



UNIVERSIDADE CATÓLICA PORTUGUESA

Materiality Level in Auditing: Impact and evolution

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2024



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Trabalho Final na modalidade de Dissertação
apresentado à Universidade Católica Portuguesa
para obtenção do grau de mestre em finanças

Por

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sob orientação de
Professor Paulo Alves

Católica Porto Business
School Maio, 2024

Acknowledgments

Após várias defesas de dissertações que fui assistindo de diversos colegas e amigos, sempre tive curiosidade pela secção dos agradecimentos, mas sobretudo receio pois aquando da minha entrega pois não saberia o que escrever.

Gostaria de agradecer ao professor e orientador Paulo Alves, pela paciência e conselhos valiosos ao longo de todo o processo.

Agradecer à EY, por todo o apoio e ajuda que me foram dando em diversos momentos.

Agradecimento especial aos meus amigos e família, por todo o carinho e motivação, com check-ups diários e palavras de ânimo.

Agradecimento profundo à minha namorada, Mariana, por toda a ajuda e valiosa companhia em todas as tardes e noites mal dormidas.

E por fim agradecer a mim, por ter acreditado que era possível, apesar de todas as adversidades e obstáculos.

Resumo

Este estudo pretende analisar a materialidade, mais concretamente, a forma como os auditores a utilizam, e quais os seus impactos e consequências nas empresas e investidores. Devido ao normativo da ISA700 do Reino Unido, as empresas pertencentes à London Stock Exchange (LSE), estão obrigados a divulgar nos seus relatórios de auditoria o nível de materialidade aplicado.

Foi efetuado uma análise de literatura de forma a perceber estudos anteriores que tenham contribuído para a melhor compreensão do conceito de materialidade, permitindo assim identificar lacunas na área. Assim, foi identificada a falta de estudos que abordem a forma como os auditores usam e determinam a materialidade bem com os seus diversos efeitos nos honorários e desempenho das próprias empresas.

Foram assim analisados os constituintes do FTSE 350, no período compreendido entre 2015 e 2022. Com os dados obtidos, foram realizados testes e análises de forma a primeiramente, complementar estudo anteriores e assim estudar a existência de uma relação inversa entre materialidade e o risco de auditoria e perceber se as mudanças de auditor têm impacto na determinação da materialidade. Por fim, foi introduzido um novo estudo, onde se pretende apurar se o nível de materialidade tem impacto no desempenho da empresa.

Os resultados obtidos poderão providenciar tanto a investidores como a investigadora informação relevante que melhore a compreensão acerca da materialidade, no entanto, os resultados contraditórios poderão motivar a intervenção de reguladores de forma a melhorar a forma como a materialidade é determinada, aumentando a transparência.

Palavras-Chave: Materialidade, ISA 700, FTSE 350

Abstract

This study aims to analyze materiality, specifically examining how auditors utilize it and the impacts and consequences it has on companies and investors. Due to the requirements of ISA700 in the United Kingdom, companies listed on the London Stock Exchange (LSE) are obligated to disclose the level of materiality applied in their audit reports.

A literature review was conducted to understand previous studies contributing to a better comprehension of the materiality concept, thus identifying gaps in the field. Consequently, a lack of studies addressing how auditors use and determine materiality, as well as its various effects on audit fees and company performance, was identified.

The constituents of the FTSE 350 were analyzed for the period between 2015 and 2022. With the obtained data, tests and analyses were performed to complement previous studies and examine the existence of an inverse relationship between materiality and audit risk. Additionally, the study aimed to understand if auditor changes impact materiality determination. Finally, a new study was introduced to investigate whether materiality levels affect company performance.

The results obtained may provide both investors and researchers with relevant information to enhance understanding of materiality. However, contradictory findings may prompt regulatory intervention to improve how materiality is determined, thereby enhancing transparency.

Keywords: Materiality, ISA 700, FTSE 350

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Chapter 1

Introduction

1.1 Overview

The concept of materiality, jointly with all its underlying implications, is a vital topic in auditing since it plays an important role in establishing the credibility of financial statements. The term "materiality" refers to the point at which financial information becomes substantial enough to affect financial statement users' conclusions and decisions. As a result, it is critical to understand how auditors use materiality to assure accuracy as well as reliability of financial data.

Since most countries do not require the disclosure of materiality, the available data is very limited. In Europe, both the Netherlands and the UK oblige auditors to publish auditing materiality information in their reports. However, due to its size, significance, and data availability, we focus our research on UK corporations, specifically the constituents of the FTSE 350 index from 2015 to 2022.

This study has significance given the fact that it contributes to a better understanding of how auditors use materiality, which can help to shape auditing standards and procedures. Greater sample size analysis can provide a more comprehensive understanding of how auditors employ materiality, which can benefit policymakers, regulators, auditors, and investors alike. Furthermore, the study's findings aim to fill in the gap in research as well as add in on previous studies, providing a larger database and create new dynamics and rationales.

This paper will firstly provide an overview and insight into the concept of materiality and its surrounding regulation. Secondly, a literature was conducted to analyze previous and important studies that contributed to a better understanding of materiality. Thirdly, the research questions are presented followed by a demonstration of the construction of the sample used.

Moreover, Chapter 5 provides the data breakdown and then Chapter 6 presents the results for the proposed research questions. Finally, Chapter 7 presents the main conclusions and recommendations for future research.

1.2 Unveiling Materiality: Navigating Audit risk and ensuring audit quality

The significant threshold that an auditor uses to determine whether a company's financial statements are presented truthfully and fairly is defined as audit materiality. In other words, it is the point at which a financial statement inaccuracy or misstatement significant enough to have an impact on the auditor's judgment of the financial statements as a whole. It serves as a guidance for the auditor whilst selecting test items and analyzing assessment findings.

Auditors before performing must elaborate a plan that tackles the factors and circumstances that could lead to inaccuracies and errors in financial statements. This includes gaining the understanding of the firm and its surroundings. It's crucial to gain this understanding to establish an appropriate materiality threshold which gives the auditor the information needed select the appropriate audit procedures and select the items from the financial statements that need to be analyzed thoroughly to mitigate the audit risk.

When determining materiality, auditors must consider two types of factors: quantitative and qualitative factors. Quantitative factors include the size of the firm, key financial performance indicators and the accounts of both balance sheet and income statement. Qualitative factors include the nature and environment of the firm and the relationship between the accounts of the financial report. They also take into consideration the intended users of financial reports, analyzing the impact of a misstatement is essential when determining materiality. The calculation of materiality often resides on a percentage of a balance sheet or income statement. For instance, if the audit materiality is 2% of revenues, it means that any errors or misstatements that go beyond that level, require disclosure in

the audit reports.

The entire performance and effectiveness standard of an audit done by an auditor is referred to as audit quality. It includes a range of elements that support the validity, trustworthiness, and utility of the audit procedure and the audit report that is produced. The most impactful factor to audit quality are audit errors or misstatements, most importantly, material misstatements which refer to errors that go beyond the level of materiality previously determined. To address them, auditors need to perform their work with a good dose of professional care and skepticism, always questioning the reliability and veracity of the information present in the financial reports. Additionally, auditors need to detect, correct, and understand the root cause of a material misstatement, with this being achieved by thorough examination and analysis of financial data, internal controls and accounting are necessary. By detecting and understanding the misstatements, auditors can provide a suitable corrective measure to avoid reoccurring errors.

Audit risk refers to an incorrect audit judgment on financial statements. There's a relationship between audit risk and materiality that auditors must address. As materiality levels decreases, inversely, audit risk rises and vice-versa. So, it's crucial that auditors find the right balance between materiality and audit risk. Several factors come into play, such as the nature of the entity, industry, and the quality of management. Moreover, historical performance, can provide a basis to build upon on, although past events cannot predict the future. Finally, external factors such as the market conditions, regulations and legal proceedings can influence the level of materiality chosen.

The concept of materiality is crucial as it aids auditors focusing in the most relevant areas and issues, guiding the process of detection and correction of noteworthy misstatements. It improves the overall quality of the audit procedure and reduces the chances of an inaccurate opinion on financial statements.

1.3 Types of materiality

When delving into the concept of materiality, the general focuses reside on the overall materiality, which was mentioned previously. Although being the most important for performing the necessary audit procedures, it is not the only concept applied by auditors.

Performance materiality level is determined by the company's auditor. It might be a quantity that is lower than the overall materiality threshold. This materiality level is lower than the "overall materiality level" to account for the possibility of multiple minor mistakes or omissions that the auditor was unable to detect. However, they are substantial when aggregated, reducing the likelihood that the total number of tiny misstatements would surpass the overall materiality criterion. Factors such as the size and complexity of the firms, quality of internal controls have a huge influence on its determination.

Specific materiality refers to an individual threshold to individual items within financial statements. Its determination is mainly related to the nature of the account's transactions, where more sensitive and complex transactions such as taxes and banking transactions, require a more scrutiny from the auditors, where specific materiality guides auditors effectively.

1.4 Regulation on materiality

Regulation is essential to ensure the accuracy and dependability of financial reporting. It establishes guidelines that auditors follow to ensure independence, impartiality, and transparency throughout the audit procedure. These guidelines are constantly evolving to reflect new risks and improvements in auditing procedures, which strengthens their ability to protect the integrity of audits and the reliability of financial data.

1.4.1 ISA 320

The International Standard on Auditing (ISA) 320 "Materiality in Planning and Performing an audit" provides guidance on materiality and the auditor's consideration of misstatements in financial statements. This ISA addresses the auditor's responsibility to apply the concept of materiality in the audit process.

The standard stresses the auditor's responsibilities for identifying and assessing misstatements and the value of using professional judgment for establishing materiality. It also provides guidelines for the auditor's reporting duties in the event of major misstatements that remain uncorrected, as well as how to notify the users of such data such as management, investors, and stakeholders.

Furthermore, the ISA 320 also outlines the auditor's obligation to assess materiality at the audit planning stage. It emphasizes how crucial it is to consider a variety of elements when figuring out what is material. These criteria emphasize the need for a thorough assessment by encompassing both quantitative and qualitative features. Furthermore, the standard offers guidelines for implementing materiality at various stages of the audit procedure, emphasizing the need for continuous reevaluation in response to new data. Materiality is kept current and correctly applied thanks to this iterative approach. Furthermore, it emphasizes how important it is to consider both qualitative and quantitative indicators when assessing materiality, acknowledging the complex relationship between information and stakeholders' decision-making.

Overall, ISA 320 is an important standard that helps auditors to ensure that their audits are performed with sufficient rigor and care, to provide reasonable assurance that the financial statements are free from material misstatement.

1.4.2 ISA 450

ISA 450 entitled "Evaluation of Misstatements Identified during the Audit," has the objective of offering guidelines regarding the effects of identified misstatements and the uncorrected misstatements on financial statements. It strongly encourages that auditors' aggregate misstatements because they realize that the overall picture of financial integrity—or lack of it—may be more significant when misstatements are aggregated. However, qualitative factors are also considered in addition to quantitative ones. A thorough examination is necessary due to the type, context, and possible consequences of inaccurate statements.

Auditors need to be aware of how found misstatements could affect their final assessment of the financial statements as they work through this review process. Throughout, it is crucial to maintain transparency and complete documentation so that auditors can support their findings and give stakeholders a clear knowledge of the audit procedure.

1.4.3 ISA 700

The ISA 700 offers guidance on the auditor's financial statement report. It breaks down the prerequisites for the auditor's report content, incorporating the introduction, scope, and opinion paragraphs. The standard highlights the significance of the auditor's neutrality and credibility, establishing the role of the auditor in terms of determining and evaluating the risks of material misstatement, gathering proper and pertinent audit evidence, and assessing the financial statements' consistency and presentation.

Additionally, the standard offers recommendations about the structure and contents of the auditor's report, comprising the utilization of emphasis-of-matter paragraphs and additional explanatory material if needed.

The standard is to ensure that the auditor's report presents a fair and accurate portrayal of the auditor's findings and opinion on the financial statements and is clear, succinct, and informative.

In response to growing investor and stakeholders calls for greater openness around the auditing process, the Financial Reporting Council (FRC) amended the International Standards on Auditing (UK and Ireland), namely ISA 700. The updated standard requires auditors to report how they apply the notion of materiality during the audit and how it affects the scope of their work, effective for financial statement audits beginning on or after October 1, 2012. To give investors information about the materiality criteria that were applied, auditors must incorporate risk assessment and materiality planning into the audit report as per the new ISA 700. The benchmark used to evaluate materiality for the financial statements as well as the criteria used to determine overall materiality, including the threshold or percentage used, must be disclosed by auditors.

Additional information about materiality, such as the threshold used for reporting unadjusted differences, performance materiality, significant changes to the materiality threshold, account balances, or disclosures less significant than overall materiality, is suggested by the FRC but is not necessary to be compliant with ISA 700. The auditor has the option to include or exclude these extra disclosures, which are referred to as "voluntary disclosures". It is also common for audit reports to contain the "rationale" for choosing the materiality benchmark; this information is known as "voluntary disclosures by auditors" because the standard does not require it.

1.5 Mandatory information disclosure

A random audit report (DS Smith Audit Report 2021) was selected from the sample to demonstrate the varied disclosures made by auditors. The report revealed that the auditors voluntarily disclosed the reasoning for their choice of materiality standard.

The standard does not need this information. It might be categorized as "voluntary disclosures by auditors." In addition to the rationale for the benchmark, the report may include other voluntary disclosures such as performance materiality, revisions made to the materiality threshold during the audit, the threshold used for reporting unadjusted differences to the audit committee, and qualitative considerations in the auditor's materiality assessment. These disclosures give a fuller understanding of the auditor's materiality methodology and financial statement evaluation.

Mandatory disclosed information: *"We have used revenue as the benchmark in determining materiality (2020: profit before tax and adjusting items) and the materiality equates to 0,33% of revenue (2020: approximately 5% of profit before tax and adjusting items).*

Voluntary disclosed information: *"In light of the impact of Covid-19 on the Group we consider revenue to be a more stable benchmark for the business this year given the Group has not significantly changed in size and scale during the current year. The profit-related benchmark for the Group is impacted by Covid-19 and are volatile from one period to the next, and therefore they are not representative of the overall size of the business in the current year" (...) "We have determined performance materiality ¹ as 65%(2020 – 70%) of Group materiality to reflect tolerable error due to Covid-19 and factoring in the risk of uncertainty due to the pandemic, we have also considered the basis of our risk assessment, our assessment of the Group's control environment, the low number and quantum of corrected and uncorrected misstatements identified and management's*

willingness to correct misstatements that may be identified. Accordingly, we set performance materiality for the Group at £13.0m (2020: £16m) and Parent Company at £6.5m (2020 - £5.6m).

The previous information was provided Deloitte, in their audit report from DS Smith, regarding the fiscal year of 2021. The benchmark used for determining materiality is required by the ISA 700. The voluntary disclosures in the audit report provide openness into the auditing process, which was crucial due to Covid-19 pandemic. These disclosures have significance since it improves knowledge and trust in the audit results, hence increasing the credibility of financial reporting.

Chapter 2

Literature Review

Throughout time, the definitions of materiality changed. Initially, materiality was referred by Bernstein (1967) to as the wisdom of life, with practical applications on auditing outlines the simplicity of this concept and classifies it as the central concept of application of accounting principles and performance of audit procedures. Frishkoff (1970) also highlighted the importance and relevance of materiality, but when further by conducting an empirical investigation of the concept, and it's findings were key for the understanding and evolution of materiality. Frishkoff (1970) found the "interpretational variable" which means that both interpretation and determination of materiality varies among accountings professionals.

In recent years, there has been a renewed interest in the concept of materiality. However, Messier et al. (2005) presented many concerns that remain unanswered in this area, prompting demands for more research. To fill these gaps, subsequent research has emerged, including studies on planning materiality (Chen et al, 2008), evaluation of materiality decisions (Pinsker et al., 2009) and materiality of internal control deficiencies (Chandra and Calderon, 2008) These efforts collectively contribute to a better understanding of materiality and its consequences for auditing techniques, laying the groundwork for future study in this area.

2.1 Literature Overview

This chapter suggests the major themes of audit materiality through a few categories, which include the review studies, the archival studies, the survey-based studies, and the experimental studies.

This experience with literature demonstrates that however the variety of audit material substantiation methodologies may be, it is always the practice that knows how to handle it that is very limited auditors use these methods. Consequently, this study will accordingly build on essential knowledge and fill the existing gap in the literature.

Holstrum and Messier's (1982) review research was among the first and most significant contributions to the audit materiality area. The authors divided existing studies prior to 1982 into four categories: the type of the item, the structural form of the decision model, the relative relevance of criteria used to establish materiality thresholds. Their findings imply that auditors' perceptions of management are a qualitative element that influences materiality assessments. They also point out that auditors from public accounting companies are less susceptible to qualitative issues than auditors from organizations with no explicit quantitative criteria. Furthermore, the authors find that past investigations did not make a major contribution to the scientific community.

Fisher (1990), underwent a study regarding the effects of reporting materiality levels publicly, privately, or not at all, aiming to address the influence of materiality and risk levels on market behavior and the overall implications of financial markets. The study utilized experimental markets to investigate how reporting materiality levels publicly, privately, or not at all influences market behavior, where participants traded based on this knowledge, while researchers examined market results. The main conclusions were that disclosing materiality levels either publicly or privately would lead to changes in stock prices, it had implications for market efficiency and impacted the way information was distributed among investors. In addition, it suggested that the knowledge of the level of materiality could have an influence in investors decisions as well as market outcomes.

Chewing and Higgs (2002) studied the evolution of the materiality idea as guided by standards and literature. Their analysis shows that materiality

guidelines provide little insight, and the literature yields just a few broad findings. For instance, revenue, assets, income, and equity are frequent materiality criteria, and asset and revenue benchmarks have remained largely steady throughout time.

Messier et al. (2005), conducted a literature review, covering the period from 1982. One of the significant findings from their study is that most audit firms use net income to establish overall materiality, while others rely on revenue or assets. The study also highlights that the immateriality of a misstatement is a crucial factor in waiving potential misstatements.

Another significant observation made by the authors is the disparity in defining performance materiality across audit firms, where some firms use mechanical methods for allocation while others do not allocate. Messier et al. (2005) emphasize that this difference can have a significant impact on the scope of work during audits with similar features, thus affecting the effectiveness and efficiency of the audit.

2.2 Practical Insights

Steinbart (1987), by completing an archival study, determined a rule-based expert system to aid in materiality determinations. After retrieving the manuals from ten audit firms and an extended period spent working with auditors, Steinbart (1987) found that determining planning materiality judgments involved two independent sub-decisions. Selecting a base to utilize for determining materiality externally was the first of two decisions. The second decision involved selecting a percentage rate to multiply the base, referred to as the threshold. The percentage rate was entirely subjective. Materiality judgments were based on different factors, primarily the client's planned use of their financial statement and the audit's circumstances.

DeZoort et al. (2003) explored the materiality reasoning and the accounting precision with which audit committee members had a different attitudinal toward

the auditors when they were against management. The research was carried out through scenario and hypothetical situations settings, where the respondents acted as audit committee members that had to decide if the proposed changes were important or not, based on different arguments presented by the auditors. It appeared that both consequences-oriented variables as well as the use of quantitative explanation of the meaning changed in favor of the auditor, as did the account-keeping exactness. Furthermore, professionals such as certified public accountants (CPAs) and seasoned audit committee members favored this idea. Accordingly, the main finding of the audit committee is that it should enhance qualitative and causal-oriented explanations to support the public and give correct information.

Nelson et al. (2005) investigated whether the two quantitative materiality techniques (cumulative or current period) utilized in practice influenced auditors' judgments to book modifications. The cumulative method compares the overall amount of misstatement at the conclusion of the reporting period to net income, whereas the current period approach analyzes misstatement added during the current period to net income. The technique that produces the highest quantitative materiality is determined by the link between overall misstatement and current-period misstatement. Two hundred thirty-four partners and managers responded to eight examples with qualitative and quantitative misrepresentation elements that past research suggested might influence materiality assessments and correction choices. According to these authors, auditors are more likely to request that the clients book the misstatement below the materiality approach, which makes the misstatement appear more material, due to a variety of factors (e.g., misstatement size, subjectivity of the misstatement, precision, and income effect). Furthermore, they urge that standard-setters require auditors to correct any major inaccuracy from any standpoint.

Keith and Jubb (2010) investigate materiality judgements and the need for public disclosure of materiality levels. The research used both focus groups and in-depth interviews with key stakeholders in the audit process to gather comprehensive insights, with thematic analysis employed to identify patterns and themes from the qualitative data obtained. The study conclusions suggest that there's a shared lack of understanding of the concept of materiality, with stakeholders having the tendency to focus on larger items, rather than the rigor of auditing to a low level of materiality, and there's a clear distinction between retail and more sophisticated investors in their capacity for understanding materiality and the overall auditing framework.

Keune and Johnstone (2012) researched on the correlation between manager and auditor incentives, audit committee characteristics and materiality judgments of detected misstatements. It has been shown by their research that audit fees affect the probability of auditors letting managers to waive material misstatements. Moreover, the audit committees with high level of finance and accounting knowledge are less allowed to overlook material misstatements in contrast to the committees with lower level of knowledge.

Griffin (2014) attempted to establish the link between ambiguity and transparency and the auditors' fair value materiality conclusions. The auditors from a Big Four accounting firm together with experimental design participants estimated the probability of audit adjustments and dollar amount changes to fair value measures. The experiment consisted of varying subjectivity, imprecision, and transparency levels to identify their influence on auditor decision-making processes. The outcome highlighted that the manipulation of these attributes affected auditors' fair value adjustment decisions greatly. The factors that were involved were subjectivity, imprecision, and the provision of additional information. The study further showed that the auditors' decisions were influenced by the extent of ambiguity and the extent of transparency given.

Eilifsen and Messier (2015) investigated the materiality guidelines of eight of the top US public accounting firms. This work is a reflection article on materiality,

and it is frequently cited as the first document to offer information on how auditors are required to apply the idea of materiality under the standards. This study tries to better understand how materiality guidelines is integrated into a firm's process, which is significant for accounting and auditing scholars, practitioners, regulators, and educators. Their findings demonstrate a high level of consistency across firms in terms of the quantitative benchmarks (e.g., income before taxes, total assets or revenues, and total equity) used to determine overall materiality, the related percentages applied to those benchmarks, the percentages applied to overall materiality to define tolerable misstatement, and what constitutes a clearly trivial misstatement. This demonstrates that companies utilize many levels of materiality criteria and consider both quantitative and qualitative factors when reviewing misstatements.

Boalaky and Quick (2016), the researchers performed this investigation to research whether bank directors were requesting auditors for more extensive reports. The study considers the effect of the prescribed audit reports which gives the assurance level, materiality level and the significant audit problems on the perceptions of the board of banks. The study focuses on what information how these reports enrich the board' opinions on the trustworthiness of financial statements, audit quality, and audit reports, as well as the credit-granting. The results give an idea that including the specified level of certainty in report can really contribute to quality assurance as materiality is a significant factor for any financial report. The researchers however, also observed interactions amongst factors and emphasized that the report material had multiple effects on participants' views and decisions.

Christensen et al (2020) underwent a study to investigate the effect of audit materiality disclosures on investor's decision-making. By using a sample of 337 investors from the UK and US, those participants were presented with a survey with various scenarios and materialities and make decisions based on the information provided. When the data was gathered, the researchers included hypothesis in order to examine the impact of the materiality in the investor's

decisions. The study found no robust evidence that disclosed materiality had a significant impact on investors decisions, which can be explained by the fact that many investors do not fully understand the importance of materiality in their investment evaluations, which raises questions regarding the effectiveness of the current disclosure practices.

Hamilton et al (2021) aimed to investigate the impact of sensitivity analysis (SA) and audit materiality disclosures on investors' assessments of estimating uncertainty in financial reporting. The researchers used a $2 \times 2 + 1$ between-subjects design to modify the sensitivity level indicated by a quantitative SA disclosure and the inclusion of a materiality threshold disclosure inside the auditor's report.

They also included a control condition with no disclosures. Participants acted as nonprofessional investors and made investment decisions based on extracts from a fictional fish farming company's annual report, which included the auditor's report with a significant audit matter (CAM) disclosure. The researchers used Qualtrics, and it was conducted in graduate courses, examined participants' valuation of investment options and commitment level. Major papers showed that while an investor found estimates to be more credible when SA was both qualitative and quantitative rather than merely qualitative. In addition, when there is a quantitative SA and a materiality criterion, investors rate the confidence of fair value estimates higher. Highlighting heterogeneity across financial statements by means of within-subjects manipulation makes participants pick those with smaller degrees of estimating uncertainties. The study in the end shows the importance of quantitative disclosures in the investor's understanding of uncertainty in financial statements thereby affecting their investment decisions.

Finally, a recent study by Goh (2023), explores the relationship between financial hardship, management conduct, materiality levels, and auditor conclusions. By using a quantitative technique, the study evaluates how upcoming stock or debt issue affects earnings management, with a 3% threshold. Furthermore, it investigates the elements that influence the determination of

materiality criteria and its impact on auditors' responses to misstatements. The findings of this study suggest that public disclosure of materiality thresholds enhance accountability, which leads to an increased audit effort and more conservative audit judgments.

Chapter 3

Research questions

To illustrate how the balance between risk and materiality is managed by auditors, three separate analyses were conducted. In the first two research questions, the study aims to enhance the results by enlarging the database, where either the conclusions from Costa (2023) are strengthened or new ones come into play. The third and last research questions explores a new path, providing a fresh rationale and dynamic.

3.1 RQ1: Does materiality level impact audit fees?

The first research question examines the link between audit fees and materiality, which is critical for understanding the needs and requirements of the auditing profession. While technological improvements have made auditors' jobs more efficient, the critical or judging aspects of their work continue to demand substantial time and effort. As a result, a lower materiality level needs a more thorough audit, which takes more time and costs more money, and so an inversed relationship between these two variables is expected, as Costa (2023) also concluded. To investigate this possible relationship between materiality and audit fees, a linear regression was performed.

Overall, the analysis gives valuable insights and highlights the importance of considering external factors and potential conflicts of interest in analyzing the relationship between audit fees and materiality levels, despite the test's limitations.

3.2 RQ2: Does the change of auditor impact materiality?

The second study focuses on how a change in audit firm impacts materiality. Changing auditors is essential to maintain the neutrality and transparency of the audit work, where a new team provides new insights, eliminating some possible misconceptions and practices held by the previous team.

This transitions period holds both opportunities and challenges. On one hand, a new audit team provides fresh ideas and viewpoints, which can help improving the efficiency of the auditing procedure. By meeting with previous audit team, internal controls and earlier updates are identified and considered.

On the other hand, this change also holds an unknown reality and a learning curve for the new audit team. It takes time and resources to adjust to the company's particular business environment, industry dynamics, and organizational culture. Audit risk may momentarily rise during this adjustment phase as the new team becomes acquainted with the business's activities and evaluates the efficacy of internal controls.

3.3 RQ3: Does materiality have an impact on financial performance?

This final study introduces a new rationale, by focusing on the effect of materiality on the financial performance of the firms. The sample was categorized into three different groups by level of materiality: low, medium, and high. The benchmarks used for financial performance were Return on Assets (ROA) and Growth Margin.

The hypothesis that the study aims to corroborate is that low materiality is associated with a better financial performance, since applying lower materiality level, more scrutiny and analysis will be performed, leading to an increased level quality of the financial reports. The ultimate result is the enhanced trustworthiness and credibility that could lead to a better financial performance.

Chapter 4

Data and Methodology

4.1 Sample Selection

The study's sample consists of the constituents of the FTSE 350, this referring to the 350 largest firms in the UK, covering the period between 2015 and 2022. This database was chosen since, as mentioned previously, UK firms are obliged to disclose their materiality levels to oblige to the ISA 700. Moreover, the FTSE 350 enables a comparative analysis across sectors, due to its size and diversity. Lastly, these firms have an huge impact in both UK and European economy, which attracts a lot of interest from investors and stakeholders.

4.2 Data Collection

To retrieve the list of FTSE350 constituents and companies' financial information, the Refinitiv Datastream was used. The data extracted includes: total assets, total liabilities, total equity, sector, price earnings, earnings per share for twelve months before reporting date, total revenues, audit fees and stock price volatility for twelve months before reporting date. The aim was to add to the existent database, where information regarding 2015 and 2022 was added.

Data on materiality was extracted from each firm's real annual report using the technique developed in El-Haj et al. (2019). A Python script was used to find and retrieve the section in the audit report where the materiality information is given, by using keywords such as materiality, performance, auditor, and senior auditor to extract all potential paragraphs into a csv file.

The result was a csv output file with 118,363 rows that were manually processed to data such as company name, year of reporting, threshold (%), auditor, audit company, materiality value and materiality benchmark account.

	2015	2016	2017	2018	2019	2020	2021	2022	Total
FTSE 350 Constituents	351	351	351	351	352	351	351	351	2809
Valid extration	232	263	260	252	265	249	251	146	1918
Coverage	66%	75%	74%	72%	75%	71%	72%	42%	68%

Table 1: Final sample

Table 1 illustrates that, overall, 68% of the total sample was correctly extracted, meaning that both annual report and auditor were available. The most affected year is 2022, where only 42% of data was extracted without errors. Despite these limitations, the remaining sample, adds approximately 377 new reports to the previous database, which results in a total sample of 1,917 reports.

Sector	2015	2016	2017	2018	2019	2020	2021	2022	Grand Total	Weight
Financials	69	70	73	70	76	84	82	57	581	30%
Industrials	44	48	45	44	48	32	37	20	318	17%
Consumer Discretionary	34	38	36	34	34	36	36	22	270	14%
Materials	24	23	22	21	18	18	17	9	152	8%
Real State	8	16	16	18	21	20	15	8	122	6%
Information Technology	13	16	13	16	18	14	17	9	116	6%
Consumer Staples	12	13	14	15	15	12	9	5	95	5%
Communication Services	7	11	13	11	14	11	15	5	87	5%
Health Care	11	17	14	10	9	10	10	5	86	4%
Utilities	7	8	11	11	9	11	10	5	72	4%
Energy	3	3	3	2	3	1	3		18	1%
Total	232	263	260	252	265	249	251	145	1917	39%

Table 2: Number of reports by sector and per year

Table 2 shows the number of reports of each sector in the sample for the years 2015 to 2022. The Financials sector represents 30% of the total sample, ranging from 69 up to 84 reports per year. The Industrials sector is the second most relevant sector, with 17% with a range of 20 to 48. Up next, the Energy sector had the lowest number of reports per year with a range of 1 to 3, where the new data only added 3 new reports.

Chapter 5

Results

5.1 Descriptive Statistics

The descriptive statistics of the variables collected from the audit reports and Refinitiv are presented in Table 3.

Audit Report's Variables	Mean	Standard Deviation	Minimum	Median	Maximum
Materiality					
Assets	20 072 872	29 797 610	965 000	9 135 000	400 000 000
Equity	45 025 903	142 167 453	1 600 000	8 800 000	1 200 000 000
Expenses	11 606 667	9 073 088	1 280 000	10 000 000	18 300 000
Other	78 237 500	39 532 914	15 900 000	8 500 000	124 000 000
Profit Before Tax	29 587 071	80 897 837	62 650	9 135 000	1 050 000 000
Revenues	11 698 473	17 410 394	190 000	9 100 000	85 000 000
Thresholds					
Assets	1,2%	0,53%	0,1%	4,7%	5,0%
Equity	1,3%	0,64%	0,5%	4,8%	5,0%
Expenses	1,6%	0,64%	0,9%	4,4%	2,0%
Other	1,7%	1,69%	0,5%	5,0%	5,0%
Profit Before Tax	4,8%	0,92%	0,5%	4,8%	20,0%
Revenues	0,8%	0,90%	0,1%	4,8%	7,5%
Financials					
Equity	29 377 485	118 731 665	-45 900 001	7 434 430	2 066 889 933
Earnings per Share (EPS)	9,8	45	-14	35	1 145
Total Assets	237 999 001	165 307 351	230 000	16 129 500	2 968 791 024
Total Revenues	33 943 893	118 449 736	-934 796	4 085 000	2 182 979 994
Price Volatility	28%	22%	0	27%	196%
Audit Fees	423 800	512 670	15 000	245 000	4 980 000

Table 3: Descriptive statistics

5.2 Audit Companies

Table 5 provides the auditors for the firms in the sample. Due to the size and complexity of the firms that are included in the FTSE 350, most of them are audited by the "Big 4".

Audit Firm	2015	2016	2017	2018	2019	2020	2021	2022	Total	%
KPMG	60	77	66	72	75	61	59	32	502	26%
PWC	58	73	73	68	69	63	65	30	499	26%
Deloitte	55	63	63	56	61	56	52	25	431	22%
EY	37	40	44	42	45	48	47	32	335	17%
Others	22	10	14	14	15	21	28	26	150	8%
Total	232	263	260	252	265	249	251	145	1917	100%

Table 4: Number of reports by audit's company per year

As illustrated, on average, the Big 4 audits 92% of all firms. The remaining 8% was audited by BDO, Evelyn Partners, Grant Thornton International, and Mazars.

5.3 Key Benchmarks

In the database, approximately 24 different benchmarks were found, which were aggregated into 6 categories (Table 5):

Benchmarks in audit reports	Category assigned
Profit Before Taxes	Profit Before Tax
2 Years Average Profit Before Taxes	
3 Years Average Profit Before Taxes	
5 Years Average Profit Before Taxes	
5 Years Average Profit Before Taxes	
4 Years Average Profit Before Taxes	
Adjusted 5 Years Average Profit Before Taxes	
Adjusted 3 Years Average Profit Before Taxes	
EBITDA	
Adjusted EBITDA	
Gross Margin	Assets
Net Assets	
Total Assets	Equity
Total Shareholders' Funds	
Total Equity	
Gross Premium Written	Expenses
Gross Management and Other Fees	
Total Expenses	Other
Materiality from Previous Year	
Total Revenues	Revenues
Revenues from Continuous Operations	
Retail Profit	
3 Years Average Total Revenues	
4 Years Average Total Revenues	

Table 5: Benchmark list

5.4 Key Benchmarks Breakdown

In this section, the benchmark and correspondent threshold range was analyzed. Table provides the total number of reports that used a specific benchmark, per year.

Benchmark	2015	2016	2017	2018	2019	2020	2021	2022	Total	%	Range %
Profit Before Tax	167	191	180	175	178	135	147	69	1242	64,8%	[0.5-20]
Assets	45	53	65	58	59	74	63	59	476	24,8%	[0.1-5.0]
Revenues	7	7	9	13	18	24	28	10	116	6,1%	[0.1-7.5]
Equity	13	11	5	5	8	13	10	7	72	3,8%	[0.5-5]
Other	0	1	1	1	1	2	2	0	8	0,4%	-
Expenses	0	0	0	0	1	1	1	0	3	0,2%	[0.9-2]
Total	232	263	260	252	265	249	251	145	1917	100%	

Table 6: Number of reports by benchmark used per year.

Following the data provided by Table 6, Profit Before Taxes (PBT) is the most frequently used benchmark by auditors to determine materiality, representing 64,8% of the total sample. It's no surprise that PBT is the most used benchmark since it is recognized by the ISA 320. The second most used materiality benchmark is Assets, which represents 24,8% from the total sample of 1,917. It's no surprise to see this benchmark as the second most used by auditors, since assets are stable, especially in certain sectors, such as real estate, and cannot be easily manipulated.

Regarding revenues and expenses, according to the sample under study, only 6.3% of reports relied on these metrics (6.1% on revenues and 0.2% on expenses). Revenues are not often suitable as a materiality benchmark as they are inherently volatile, and can be easily manipulated. Revenue fluctuations can be influenced by various factors, such as changes in customer demand or market circumstances. Consequently, it becomes difficult to set a constant materiality criterion. In addition, the management often has an influence over the revenue recognition

processes which can lead to the distortion of financial statements and the weakening of the revenues as a materiality benchmark. On the other hand, the irregularity of many companies' sources of income makes the assessment of annual relevance also challenging. Lastly, revenues although make a company sales activity known does not show real financial health of the company and does not serve as a reliable benchmark for determining materiality consistently.

The equity benchmark ranks fourth with a 3.8% share. The financial sector, accounting for approximately 40%, is the most preferred sector using this benchmark.

Lastly, out of the 1,917 reports, 8 (0,4%) had no valid or not identifiable materiality, by which were not considered in the study.

5.4.1 Key Benchmarks across sectors

After presenting the sample gathered, it's important to do a breakdown by sector to obtain a deeper understanding of materiality, on how audit firms applied it across sectors. Firstly, a segmentation of the sample by sector was done. Once the companies have been categorized, the next step in the study is to analyze the sample in the second section, which is segmentation by sector and, more specifically, the materiality threshold chosen by each sector. The research result allows for an accurate understanding to be reached how much the industry uses materiality in reporting. Additionally, the data obtained will also be checked for any type of uniformity in the use of materiality by sector.

Sector/Benchmark	N° Reports	Average Materiality	Maximum	Minimum
Communication Services	87	16 331 721	5,8%	0,5%
Assets	2	11 400 000	5,0%	1,0%
Profit Before Tax	79	17 583 769	5,8%	0,5%
Revenues	6	1 490 333	1,0%	0,9%
Consumer Discretionary	270	12 603 352	8,0%	0,1%
Assets	7	14 442 857	4,6%	0,4%
Profit Before Tax	236	12 577 988	8,0%	2,0%
Revenues	26	10 784 615	1,0%	0,1%
Other	1	53 000 000	1,0%	1,0%
Consumer Staples	95	44 821 798	5,5%	0,1%
Assets	3	2 566 667	0,7%	0,1%
Profit Before Tax	75	53 246 944	5,5%	2,4%
Revenues	17	15 108 824	5,0%	0,1%
Energy	18	28 888 889	6,0%	0,5%
Assets	5	39 920 000	2,0%	0,5%
Profit Before Tax	9	16 711 111	6,0%	2,4%
Revenues	4	42 500 000	0,5%	0,5%
Financials	581	29 706 321	7,5%	0,5%
Assets	316	15 983 294	4,0%	0,5%
Equity	46	34 849 435	5,0%	0,5%
Expenses	2	16 770 000	2,0%	2,0%
Profit Before Tax	208	50 339 937	7,5%	1,0%
Revenues	8	4 166 375	1,0%	0,7%
Other	1	68 000 000	5,0%	5,0%
Health Care	86	45 798 965	7,5%	0,4%
Assets	10	10 500 000	2,0%	0,4%
Equity	7	175 571 429	2,0%	1,0%
Expenses	1	1 280 000	0,9%	0,9%
Profit Before Tax	54	47 271 019	6,4%	1,0%
Revenues	14	3 628 286	7,5%	0,8%
Industrials	318	15 388 511	75,0%	0,1%
Assets	10	10 925 300	1,0%	0,7%
Equity	7	16 385 714	2,0%	1,0%
Profit Before Tax	279	15 472 644	20,0%	2,9%
Revenues	21	16 039 324	1,0%	0,1%
Other	1	15 900 000	75,0%	75,0%
Assets	5	1 324 400	2,0%	1,0%
Profit Before Tax	101	5 460 638	8,8%	2,5%
Revenues	10	12 807 812	1,0%	0,5%

Table 7: Sample breakdown by sector (part 1)

Materials	152	58 337 599	6,7%	0,3%
Assets	11	93 463 636	1,5%	0,5%
Equity	5	31 820 000	2,0%	1,0%
Profit Before Tax	131	58 344 389	6,7%	2,0%
Revenues	5	7 400 000	1,3%	0,3%
Real State	122	29 520 344	5,4%	0,4%
Assets	97	28 723 619	2,0%	0,7%
Equity	7	19 427 286	2,0%	1,0%
Profit Before Tax	9	15 477 778	5,4%	5,0%
Revenues	4	12 750 000	1,0%	0,4%
Other	5	97 800 000	1,0%	0,5%
Utilities	72	37 679 861	7,3%	0,2%
Assets	10	13 760 000	3,0%	0,2%
Profit Before Tax	61	42 156 557	7,3%	2,0%
Revenues	1	3 800 000	0,4%	0,4%
Total	1917			

Table 7: Sample breakdown by sector (part 2)

Table 7 shows that Profits Before Taxes (PBT) is, again, the most frequently used benchmark among the different sectors. For most of the sectors in analysis, PBT presents itself as the most reliable and efficient benchmark since it is a very good proxy for the financial performance of the firm. By considering the firm's revenues and expenses (such as cost of goods sold, operating and non-operating expenses) and depreciation and amortization, PBT provides a clear picture of the firm's financial health. Furthermore, PBT is widely utilized by investors and analysts, which not only increases the credibility of materiality but also allows for a greater understanding of the calculation's reasoning.

However, there are two sectors where the preferred benchmark is Assets: Financials and Real Estate. Since these two sectors are asset-intensive, where a significant part of the firm's value is linked to tangible assets, such as property, plant and equipment (PP&E). By using Assets, the benchmark for materiality in these sectors, audit teams ensure accuracy in their procedures and meet the expectations of both investors and stakeholders, which prioritize this metric in the analysis and decision-making.

5.4.2 Key Benchmarks by audit firm

In this section, a breakdown by audit firm was performed, where Table 8 provides information regarding the materiality benchmark breakdown for each of the audit companies.

Audit Company/Benchmark	Nº Reports	Average Materiality	%	Threshold		
				Maximum	Average	Minimum
Deloitte	431	29 870 700		8,0%	3,8%	0,1%
Assets	86	22 282 288	20,0%	3,0%	1,3%	0,2%
Equity	24	65 476 458	5,6%	2,0%	1,4%	1,0%
Expenses	2	16 770 000	0,5%	2,0%	2,0%	2,0%
Profit Before Tax	293	30 735 987	68,0%	8,0%	5,0%	1,0%
Revenues	26	13 360 608	6,0%	7,5%	0,8%	0,1%
Ernst & Young (EY)	335	21 953 265		5,1%	3,4%	0,4%
Assets	78	20 541 872	23,3%	4,6%	1,1%	0,5%
Equity	36	29 045 278	10,7%	2,0%	1,1%	0,5%
Other	6	92 833 333	1,8%	5,0%	1,5%	0,5%
Profit Before Tax	212	19 531 357	63,3%	5,1%	4,7%	0,5%
Revenues	3	2 933 333	0,9%	1,0%	0,7%	0,4%
KPMG	502	20 439 354		20,0%	3,4%	0,1%
Assets	112	16 731 282	22,3%	5,0%	1,2%	0,1%
Equity	7	52 757 143	1,4%	2,1%	1,5%	0,8%
Expenses	1	1 280 000	0,2%	0,9%	0,9%	0,9%
Profit Before Tax	330	22 571 103	65,7%	20,0%	4,7%	2,1%
Revenues	52	10 915 541	10,4%	1,0%	0,6%	0,1%
PWC	499	35 387 559		6,4%	3,6%	0,3%
Assets	132	21 095 348	26,5%	2,5%	1,0%	0,5%
Equity	3	68 633 333	0,6%	5,0%	2,3%	1,0%
Other	2	34 450 000	0,4%	3,8%	2,4%	1,0%
Profit Before Tax	339	41 930 232	67,9%	6,4%	4,8%	2,3%
Revenues	23	16 724 217	4,6%	5,0%	0,9%	0,4%
Non Big 4 Company	150	22 759 164		7,0%	2,8%	0,3%
Assets	68	20 259 626	45,3%	4,0%	1,3%	0,6%
Equity	2	24 800 000	1,3%	2,0%	1,5%	1,0%
Profit Before Tax	68	28 500 559	45,3%	7,0%	4,8%	1,4%
Revenues	12	4 048 500	8,0%	5,0%	1,1%	0,3%
Total	1917					

Table 8: Materiality breakdown by audit company

The most used benchmark was again the PBT, which corroborates with the previous analysis. On average, the big-4 companies use this benchmark 66%, due to its correlation with the firm's performance. KPMG applied the highest threshold (20%) and Ernst & Young the lowest (0.5%).

The second most used benchmark by the Big-4 is assets, with an average usage of 23%. Regarding the usage of this benchmark, PWC is the Big 4 company that uses more frequently this benchmark (26,5% of the total reports). Considering that PWC has the largest market share in auditing, where most companies are from the financial sector, assets is a very suitable benchmark. The highest threshold was 5%, used by KPMG and the lowest was 2,5% used by PWC.

In summary, the evidence shows that rational and the selection of the benchmark among the Big 4 companies doesn't differ substantial. This shows that these organizations use comparable procedures and criteria when auditing and reviewing their clients' financial performance. By standardizing the rationale behind the determination of materiality, it helps ensuring that audits are conducted consistently across different clients, countries, and sectors. It helps increases credibility and comparability of financial accounts, enabling a greater reliability, leading to better decisions, and understanding by the users of such information.

Chapter 6

Research Questions: Results and Conclusions

6.1 RQ1: Does materiality level impact audit fees?

This section will evaluate the relationship between materiality level and audit fees, where an inverse relationship is expected, as mentioned in Chapter 4.

To address this, a linear regression analysis was conducted, where the dependent variable was audit fees, and the independent factors were materiality, total assets, total revenues, EPS, stock price volatility (during the year before to the reporting date), sector, and reporting date. The significance of each variable's impact on audit fees may be ascertained, as well as the quantitative relationship between audit fees and these independent components, thanks to the regression model.

Due to the disparity of value in the Revenues and Total Assets variables, the natural logarithms on the absolute value were applied, to increase the accuracy of the model.

$$\begin{aligned} \text{Audit Fees} &= \text{Audit Materiality} + \text{EPS}_{12M} + \text{Total Assets} \\ &+ \text{Revenues}_{12M} + \text{Price Volatility} + \text{error}_{\sigma, \epsilon} \end{aligned}$$

Regression Statistics	
Multiple R	0,883408898
R Square	0,780411281
Adjusted R Square	0,779700638
Standard Error	3,776818999
Observations	1551

ANOVA					
	df	SS	MS	F	Significance F
Regression	5	78323,90679	15664,78	1098,176114	0
Residual	1545	22038,43891	14,26436		
Total	1550	100362,3457			

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95,0%	Upper 95,0%
Intercept	0,717186367	0,227241194	3,156058	0,001630029	0,271452624	1,16292	0,271452624	1,16292011
Audit materiality	10,87980524	3,614215409	3,010281	0,00265236	3,790519485	17,96909	3,790519485	17,969091
EPS 12M	0,164236273	0,054924138	2,990239	0,002831682	0,056502543	0,27197	0,056502543	0,271970003
Total Assets	3,62231E-11	6,0804E-13	59,57352	0	3,50304E-11	3,74E-11	3,50304E-11	3,74158E-11
Revenues	1,93338E-10	7,75354E-12	24,9354	1,2853E-115	1,78129E-10	2,09E-10	1,78129E-10	2,08546E-10
Price Volatility	8,14143E-05	0,004799743	0,016962	0,986468946	-0,009333285	0,009496	-0,009333285	0,009496113

Table 9: Linear regression results

Firstly, Table 12 presents the regression statistics, where R Square is around 78,04%, meaning that the model exhibits a high of fit. This indicates that there is a significant correlation between the predictors and the result. Additionally, the regression has statistical significance ($F = 1098.18$, $p < 0.001$), indicating that the combined effect of the independent factors strongly influences the dependent variable.

The ANOVA table assesses whether the regression model is statistically significant in explaining the variance in the dependent variable. In this case, the regression model is highly significant ($p < 0.001$), as indicated by the extremely low p-value (Significance F = 0). This suggests that at least one of the independent variables in the model has a significant effect on the dependent variable. The F-statistic (1098.176114) compares the variability between groups (explained by the regression model) to the variability within groups (residuals or error). A larger F-value indicates a stronger relationship between the independent and dependent variables.

The coefficients express the estimated influence of each independent variable on the dependent variable (assuming all other variables remain constant). The t-statistic assesses the importance of each coefficient, with lower p-values suggesting more relevance. From these data, we can observe that all variables except Price Volatility, have a significant impact in audit fees. The highest coefficient is 10,78, where materiality is the variable with the greatest impact.

It can be concluded that the proposed relationship between audit fees and materiality exists. However, the results contradict the initial thesis. The rationale behind this thesis is that whenever audit teams decrease materiality, they will necessarily increase the level of detail and scrutiny, which implies additional working hours and resources, increasing audit fees. This result can be influenced by the quality of the data extracted from Refinitiv, where a lot of data either was corrupted or had misstatements in decimals.

6.2 RQ2: Does the change of auditor impact materiality?

Within this section, an analysis will be done to establish if there is a reduction in materiality if a change in auditor occurs. The reason for this is that when an auditor change occurs the company's internal controls, activities, weaknesses, and other relevant aspects are probably not known by the new auditor.

As discussed in Chapter 4, the change in auditor carries an extra risk. If the new auditor recognizes this increased risk, it should be included in the materiality assessment. As a result, when a new auditor comes over, materiality may be reduced since the company's limited experience may lead to a more cautious and conservative approach to materiality.

Firstly, new data was added to Costa (2023) database, adding 2016 and 2022 to the analysis. Secondly, the number of companies that changed auditor or not per year were identified (Table 13).

Year	2016	2017	2018	2019	2020	2021	2022
Change	39	33	32	21	20	24	26
No change	164	197	190	205	190	175	75
No information	60	31	30	36	39	52	44
Total	263	261	252	262	249	251	145

Table 10: Companies in the sample that have changed auditor.

After the companies that have changed their auditor have been identified, each company will be analyzed to determine if their materiality level has increased, decreased, or remained unchanged. This analysis is crucial for evaluating the proposed thesis as it will allow us to assess if the change in auditor had any impact on the company's financial reporting.

Year	2016	2017	2018	2019	2020	2021	2022	Total	%
Decreased materiality	8	9	13	9	9	6	3	57	29%
Maintained materiality	24	1	2	3	0	0	18	48	25%
Increased materiality	7	23	17	9	11	18	5	90	46%
Total	39	33	32	21	20	24	26	195	

Table 11: Change in materiality when there is a change in auditor (number of companies)

Table 14 demonstrates that most companies (46%) increased their materiality level at some point throughout this period, with 2021 seeing the largest number (75%). In contrast, on average, 29% of organizations reduce their materiality level. Finally, just 25% maintained the same materiality level for the whole period.

The results appear to contradict the initial thesis that a change in auditor may lead to a decrease in materiality levels, which complies with the conclusions of Costa (2023), since very few firms decreased their materiality level. However, with the addition of new data, the number of firms that held its materiality level rose to 25%. For 2016, there seems to be no specific reason for high number of firms that held their materiality (24). However, for 2022, the new audit teams opted to maintain the materiality threshold due to some slight backlash from the Covid pandemic, but also due to the Russia-Ukraine conflict, to mitigate some of the possible consequences of those major events. Overall, the results demonstrate that the change in auditor may impact materiality levels, but not in the immediate.

There are several reasons for these results. Firstly, the new audit team has different perspectives and opinions, which has influence on how risk is accessed, and so, they might increase materiality, as opposed to the previous audit team. Secondly, the new audit teams often must put in more effort to review new internal controls, acquire evidence, and become familiar with the company's activities. To fulfill reporting deadlines, businesses may choose to employ a higher materiality criterion, which decreases the amount of labor necessary for the audit.

Finally, despite the incorporation of more relevant data into the sample, the results may be affected by an unrepresentative sample. Some factors such as firm's size, sector and economic conditions were not taken into consideration, which also has influence in the results obtained.

6.3 RQ3: Does materiality have an impact on financial performance?

In this final section, the study focuses on investigating if materiality has an impact on financial performance. As mentioned in Chapter 4, in theory, materiality should impact financial performance, since materiality helps increasing/decreasing the quality and trustworthiness of financial reports, helping the firm identify possible misstatements. And so, low materiality levels should have a positive impact in financial performance.

Firstly, the sample was categorized in their groups regarding the level of materiality: Low, Medium, and High. Low materiality level is below 5%, Medium materiality is between 5%-7,5% and High considers values above 7,5%. In our sample, we have approximately 1.010 reports with low materiality levels, 902 reports with medium materiality levels and only 5 reports with high materiality levels.

Secondly, ROA (Return on Assets) and Growth Margin were extracted from Refinitiv, from 2015 until 2022. Together, ROA and Growth Margin offer a comprehensive view of a company's financial health since they capture different dimensions of company's operational efficiency and growth potential.

	2015	2016	2017	2018	2019	2020	2021	2022
Growth Margin								
Low	18%	35%	34%	31%	38%	32%	43%	27%
Medium	22%	22%	23%	24%	24%	23%	24%	23%
High	5%	6%	5%	6%	5%	3%	5%	6%
ROA								
Low	9%	9%	12%	7%	8%	4%	13%	1%
Medium	7%	7%	8%	8%	7%	4%	7%	7%
High	-4%	0%	3%	3%	3%	1%	3%	6%

Table 12: Yearly ROA and Growth Margin per materiality level.

Table 14 provides the yearly average of ROA and Growth margin per materiality level. The Growth Margin metric had a maximum value of 43% (2021) and minimum of 3% (2020). Regarding ROA, it presented 13% as its highest value in 2021 and the lowest being 4%.

This study presents results that corroborate the initial thesis, where it's clear that firm's that use lower materiality levels appear to have better percentages in these metrics, which demonstrates that those firms tend to perform better. Although this study doesn't consider factors such firm's size and sector, however it provides a good foundation for future research in this relationship between materiality and financial performance.

Chapter 7

Conclusions

The concept of materiality is a foundation for auditing, with a substantial impact on determining the correctness and relevance of financial statements. Its significance cannot be emphasized, since it directs auditors' attention to material that is most important for stakeholders' decision-making processes. However, recent research has revealed a disturbing tendency of inconsistent outcomes in materiality evaluations, implying potential inconsistencies in auditing methods and regulatory monitoring.

The study revealed and consolidated the correlation between materiality and audit fees, despite contradicting the initial thesis. Additionally, changing auditor has impact on materiality level, only to reveal that increases materiality. Finally, the relationship between materiality and financial performance was identified, where lower materiality levels tend to improve the firm's performance.

However, the study's conclusions should be examined against its limitations. The level of accessible data used in the assessment might differ very much which could lead to bias or errors in the examination. Still, the use of manual data collection methods increases the possibility of human error and complicated processes that can compromise the study's reliability and validity. Moreover, several extractions were compromised since the data was either corrupted or highly incorrect. The report is also less applicable in the global context since it focuses exclusively on the United Kingdom and the Big Four audit firms. The regulations and auditing procedures may vary greatly among jurisdictions and audit firms.

Despite its limitations, this study added new data to previous research and provided a new foundation for future research, where its results and main conclusions of this study should be shared with investors, stakeholders, and researchers.

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