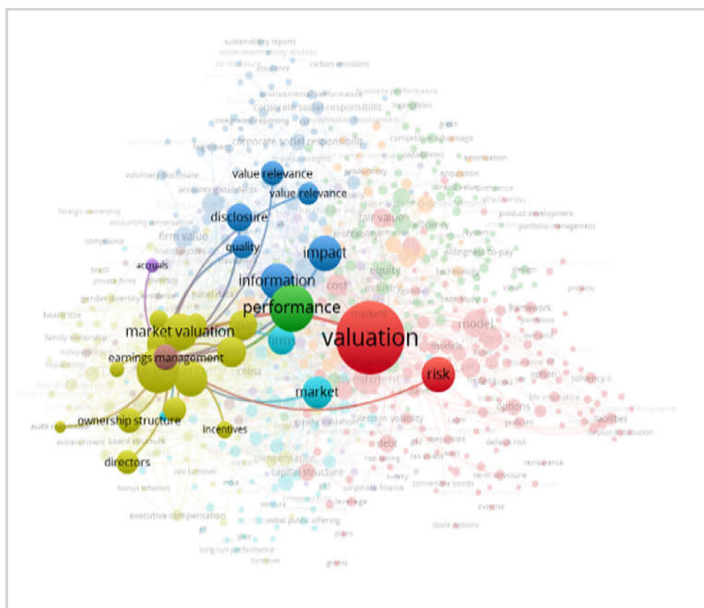


Figure 12:

### Cluster 7: Earnings management -

### Co-occurrence keyword network, 1975-2021

Source: Compiled by the authors with VOSviewer

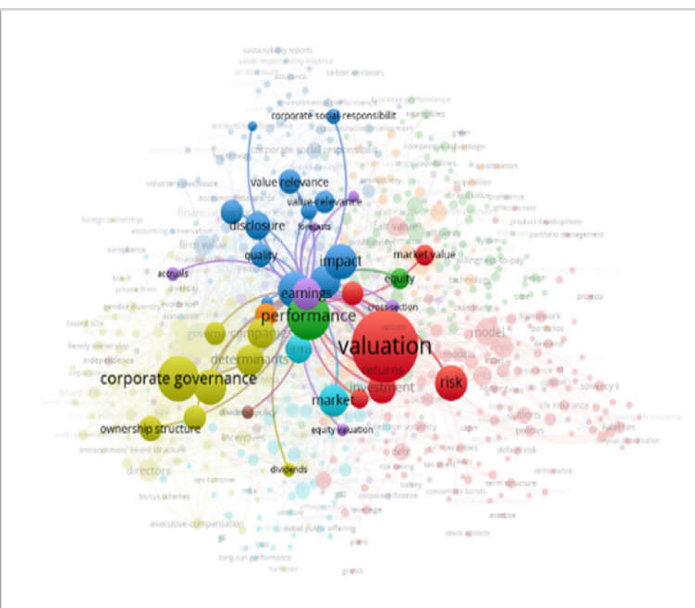


Figure 13:

### Cluster 8: Earnings -

### Co-occurrence keyword network, 1975-2021

Source: Compiled by the authors with VOSviewer

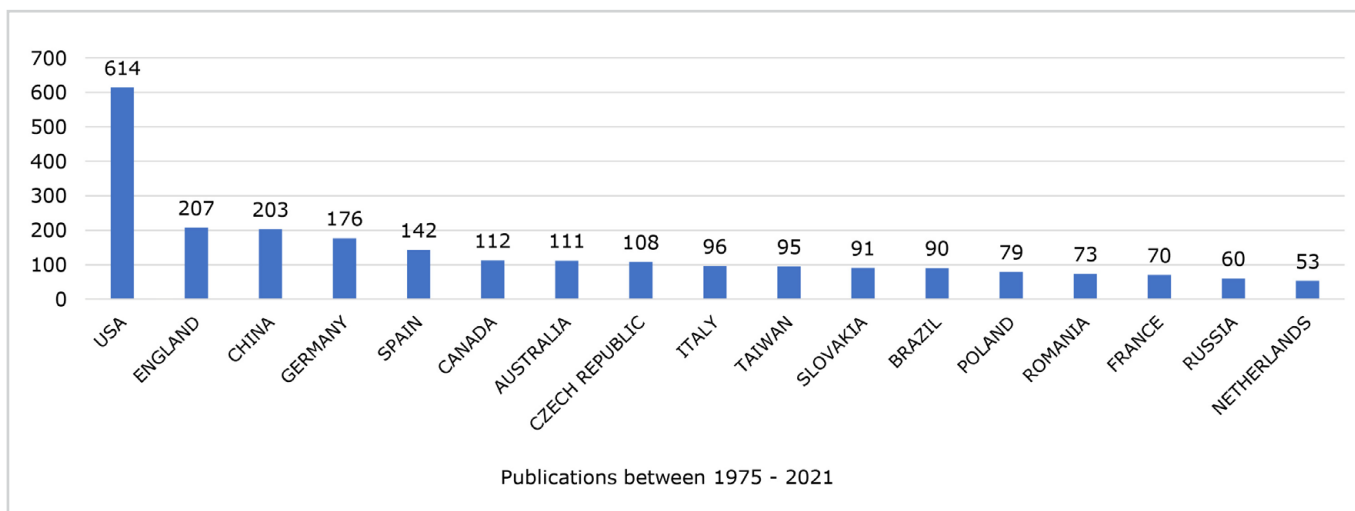


Figure 14:

**Main countries with registered publications  
on the topic according to the Web of Science database from 1975-2021**

Source: Compiled by the authors

The whole decision-making process will therefore be based on the results of the valuation work. This is due to the fact that nowadays, the overall objective of a company is no longer just to maximise profits, but also to increase the value of the company over the years (Barakat, 2014). This goal of increasing the value of a company in the long term and maintaining a high company value in the market is identified with the concept of sustainable company development and can be achieved through management that seeks to regenerate invested capital to ensure that new resources can be created in the future.

## 5. Conclusion

Given the increasing scientific production on the topic of company valuation, we consider it necessary to conduct a literature review, based on empirical bibliometric data, which will allow us, on the one hand, to identify the main authors who have focused on studying the issues of company valuation and on the other hand, to identify the main issues still unstudied or insufficiently debated that represent new research directions, both for us and for other researchers in the field. In addition, the considerable volume of scientific production on the subject of company valuation and the storage of works in international databases has led to the use of «bibliometrics» as a useful tool for measuring scientific activity based on the statistical analysis of quantitative data provided by the scientific literature.

It is easy to see, therefore, that the business valuation process has in recent years become a topic that has been the focus of attention among both academic researchers and practitioners because of its importance in quantifying the economic value of a company as reliably as possible, especially for companies operating in markets where the intensity of competitive forces is high. This interest is driven by the increasing need for valuations as a result of various factors, such as the tendency of companies to grow through merger and acquisition transactions and the need for new control tools, such as quantifying the value created or dissipated by the entity. We believe that currently, the stakeholders place greater emphasis on creating and maintaining value than on purely financial performance and therefore the valuation process is necessary to be able to determine, at intervals, the ability of the entity to maintain its financial performance, to increase it or to intervene with measures when performance is weaker than in previous periods. This latter aspect implicitly underlies the importance of valuation, i.e. the quantification of a company's economic value, in the business decision-making process.

In conclusion, we believe that stakeholders currently place greater emphasis on creating and maintaining value than on purely financial results and therefore the valuation process is necessary to be able to determine, at intervals, the entity's ability to maintain its financial results, to increase them or to intervene with measures when results are weaker than in previous periods.

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