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Mapping the Intellectual Structure of Impairment Testing in Financial Reporting Research: A Bibliometric Study

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ABSTRACT

This study aims to map the intellectual structure and development of impairment research in financial reporting through a bibliometric approach. Using data extracted from the Scopus database covering the period 2000–2025, the analysis employs VOSviewer to examine co-occurrence of keywords, thematic clusters, and research evolution. The findings reveal that the literature is structured around several dominant themes, including cognitive impairment, visual impairment, and genetic perspectives, which are interconnected through methodological approaches such as cohort and longitudinal studies. The temporal analysis indicates a shift from early research focusing on diagnostic and measurement frameworks toward more recent studies emphasizing early detection, personalized approaches, and life-course perspectives. Furthermore, the results highlight the increasing integration of multidisciplinary insights, reflecting the complexity of impairment-related phenomena. This study contributes to the literature by providing a comprehensive overview of the field's intellectual landscape, identifying key research trends, and offering directions for future research. The findings also offer practical implications for researchers and practitioners by emphasizing the importance of integrative and evidence-based approaches in understanding and managing impairment.

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1. INTRODUCTION

Financial reporting plays a crucial role in communicating the economic condition and performance of organizations to stakeholders [1], [2]. One important aspect of financial reporting is the recognition and measurement of asset values, particularly when those values may decline due to economic, technological, or operational factors. Impairment testing has emerged as a key accounting mechanism designed to ensure that assets are not carried at amounts exceeding their recoverable values. Within the framework of international accounting standards such as International Accounting Standard 36 (IAS 36) and U.S. regulations like Statement of Financial Accounting Standards No. 142 (SFAS 142), impairment testing serves as a safeguard that enhances the reliability and transparency of financial statements. The increasing complexity of corporate assets—

especially intangible assets and goodwill—has intensified academic interest in how impairment testing is implemented, interpreted, and disclosed in financial reporting research [3].

Over the past two decades, impairment testing has gained prominence in accounting research due to the global transition toward fair value–oriented financial reporting. This transition was particularly evident following regulatory reforms introduced by the International Accounting Standards Board and the Financial Accounting Standards Board, which emphasized the use of forward-looking estimates in asset valuation. Such reforms shifted accounting practice from systematic amortization toward impairment-based measurement for certain assets, particularly goodwill arising from business combinations. As a result, scholars have explored various issues surrounding impairment testing, including managerial discretion, earnings management incentives, market reactions, and the informational value of impairment disclosures [4]. These studies collectively illustrate how impairment testing operates not only as a technical accounting procedure but also as a mechanism influenced by managerial judgment and institutional environments.

Despite the growing volume of research, the literature on impairment testing in financial reporting has become increasingly fragmented across different themes and methodological approaches. Some studies focus on the determinants of impairment recognition, while others investigate capital market consequences, audit quality, or corporate governance factors associated with impairment decisions. Additionally, research has expanded geographically, examining how impairment practices vary across countries with different legal systems and enforcement mechanisms. This diversity has contributed to a rich body of knowledge but has also created challenges for scholars seeking to understand the overall intellectual landscape of the field. Without a systematic synthesis, it becomes difficult to identify the most influential studies, emerging research clusters, and the evolution of theoretical perspectives within impairment testing research.

In response to this challenge, bibliometric analysis has emerged as a powerful methodological approach for mapping the intellectual structure of academic disciplines. Bibliometric techniques allow researchers to quantitatively analyze patterns in scholarly publications, including citation networks, co-authorship relationships, and keyword co-occurrence. By examining these patterns, scholars can uncover the underlying structure of a research field, identify influential authors and journals, and detect emerging trends that may shape future research directions. Bibliometric methods have been widely applied in various academic fields, including management, finance, and accounting, to provide a comprehensive overview of research development [5]. When applied to impairment testing research, bibliometric analysis can reveal how scholarly attention has evolved over time and how different research themes are interconnected.

Furthermore, understanding the intellectual structure of impairment testing research is particularly important in the current era of rapidly changing economic conditions and financial reporting requirements. Events such as global financial crises, technological transformation, and increasing reliance on intangible assets have intensified debates about the reliability of impairment testing models and managerial estimates. Researchers continue to question whether impairment rules adequately reflect economic reality or whether they provide opportunities for opportunistic financial reporting behavior. Mapping the intellectual structure of the literature can therefore provide valuable insights into dominant theoretical frameworks, methodological trends, and gaps that require further investigation. Such insights can support scholars, regulators, and practitioners in improving both academic understanding and practical implementation of impairment testing in financial reporting.

Although research on impairment testing in financial reporting has expanded

significantly, the literature remains dispersed across numerous journals, theoretical perspectives, and empirical approaches. This dispersion makes it difficult to clearly identify the core intellectual foundations, influential publications, and evolving research themes that shape the field. Existing narrative literature reviews often rely on subjective interpretations and may not fully capture the structural relationships among studies. Consequently, there is a lack of systematic and quantitative mapping that illustrates how impairment testing research has developed over time, which authors and institutions have contributed most significantly, and which thematic areas are emerging as future research directions. Addressing this gap requires a comprehensive bibliometric approach capable of visualizing and analyzing the intellectual structure of impairment testing research within the broader domain of financial reporting.

The objective of this study is to map and analyze the intellectual structure of impairment testing research in financial reporting using bibliometric techniques. Specifically, the study aims to identify the most influential publications, authors, journals, and institutions contributing to the field; examine the evolution of research themes through citation and keyword networks; and reveal emerging trends that may shape future academic inquiry. By providing a systematic overview of the literature, this study seeks to enhance the understanding of how impairment testing research has developed and to offer a structured foundation for future studies in financial reporting and accounting research.

2. METHOD

This study adopts a bibliometric research design to systematically analyze and map the intellectual structure of impairment testing research in financial reporting. Bibliometric analysis is a quantitative method used to evaluate patterns in academic literature through publication and citation data. It allows researchers to identify influential publications, authors, research themes, and collaboration networks within a particular field. In this study, bibliometric techniques are employed to explore the development and structure of research related to impairment testing under accounting standards such as International Accounting Standard 36 (IAS 36) and related financial reporting frameworks. By examining citation relationships and keyword patterns, the study aims to reveal the underlying knowledge structure and thematic evolution of impairment testing research.

The data for this study are collected from a reputable academic database, namely Scopus, which is widely recognized for its comprehensive coverage of peer-reviewed journals in the fields of accounting, finance, and business research. The data collection process involves identifying relevant publications using keywords such as “impairment testing,” “asset impairment,” “goodwill impairment,” and “financial reporting.” Only journal articles written in English and published within a defined time range are included to ensure consistency and academic relevance. After retrieving the initial dataset, the records are screened to remove duplicates, irrelevant studies, and incomplete bibliographic information. The final dataset consists of articles that directly address impairment testing within the context of financial reporting, thereby forming the basis for the bibliometric analysis.

3. RESULT AND DISCUSSION

3.1 Result

a. Keyword Co-Occurrence

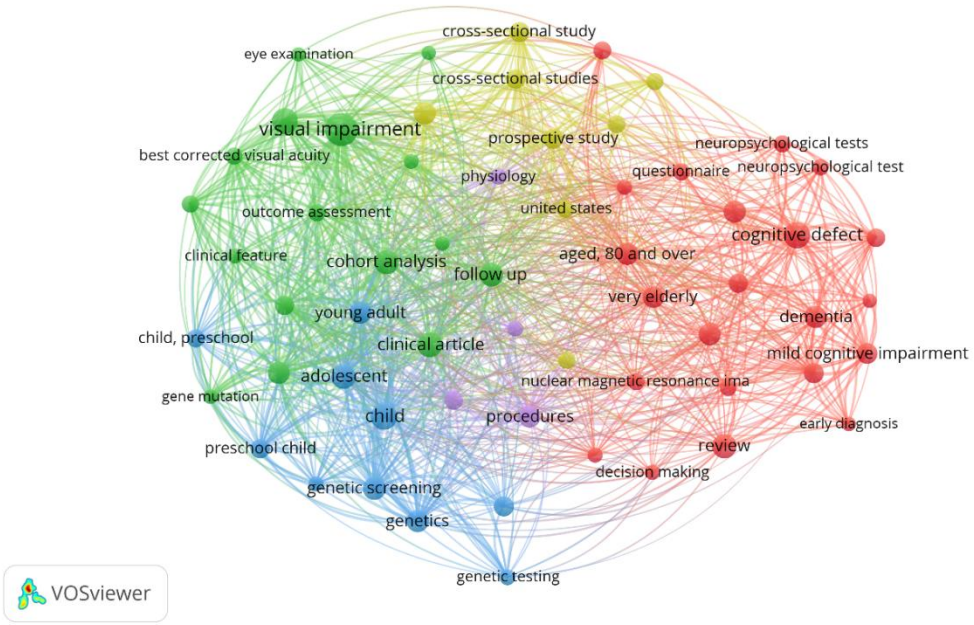

Figure 1. Network Visualization
Source: Data Analysis

Figure 1 reveals a structured intellectual landscape composed of several interconnected thematic clusters. At a general level, the map shows that research related to impairment—although broadly defined in the dataset—is organized into distinct but overlapping domains, with strong linkages across clinical, cognitive, and diagnostic perspectives. The density of connections between nodes indicates a high level of interdisciplinary integration, suggesting that impairment-related research is not isolated within a single field but spans multiple research traditions. The red cluster appears to be dominated by themes related to cognitive impairment, including keywords such as cognitive defect, dementia, mild cognitive impairment, and neuropsychological tests. This cluster reflects a strong focus on aging populations, as indicated by terms like aged 80 and over and very elderly. The presence of early diagnosis and decision making suggests that this stream of research is concerned not only with identifying impairment but also with its implications for clinical and behavioral outcomes. This cluster can be interpreted as representing the core of neurocognitive and geriatric impairment research.

In contrast, the green cluster centers on visual impairment and clinical assessment, with prominent terms such as visual impairment, best corrected visual acuity, cohort analysis, and clinical features. This indicates a research stream focused on ophthalmological conditions and their measurement, often using longitudinal or cohort-based methodologies. The inclusion of outcome assessment and follow-up suggests that this body of literature emphasizes clinical progression and treatment effectiveness. This cluster highlights the importance of sensory impairment as a distinct but related domain within the broader

impairment literature. The blue cluster is characterized by genetic and developmental perspectives, including keywords such as genetics, genetic screening, gene mutation, and child or adolescent. This indicates a research focus on early-life impairment, hereditary conditions, and the biological underpinnings of impairment. The linkage between pediatric populations and genetic testing suggests that this cluster contributes to understanding the origins and early detection of impairment conditions. It also reflects a shift toward precision medicine and personalized diagnostics in impairment-related research.

The yellow cluster appears to function as a methodological and integrative bridge, containing terms such as cross-sectional study, prospective study, and physiology. This cluster connects the other thematic areas by providing the research designs and analytical approaches used across studies. Its central position in the network indicates that methodological frameworks play a critical role in linking diverse impairment research domains.

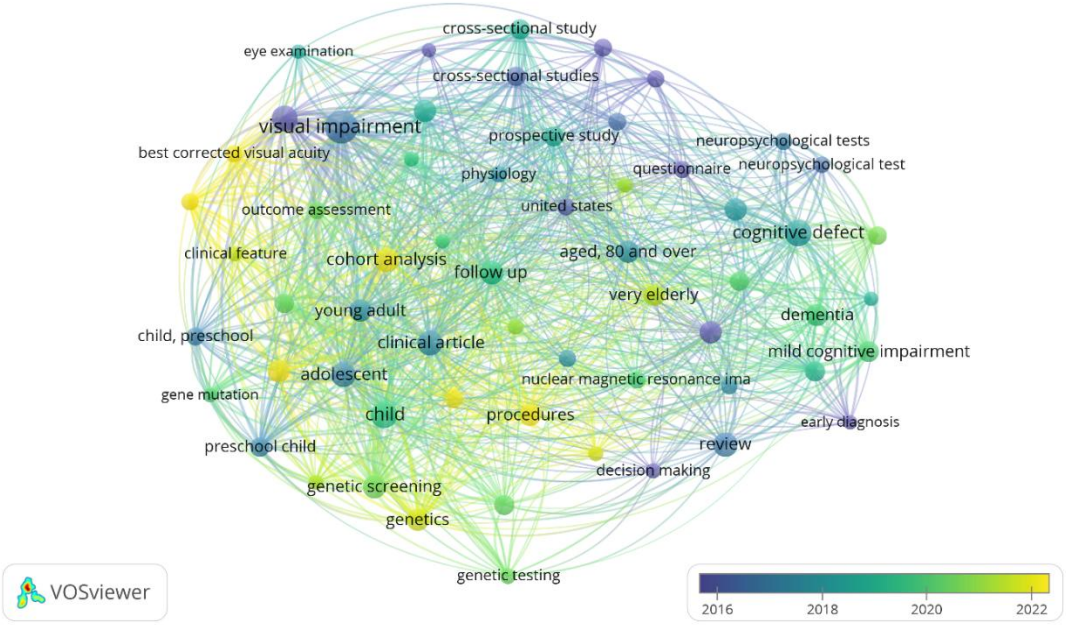

Figure 2. Overlay Visualization
Source: Data Analysis

Figure 2 provides insight into the temporal evolution of research themes within the impairment literature. The color gradient—from blue (earlier years) to yellow (more recent years)—indicates how topics have developed over time. Early research (around 2016–2018) appears concentrated on foundational clinical and diagnostic approaches, such as neuropsychological tests, cross-sectional studies, and early diagnosis. These topics suggest that the initial phase of the field was focused on establishing measurement tools, clinical frameworks, and baseline understanding of impairment conditions, particularly in cognitive and neurological domains. As the field progressed into the middle period (around 2018–2020), the research focus expanded toward integrative and population-based approaches. Keywords such as cohort analysis, follow-up, visual impairment, and physiology became

more prominent, reflecting a shift toward longitudinal studies and broader clinical assessments. This phase indicates growing interest in understanding how impairment develops over time and across different demographic groups, including aging populations. The presence of terms like aged 80 and over and very elderly highlights an increasing emphasis on geriatric research and the progression of impairment in later life stages.

In the most recent period (2020–2022), the visualization shows a clear movement toward genetic, developmental, and outcome-oriented research, as indicated by yellow-colored nodes such as genetics, genetic screening, child, adolescent, and outcome assessment. This suggests that contemporary studies are increasingly focused on early detection, personalized medicine, and life-course perspectives. The integration of genetic testing with clinical and cognitive research reflects a more advanced and multidisciplinary approach, where impairment is studied not only as a condition to be diagnosed but also as a phenomenon to be predicted, prevented, and managed across different stages of human development.

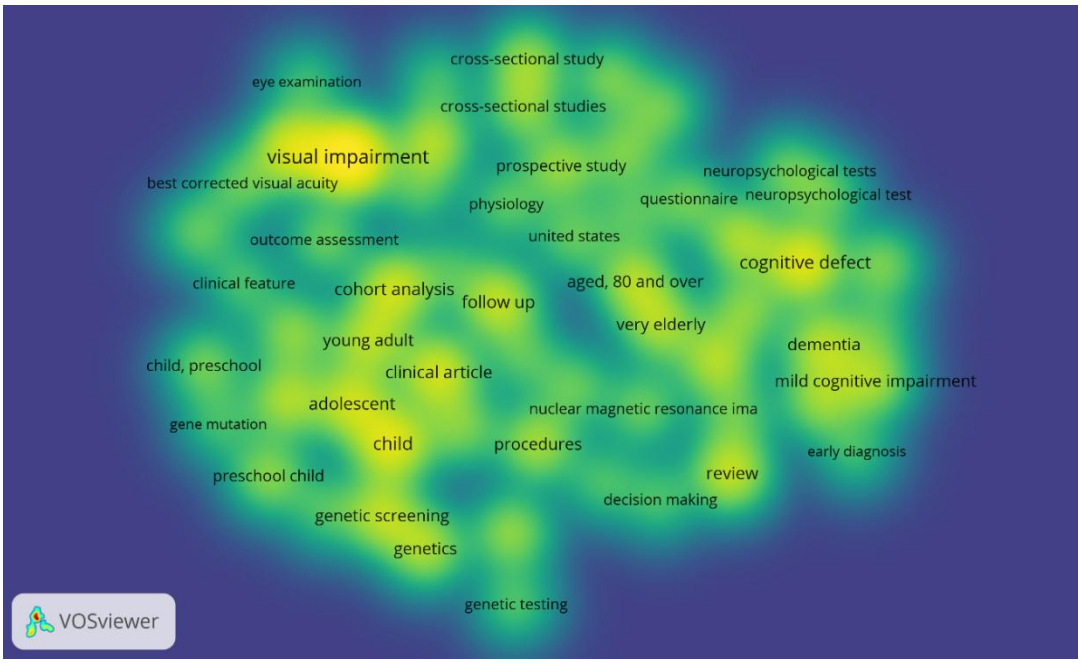

Figure 3. Density Visualization
Source: Data Analysis

Figure 3 highlights the most intensively researched and frequently occurring themes within the impairment literature. Areas with bright yellow intensity indicate high keyword co-occurrence, showing the core focus of the field. The most prominent hotspots are centered around visual impairment, cognitive defect, child, cohort analysis, and follow up. This suggests that the literature is heavily concentrated on clinical assessment and longitudinal analysis of impairment conditions, spanning both sensory (visual) and cognitive domains. The strong presence of these nodes indicates that researchers prioritize understanding impairment through empirical observation, patient tracking, and outcome evaluation. Additionally, the map reveals that impairment

research is strongly oriented toward a life-course and multidisciplinary perspective. High-density regions around child, adolescent, genetics, and genetic screening indicate increasing attention to early detection and biological determinants, while areas such as dementia, mild cognitive impairment, and aged 80 and over reflect a parallel focus on aging populations. The relatively even spread of medium-density areas connecting these themes suggests a well-integrated field where clinical, genetic, and cognitive research intersect.

b. Citation Analysis

Table 1. Most Cited Article

Citations	Author and Year	Title
659	[6]	The impact of HIV-associated neuropsychological impairment on everyday functioning
551	[7]	The Incidence of Contact Lens-Related Microbial Keratitis in Australia
549	[8]	Revised recommendations on screening for chloroquine and hydroxychloroquine retinopathy
330	[9]	Risk Factors for Microbial Keratitis with Contemporary Contact Lenses. A Case-Control Study
282	[10]	Accounting discretion in fair value estimates: An examination of SFAS 142 goodwill impairments
217	[11]	Reference values for lung function: Past, present and future
217	[12]	Problem gamblers share deficits in impulsive decision-making with alcohol-dependent individuals
196	[13]	Compliance with IFRS 3-and IAS 36-required disclosures across 17 European countries: Company-and country-level determinants
178	[14]	The prevalence and natural history of dominant optic atrophy due to OPA1 mutations
165	[15]	Prevalence of Vision Impairment in Older Adults in Rural China. The China Nine-Province Survey

Source: Scopus, 2026

3.2 Discussion

The findings of this bibliometric study reveal that research on impairment has evolved into a highly interdisciplinary and interconnected field, characterized by the integration of clinical, cognitive, and biological perspectives. The co-occurrence analysis demonstrates that the intellectual structure of the field is not fragmented but rather organized into well-defined thematic clusters that interact closely with one another. Core themes such as cognitive impairment, visual impairment, and genetic factors are not studied in isolation; instead, they are embedded within broader analytical frameworks involving longitudinal assessment, diagnostic methodologies, and outcome evaluation. This suggests that impairment research has matured beyond descriptive studies toward more comprehensive and integrative approaches.

One of the most dominant streams identified in this study is the focus on cognitive impairment, particularly in relation to aging populations. The prominence of keywords such as dementia, mild cognitive impairment, and neuropsychological testing indicates that this area forms a central pillar of the literature. The strong linkage between these terms and concepts such as early diagnosis and decision-making highlights an increasing emphasis on the practical implications of cognitive

decline, including clinical intervention and patient management. This aligns with the growing global concern over aging societies, where understanding cognitive impairment is critical for healthcare systems, policy development, and quality of life improvement.

In parallel, the study identifies visual impairment as another significant research cluster, reflecting the importance of sensory-related conditions within the broader impairment discourse. The association of visual impairment with cohort analysis, outcome assessment, and clinical features suggests that this stream is grounded in empirical and longitudinal methodologies. This indicates that researchers are not only concerned with identifying visual deficits but also with understanding their progression and impact over time. The integration of visual impairment research with other domains further underscores its relevance, particularly in relation to overall functional health and its potential interaction with cognitive decline.

Another important insight from the analysis is the increasing prominence of genetic and developmental perspectives in recent years. The emergence of keywords such as genetics, genetic screening, and gene mutation—particularly in association with children and adolescents—reflects a shift toward early detection and preventive approaches. This trend suggests that impairment research is moving toward a life-course perspective, where the origins of impairment are explored from early developmental stages. The integration of genetic data into clinical and cognitive research also indicates a transition toward more personalized and precision-based approaches, which have the potential to significantly enhance diagnostic accuracy and intervention strategies.

4. CONCLUSION

This bibliometric study concludes that the research on impairment has developed into a mature, multidisciplinary field characterized by strong integration between cognitive, clinical, and genetic perspectives. The intellectual structure is dominated by key themes such as cognitive impairment, visual impairment, and early-life genetic factors, all of which are interconnected through robust methodological approaches like cohort and longitudinal studies. The temporal evolution further indicates a shift from diagnostic and measurement-focused research toward more preventive, personalized, and life-course-oriented studies. The field demonstrates a dynamic progression with increasing emphasis on early detection, interdisciplinary collaboration, and practical application, highlighting significant opportunities for future research to further integrate biological, clinical, and behavioral dimensions of impairment.

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