

# Assessing the Importance of Internal Audit and ESG factors in Mitigating Financial Risk

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## **Abstract**

This paper examines the role of internal audit and the incorporation of Environmental, Social, and Governance (ESG) factors within the corporate governance frameworks of Greek firms in mitigating their financial risk. Time series econometric analysis was performed to determine the factors that influence financial stability, transparency, and regulatory compliance in Greek Firms. Data were collected from 120 internal auditors and financial professionals employed in organizations across multiple sectors of the Greek economy. In line with existing literature, findings show that robust internal audit and ESG practices are essential in promoting financial stability, transparency, and regulatory compliance. The paper provides empirical evidence that well-structured internal audit mechanisms and effective ESG initiatives reduce financial risks, while enhancing organizational sustainability and resilience. The results emphasize the growing importance of ESG considerations in corporate governance and suggest that improvements in both internal audit systems, as well as robust ESG policies, can strengthen risk management strategies and improve long-term financial performance. While previous research has thoroughly investigated the impact of internal audits on financial stability and the influence of ESG on corporate sustainability, this paper specifically examines their combined effect on financial risk management. Using firm-level data across various sectors of the Greek economy, this study provides insights into how internal audit and ESG policies can jointly contribute towards enhancing financial resilience, transparency, and regulatory compliance.

**Keywords:** Internal Audit, Financial Accounting, Risk Management, Corporate Governance, ESG, Financial Risk

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## Introduction

The increasing complexity and volatility of the global financial landscape have amplified the significance of robust internal audit functions within corporate entities. In an environment where financial risks are pervasive, an organization's ability to navigate uncertainties has become a critical determinant of its sustainability and success. This section examines the historical development of internal audit functions, their evolution over time, and their pivotal role in mitigating financial risks. Drawing from relevant literature, it provides a comprehensive overview of the subject.

Internal control systems are designed to ensure the accuracy and reliability of financial reporting, compliance with legal and regulatory requirements, and operational efficiency (COSO, 2013). These systems encompass a broad range of practices, from physical security measures to audit trails, all aimed at safeguarding assets, preventing fraud, and strengthening an organization's overall governance framework (COSO, 2017).

The concept of internal auditing has undergone significant transformation, expanding in scope and complexity in response to the increasing intricacy of business operations and financial markets (Spira & Page, 2003; Arena & Arnaboldi, 2014). A landmark report by the Treadway Commission in 1987 laid the foundation for a structured approach to internal auditing, leading to the development of the COSO framework, which remains one of the most widely recognized and applied internal control frameworks today (COSO, 2013).

The effectiveness of internal audit functions in mitigating financial risks has been the subject of extensive academic and professional discourse. Studies indicate that robust internal control systems play a crucial role in reducing financial misstatements, enhancing the reliability of financial information, and improving an organization's overall risk management capabilities (Cohen & Sayag, 2010; Sulaiman, 2012; Hemrajani et al., 2023). Furthermore, aligning internal audit functions with strategic risk management processes is essential for proactively addressing financial risks and ensuring organizational resilience (Tricker & Tricker, 2015).

Despite the acknowledged importance of internal controls, challenges persist in their implementation and effectiveness. Factors such as organizational culture, the complexity of business operations, and regulatory changes can significantly influence

the efficacy of internal audit systems (Spira & Page, 2003). Moreover, as financial risks continue to evolve due to technological advancements and globalization, the need for adaptive and dynamic internal audit systems has become increasingly apparent (Hemrajani et al., 2023).

In summary, the historical evolution of internal audit functions highlights their integral role within corporate governance and risk management frameworks. As organizations navigate the complexities of the financial landscape, the continuous development and strengthening of internal audit mechanisms remain essential for mitigating financial risks and ensuring sustainable business operations. This study aims to contribute to the ongoing discourse on the effectiveness of internal audit functions in financial risk mitigation, offering insights that enhance both theoretical understanding and practical applications in this critical domain.

The primary objective of this study is to rigorously evaluate the effectiveness of internal audit functions in mitigating financial risks within the contemporary corporate environment. The research seeks to analyze and critically examine the mechanisms through which internal audits protect organizations against volatile and uncertain financial risks. By gaining a deep understanding of these mechanisms, the study aspires to make significant contributions to both theoretical knowledge and practical applications in financial risk management. Specifically, the study is guided by the following objectives:

- To investigate the nature and scope of internal audit functions, as defined by established frameworks and standards, such as those proposed by the Committee of Sponsoring Organizations of the Treadway Commission (COSO, 2013). This investigation will provide a foundational understanding of internal control mechanisms and their intended roles within organizations.
- To examine the relationship between internal audit functions and financial risk management, with a focus on determining how these controls contribute to mitigating financial risks. This includes analyzing the effectiveness of internal audit functions in preventing, detecting, and responding to financial uncertainties and threats as emphasized in the literature (Sulaiman, 2012; Hemrajani et al., 2023).
- To evaluate the impact of internal audit functions on organizational performance and resilience against financial risks. This objective seeks to

understand the broader implications of effective internal audit functions, not only in mitigating risks but also in enhancing overall organizational performance and sustainability (Tricker & Tricker, 2015).

- To identify best practices and strategies in the implementation of internal audit functions for effective financial risk management. Through the analysis of empirical data and existing literature, the study aims to uncover practical insights that organizations can adopt to strengthen their internal audit systems and risk management practices (Al-Twaijry et al., 2003; Kuzniak et al., 2015).
- To propose recommendations for enhancing the effectiveness of internal audit functions in mitigating financial risks. Based on the study's findings, the research will offer actionable recommendations for practitioners and policymakers to improve the design, implementation, and monitoring of internal audit systems.

To achieve these objectives, this study will adopt a quantitative research methodology, employing a structured questionnaire to collect data from a stratified random sample of corporate entities across various industries. The quantitative approach will enable a systematic evaluation of internal audit effectiveness, offering empirical evidence to support the study's conclusions and recommendations.

The structure of this paper is organized to facilitate a comprehensive understanding of the research topic. It begins with a literature review that critically examines existing scholarship on financial risk management within the context of corporate governance, the effectiveness of internal control mechanisms, and the incorporation of ESG (Environmental, Social, and Governance) considerations. This is followed by a detailed outline of the research methodology employed in the study, an in-depth analysis of the collected data, and concludes with a synthesis of the key findings, implications for practice, and final remarks.

## **Literature Review**

This literature review provides a comprehensive overview of research on ESG, internal audit, and financial risk mitigation, synthesizing recent and foundational studies.

### ***ESG and Non-financial Reporting***

Aluchna et al., (2022) observed NFR (Non- financial Reporting) as a significant phase in accountability and transparency of the organization. Since last twenty years, there is an exponential raise each year regarding the number of reports on non- finances that are published and raised a question on the effectiveness and quality in the management and performance of the ESG (environmental, social and governance). The concerns were addressed by many jurisdictions that included the members of the European Union. They introduced significant protocol for NFR. Nonetheless, still it is evident that the performance of ESG is minimal though the protocols are helpful in the management. The major aim of the study is to examine the effect of 2014/95/EU directive of the European Union in the scores of the ESG of the companies in Poland. The perspectives of the strategies were extracted on the theory of legitimacy in which the relationship between the authors is tested based on the scores of ESG and NFRD derived from the database. The sample of the listed companies were used on the stock exchange of Warsaw in which the performance of the ESG were measured with the permission of the disclosure. From forty-three companies about 171 observations of the industrial year were yielded. The findings of the study revealed the development of the performance of the ESG after NFRD implementation. The approach of differences indicates the enlargement of the industries that focuses on the protocols when subjected to the performance of ESG specifically for the social and environmental performance. Nevertheless, there is no impact in the performance regarding the dimension of the governance.

Turzo et al., (2022) studied on the practices of the NFR (non- financial reporting) which was considerably developed in last ten years and interweaved with various fields of the study which includes the ethics of the business, management and accounting of the finances. NFR is comprised of various forms of accounting which includes Global Reporting Initiative, reporting of Corporate Social Responsibility and reporting of Sustainable Development Goals along with Integrated Reporting. Since there are no general regulations in NFR, the discrepancies were produced in the practices of the management of NFR worldwide. The results of the study shows that different practice of the NFR and the NFR revolution has offered a review on the basis of the articles that are influential. A bibliometric analysis was used in which eight areas of research were identified. It included reports that are non- financial, framework of IR (Integrated Reporting), the association of NFR with the variables at organizational level, the

association between the governance of the corporate and NFR, NFR and its theories, assurance of the NFR, association between the NFR and context of the institution and reports of the environment. Thus, a literature summary is proposed in the study along with the best management techniques which have raised recently. The study also provides the methods that are applicable and the literature survey is conducted and has focused more on the bibliometric analysis which was similar to the technique of VOS through ten stages. In these stages, the reproducibility is guaranteed by implementing the protocols of the assurance based on the quality from different areas such as AMSTAR and PRISMA.

Sentuti et al. (2020) studied the association between the society and business in which several strides were made. It has led to broad discussion in the practical and academics on the concepts of management that are innovative which includes the governance of the corporate, responsibility of social and corporate and Management of Sustainability. The overview which is comprehensive has been offered in this series includes empirical studies and innovative theories in which the sound concepts were provided for the strategies of businesses that are sustainable. Based on this, the insights of the researchers and authors were integrated in the areas of social studies and theories of management across the worldwide, so that the intercultural and interdisciplinary discussion were contributed to the business role of the environment. The intention of the studies was based on providing solution to the problems and challenges occurring around the world in the development of concepts for innovative management in which the values were created for the society and the Business. The students, researchers, managers were supported to pursue the approaches of the businesses that were sustainable for the general future. The study has provided the access towards creative approaches of the management.

Tiron-Tudor et al., (2019) studied on the present issues of the society in the protection of the environment, sustainability, clean technologies promotion, sustainability in agriculture and consumption, conservation of biodiversity, security of food, employment, biotechnological, extended utilization of the energy that are renewable. Because of various scope and incentives, the development on sustainability has enhanced in the challenges of social, environmental and economic dimensions for various industries. Similarly, there is a requirement of acute analysis of the prospects and stability of the industry in terms of indicators of the finances in the performances

of the environmental and social. In this criterion, the act of 34/2013 directive of EU has ordered various industries to disclose the information that are non- financial and diverse information that are significant. The social interest is responded towards the enterprises that are directed and competed in the disclosure of the social accountability via actions, measures and policies. In several industries, social accountability is defined as a voluntary nature where the regulations existed to be vague and the companies published the results which showed them the light that are favorable and the negative effect which passes silently in respect of the work. The series mitigated the approaches that are heterogeneous in which the comparisons were facilitated, best practices were identified, the progression of tracking and ranking were developed and various codes called as "reference frameworks" were began to integrate the policies of the responsibility that are social and achievements were reported on these problems. The worldwide compact of United Nations, the Initiative of the worldwide Reporting, Framework accountability and 26000 ISO were internationally known.

Saini et al., (2022) studied on the pressure on the industries in which the dimensions of the non- financial factors were reported and the interest are amplified based on the sustainability because of the awareness that are enhanced among the shareholders. The success related to the values were connected with the performance of the finances in the field of the niche among the researchers and the learners with a question of significance of the relevant disclosures of the non- financial factors. The perceptions that are ambiguous clarified the literature that are existing where the connection of NFD were examined towards the development of the sustainability to conduct a deep analysis of scient metrics to be benefited by the insights of the trends, evolution and other aspects of multi- dimensions so that the centralities were mapped in the indicators of the sustainability of non- finances. The data for the bibliometrics were conducted in the year of 1568 from the journals Web of Science which was published in the SCIE (Science Citation Index Expanded) and SSCI (Social Science Citation Index) between the years 1991 and 2021. The field of prominent study was identified in the pattern and stream of the interrelationship in different areas of study. The present study shows various new features for the disclosures of ESG which includes the performance of the sustainability of the corporate, performance of the environment, disclosures of the environment, indicators of green supply chain,



indicators of the sustainability and reports that are integrated. The findings show the scope of the research in the future on the ESG to achieve the goals of the businesses that are sustainable. The study has included thirteen major refined clusters of ESG that are sustainable which concluded innovative theory which encapsulated the development of sustainability through the disclosure of the non- finances in the process of the business. The study has provided with important applications in the dimension of the ESG in the corporate environment of the countries that are emerging in the stage of development.

Davern et al., (2019) studied on the development of criticism recently regarding the purposefulness of reporting the finances for the investors specifically the statements of the finances annually. In this response, the IASB (International Accounting Standards Board) has pursued various projects and focused on developing the information of the finances relevant to it. The work of the IASB were informed in the investigation of utilizing the approach of the mixed method where the usage of the nature and the extent of the finance statement annually by the investors of the equity. The reports of the finances of the valuation of the equity were examined across the period in Australia. The reporting of the finances was reported in the income of the net, equity of the shareholders and cash flows were operated and was remained to be relevant for the decisions of the investment. The observations were supported further, and the evidence from different interviews offered insights on the statements of the finances utilized by the investors of the equity. The evidence in this field has demonstrated that the statement of the finances has dominated the decision-making process of the investor. The availability has been enhanced for the information which was timely, looking forward from the sources that are alternative in which the relevance of the information of the finances of the non- GAAP were examined and other information of non- finances for the decision making of the investors. The financial requirement of non-GAAP was provided in this study which related more with other measures that are statutory. A wide range of information of the non- finances were studied which can be used by various investors to make the decisions of the investment both for the purpose of valuation and screening. The findings inform the shareholders and regulators to provide the evidence to continue the statement of the finances that played a role on the complementary of the finances of non-GAAP and other information. Our findings inform regulators and other stakeholders as we provide



evidence of the continuing relevance of financial statements and the complementary role of non-GAAP financial and other information.

Raimo et al., (2020) studied on the impact of the ESG (environmental, social and governance) which generated the disclosure on the equity capital and the cost in the sector of Food and Beverage. In this study, 171 firms across the world were listed as a sample which pertained to the sector of food and Beverage which has the major firms in the developed countries, where a panel that is unbalanced were formed with the observations of about 1,316 which termed between the period of 2010–2019. A regression model having the panel with the effects fixe tested the association between the disclosure of ESG and the cost of the capital of equity. The results of the study showed a negative association between the disclosure of ESG in the equity capital of the cost. A support was observed to enhance the levels of the disclosure of the ESG which were connected with the access enhanced to the resources of the finances of the firms.

Tiron-Tudor et al., (2020) studied on the significance of the non-financial reporting after the implementation of Directive 2014/95/EU by the European government with various types of sectors. The Directive has been switched in the context of the Romania, a country without the tradition of the reporting of the CSR. The study focused to discuss the major criteria in Europe based on the efficiency of the different protocols. The aim is achieved to use the guidelines for the normative theory and the methodology that are qualitative on the basis of the literature survey of the debates in the academies and the analysis of the documents in the process of transposition so that the harmonization is highlighted for the regulation of the Romanian to the directive of the EU. Thus, the paper contributes to show the outcome of the transposition in the perspective of the factors of society, government and economy in the Romania where the contexts of the politics, economic and cultural and historical considerations.

Zumente & Lace (2020) studied on the companies across the globe to perform the disclosures of the ESG (environmental, social, and governance) so that the performance of the reputation and finances were improved. Various studies suggested broad diversity which created the material role in describing the differences and disclosures of ESG. The association between the disclosures of the ESG and board diversity were evaluated in the study for industries included on the stock exchange of NASDAQ OMX Baltic. First, the metrics of board diversity of the companies of the

public in Estonia, Latvia and Lithuania were compared and derived to the sample of the companies listed in the countries of the Europe where the companies related to it were provided in the present condition of widened diversity. Following the performance of the analysis of the content, the reports of the non- finances and the analysis of the statistics of the data retrieved and the disclosure of the scores of the ESG were required. Eventually, the analysis of the t-test of the independent and correlation was conducted so that the influence of the widened diversity was evaluated on the scores of the disclosure of ESG. The findings reveal that the industries with larger companies and boards have female managers to supervise the boards on the average higher of the scores of the disclosures of the non- finances. The results that are significant has no statistics to find the diversity of the gender on the boards of the management. A light was shed on the present stance of the diversity of the board for the companies listed in Baltic in which the literature of academics was grown to derive the drivers of the sustainability in the infrastructure of the corporate.

Beretta et al., (2020) studied that the performance of the firms in reporting the non- finances are due to disclose the non- monetary reporting that are optional. Specifically, IR (Integrated Reporting) shows the supporting nature of various kinds of investment in the creation of value of the industry in a single document. The major aim of the research is to investigate the ESG and the performance of the management of the Firm by extracting the theory of disclosure on the voluntary and legitimacy. The execution of sustainability has semantic and content properties of ICD (Intellectual Capital Disclosure) seen in the reports that are combined. The hypothesis of the theory was tested by using the analysis of the tone and content for the assessment of the strategy for the disclosure related with ICD. According to the performance of ESG of the firms ICD had semantic properties to analyse the variation using regression analysis. The combined reporting initiative trends instances database was used to download the reports of the firms listed in Europe in the year 2011 to 2016 and was analyzed. The total number of reports was about seventy-nine. The findings revealed that the performance of ESG contributed more to the administration in the ICD which was optimistic in a combined process. The combination of strategies and visions contributed positively to the tone of ICD. On the other hand, the data regarding the improper management of the rights of the shareholders is twisted and related with the positivity of the ICD. Furthermore, the innovative products that eco- friendly with safe

and healthy working conditions performs a significant role in increasing the positivity of the ICD.

Carungu et al., (2021) investigated the NFR quality in the perspective of the amended directive number 2014/95/EU. Particularly, the study concentrates on the NFR quality in the firms of Italy, in accordance with the legislation number 254/2016. In this study qualitative method was used to conduct the analysis further. The analysis of the content for about 184 non- monetary reports was carried out with the representative groups of 92 firms in the NFR process that participated voluntarily in the past. The study reveals that the NFR quality does not enhance when it is switched from optional basis to most significant one, specifically for the 25 % of the firms in which the plans and reports based on sustainability is published. The results shows that NFR that is significant are perceived and comprehended as the practice that report the performances on the environmental, economic and social basis.

In the study conducted by Cuomo et al., (2022), a wider representative of the non-monetary companies under European Union between the period of 2008 to 2018 was used for the investigation. The impact of the non- monetary disclosure act under European Union, 2014 on CSR (Corporate Social Responsibility) was examined and the regulation that resulted in the development of the performance and transparency of CSR was observed. Moreover, the study reveals the relationship between the transparency of the CSR and the regulations which is stronger in the smaller companies. It is because, these industries are followed hugely by analysts and the headquarters of the companies are situated in the countries which has powerful legal frameworks. The reports of CSR were adopted after the enactment of the regulations where the size of the smaller industries and the contributions research and development enhances the effects that are positive according towards the regulations in the performance of the CSR. Anyhow, the importance of reporting the CSR by other state members of EU does not appear to have significant effect. Eventually, the study shows that the adoption of CSR accounting after the implementation of the framework has decrease the risk and the equity cost. The regulations of the non- financial reports and the positive impact were explained in this study. The insights for the association of EU towards the proposal approved recently were extended on the basis of the regulation of the CSR accounting in the medium and small sized firms for which the assurance of reporting CSR is mandatory.

Eugenio et al., (2022) studied on the perceptions of professionals of auditing for non-monetary accounting which has minimal assurance. The perceptions of the professionals of audit in Portuguese was investigated especially the reports of non-monetary and its establishment. The major aim of the study is to find the specific responsibility of the preparation, significance, optional nature and the improvement of the assurance of the non- financial accounting. The perceptions were analyzed along with the gender and job experience. The opinion of the legal auditors was collected by providing questionnaire. The findings revealed that the legal auditors of Portuguese have agreed the assurance of the non- monetary reporting as practices that are significant and the management of the company must be responsible for the publication and preparation of the reports that are other than finances. The assurance of the reports concludes that auditors of the Portuguese Institute play a significant role in these situations. These kinds of assurances are experienced by the respondents in which the acknowledgement of the significance of the training that are additional are explained. Experiences in Job does not influence the auditor's opinion.

Krawczyk (2021) studied on the non-financial reporting as a fundamental device to present the applicability of SDGs (Sustainability Development Goals). The present condition of non- monetary reports was investigation along with the standardization of the medium and small sized firms. The reporting of non- finances has a perspective of huge entities of Businesses. These conditions are applied rarely to these kinds of enterprises. There is a significant increase in the following years which has greater obligations for smaller firms. The initial phase of the study is on the basis of the criticism and analysis of the method in the literature which is prepared in the fields of the subjects included in the medium and smaller enterprises, reports of non- finances and sustainability. The significant source of the data is used in articles which has published the reports of the initiatives globally. On the basis of the study, it is significant to conduct and develop the standards reported the non- finances of the medium and small sized enterprises. The findings appear to be a resource that are valuable in which the samples were set to be purposeful in the areas of development. It was particularly expected that the reports as significant for medium and small sizer enterprises.

Markota Vukic et al., (2018) studied on the trend of non-financial accounting which was developed as demand of the stakeholders of the corporate on the information

regarding the effects of administration, social and environment. Thus, the significance of the understanding of the sustainability accounted to play a role in providing information for the stakeholders which was considered as accurate and reliable. According to the institute of Accountability and Governance, 500 companies published 82% of the S&P of the reports of sustainability of the corporates in the year 2016. The Business had dilemma which was not considered to have the report on non- finances and provided options and reports to choose the companies to meet the stakeholders and implied with the frameworks of the regulations. The major aim of the paper is to look at the accounting of sustainability and non- finances which presented the development of the hierarchy. Eventually, the study provided an outline of the framework of new rules and regulations in Europe regarding non-financial accounting which was explained and presented.

Baboukardos et al., (2023) observed that though the reporting of non- financial factors has been explored widely in the literature of accounting, the issues relevant to the contexts were focused in the past where the reports of the firms have an effect on the environment and society. In spite of the significant role played in the past, the NFR had an understanding towards the consequences and the processes, role and extensive literature offered the evidence that are limited on the effects of the regulation of NFR in the reports of the corporate, impact of the regulation of the reports on the reports of the corporate users and the real effects of the NFR significant on the firms about the environment and society. The understanding of the effect of the regulation of NFR has been enriched in this study. Additionally, the major aspects of regulation of NFR have been discussed and the overview is provided in the papers which includes proposals and special issues for further researches to continue the reforms of the regulatory space of NFR. This eventually foresees the “multiverse” of the regulatory approaches and model of NFR.

Bartoszewicz & Szczepankiewicz (2022) studied on the information of the non-financial factors in the reports on the non- finances (N-FRs). It was specifically in the reports of the Corporate Social Responsibility, reports of activity, reports that are integrated and the dimension that occurred globally in the scope and quality of the disclosures which has effect on the huge range of stakeholders in the economy worldwide. The considerations and trends changed in the last ten years along with the social, legal and economic factors which has an influence significantly with the

disclosures of the corporate contents. The perspectives of the N-FRs, specific observations were made in the field of energy in several ways significant for both global and domestic economy. Thus, the researchers focused more on the functioning of the firms. The major aim of the study is to reveal the aspects that are applicable on the N-FRs in which the reports quality is assessed and submitted by the firms in the energy sector of the Poland. The quality of the information of the non-finances were assessed in the reports related to energy firms in the terms of major areas of management. It includes Enterprise Risk Management System, Environmental Management System, Corporate Governance Principles and Quality Management. Based on the IRs and CSRRs analysis the companies of the energy sectors in Poland submitted a report in 2010–2020 in which a model is proposed by the author for revealing the information in the systems. The reports that are standard on the major areas of management enhanced the usefulness and quality of the information from the stakeholder's point of view. In several countries, the model is useful in the management of energy-related sectors which includes developing countries and Eastern and central Europe.

Bakarich et al., (2023) evaluates the organizational ESG ("environmental, social, and governance") reporting on the top 100 sustainable organizations from "Business Daily Investor" and the "The Wall Street Journal". The researcher gather data on whether different type of standards and assurance cited, the reports are secured or not, the assurance facilitator, or whether the facilitator led to audits several financial statements or not. Therefore, approximately 58% of sample organizations intentionally pursued services of external assurance for few sections of the reports initially facilitated with restricted assurance. Hence, big 4 organizations facilitate security for majority international organizations and secure only 16% organizations located in US. Finally, the literature demonstrates future research segments and practical applications, consisting of standard-setting, ESG assurance, and cross-country comparisons.

In recent years, Baldini et al., (2018) observed that firms obtain burden to release the disclosure of ESG ("environmental, social, and governance") and such disclosures are obtained as complex problems by society. Therefore, the practices of ESG disclosure despite such pressure significantly differ by organizations. Previous academic researchers explored firm- and country-level components ascertaining those

differentiation, separately employing the legitimacy and institutional theory. In a unique model, by uniting such theories, the research tends to explore the social legitimization (such as “legitimacy theory”) and social structures (such as “institutional theory”) foster the practices of ESG disclosure and all the pillars. However, a cross-country study sample of estimated 14174 organization-year populations within the period 2005-2012 was obtained by the research outcomes facilitating proof that certain country-level features including a cultural system (such as equal opportunities and social cohesion), labor system (such as unemployment rate and labor protection), and political system (such as legal corruption and framework) impact the organizational practices of ESG disclosures significantly. Hence, the impact of country-level features seems heterogeneous where they lead to either increase the levels of disclosure and change by pillar or reduce it. Thus, the research outcomes for firm-level features concerned to the visibility of a firm (size, leverage, cross listing, and analysts’ coverage) illustrate certain homogeneous and positive impact on each pillar or also on the ESG disclosure. Furthermore, such outcomes of the research indicate regulators and policy makers seeking to increase the risk level of ESG disclosure they experience while controlling several variables concerned to exposing firms’ interest and social structure to effective visibility.

Bamahros et al., (2022) reported that in Saudi Arabia, the corporate governance code possesses a wider concentration on the initiatives of social responsibility or accountability by Saudi firms or such activities’ reporting to the particular community. Therefore, the present literature evaluates the integration within the disclosures of ESG (“environmental, social, and governance”) and the mechanisms of corporate governance among several Saudi organizations. Especially, the literature reviewed prior literatures by addressing the exceptional corporate governance mechanisms of Saudi Arabia [such as the audit committee’s external members (for example ACEXT) and existence of royal family members on board (for example BROY)], or their respective effect on the disclosure of ESG. For Saudi recorded organizations, applying 206 different firm-year observation spanning during 2010-2019, thus the researchers observe the existence of ACEXT and BROY possess a significant and positive integration with the disclosure of ESG. Finally, the research findings assist policymakers to establish several regulations about the mechanisms of corporate governance to increase the disclosure of ESG.



As per Baraibar-Diez & D. Odriozola (2019), a CSR (“corporate social responsibility”) committee’s multidisciplinary feature imitates the expectations and commitment and different stakeholders’ demands. Therefore, the committees of CSR are accounted mainly as control variable in several independent variables and wider models of corporate governance ascertaining the ESG (“environmental, social, and governance”) and CSR disclosure and their respective quality of reporting. Although, such impact on particular corporate performance seems biased in the context of financial performance, thus the evaluation possibility of such impact possess on several non-financial performance facets are not oppressed. To acquire sustainability, it is considered a fundamental equipment. This contribution aims to analyze whether organizations possessing CSR committee resulted to higher score of ESG (“environmental, social, governance”) and also to higher scores of finances. A models of regression panel data is applied by the research in 197 different recorded organizations in the UK, Germany, France, and Spain during 2005-2015 consisting of the European organizations’ perspectives and finishing the further researches with the samples based on US. However, the study outcome revealed that approximately 90% organizations possessed CSR committee in the sample during 2014. Apart from that, such organizations possessed diverse scores of ESG significantly instead of such organizations without possessing a particular CSR committee. Therefore, possessing a certain CSR committee prompted more efficient non-financial activities while accounting the four regions and four scores separately. Finally, such outcomes contain wider applications for several practitioners, emphasizing certain significance of developing such equipment to increase non-financial sustainability and performance in an organization.

In Batae et al., (2020), the ESG performance of banks and its respective association with certain corporate financial performance embodies a particular segment of constant benefit for several practitioners and researchers. However, the prior literatures’ outcomes seem mixed and stands either neutral or even positive or negative. The study’s significance tends to signified by the variables’ statistical comparison led to compute the European banks’ financial and ESG performance depending on three categorizations (such as European countries’ population, cluster analysis, functional currency, and European geographical countries) offered by the researchers. The researcher gathers data and information from EuroVoc, World Bank

statistics, and Thomson Reuters Eikon during 2018 for 108 different banks located in Europe (27 banks for evolving Europe and 81 banks from improved Europe). A cluster analysis is formed by the researcher based on the different macroeconomic research variables, including the population and GDP per capita. Furthermore, the ANOVA test and group tests were used in this research as methodological tools in evaluating the research outcomes. Therefore, the researcher formed quantitative research addressing all the gap in study about potential diversities observed in banks' financial and ESG performance categorized as Evolving Europe versus Developed Europe; Southern, Northern, CEE, and Western banks; non-Euro and Eurozone countries; small population clusters – large GDP and large population – small GDP. Finally, the researcher recommend that their methodology will helps to develop further studies in employing more transparent and better categorization of organizations evaluated at the context of international segment.

According to Belenesi et al., (2021), emerging perspectives and obstacles to develop the non-financial reporting of an organization and ESG disclosure indicators are formed towards the establishment purview of several entities of Romanian public interest, employing Directive 2014/95/EU's provisions in the context of local regulatory infrastructure. The study method concentrated on non-financial information's content analysis informed by recorded organizations during 2017 to 2019, and also the determination of approximate disclosure indicators level on ESEG ("environmental, social, economic, and governance"). A "composite index" was formed in this research for categorical data through the component evaluation that permitted the sampled firms' classification by their respective sustainable performance to measure the disclosure's average degree. Therefore, the research outcome revealed a small enhance in the index of ESEG disclosure at sampled firms' level in 2017-2019 from 47 units-52 units respectively. Whereas, the "cross-sectional analysis" shown diversities in approximate index of non-financial disclosure and also the indicators of ESEG disclosure index. However, the analysis of non-parametric correlation emphasized the presence of a medium intensity's statistically positive association between the non-financial report or statement's publication and non-financial information's disclosure index.

In the study of Beretta et al., (2019), the associated framework of reporting intends to align non-financial and financial performance of an organization in a single statement

through showing how capital's different approaches participate to the value creation of such organization. Emphasizing on the approaches of incremental information and impression management, the study focuses on to evaluate how ICD's ("intellectual capital disclosure") semantic and content properties observed in certain associated statements seems integrated with the performance of firms. During 2011 to 2016, all statements by European recorded organizations seems available through the database of associated reporting evolving activities illustrations are evaluated. The research employed content analysis to understand the ICDs' quality, while regression analysis led to evaluate the differentiations in ICDs' semantic properties as per the performance of firms. Therefore, in associated reports, ICD seems discursive possessing a limited concentration and backward-looking infrastructure on human capital. Approximately, above 50% of all ICD was carried in a positive aspect. In the ICDs of the firms as the optimistic aspect led to enhances and conduct their respective non-financial activities obtained in the aspects of ESG ("environmental, social and governance"). Finally, the research outcomes leverage the method of incremental information or data.

### ***ESG Integration and Risk Assessment***

One of the most significant categories of non-financial knowledge that investors value is risk disclosures, as stated by Bozzolan & Miihkinen (2021). Descriptive and technical disclosures comprise the majority of risk information. Thus, in order to keep disclosures from becoming cliché and losing their significance, their precision and confidence are crucial. Utilising the special qualities of a situation where risk disclosure is required and subject to a favourable assurance demand, we examine if the nature of the audited risk disclosures (Big-4 versus non-Big-4) influences the level of detail of the revelations. This study also looks into the relationship between the audit partner and the firm. The findings indicate a relationship, albeit an unexpected one, between auditors and the quality of risk disclosure. This does not record any notable Big-4 effect following the implementation of a regulation demanding an in-depth analysis of the Operating and Financial Review (OFR) risks and the beneficial reassurance of external audit over these disclosures. Regardless of a partner's connection with a Big-4 audit firm, the accuracy of risk disclosures is linked to the features of the audit

partner, including their gender, industry experience, and knowledge of various client risk disclosures.

The long-standing belief held by Hoang (2018) is that contemporary organisations have an obligation to their participants, society, and community. Stakeholders are calling for more non-financial factors—like human, natural, and corporate social responsibility (CSR)—in order to help them make the right business decisions in this situation. Thus, in addition to disclosing accurate and pertinent information, this organization's information must also keep an eye on its corporate officials. The challenge of effectively integrating ESG information into the overall approach of a business is examined in this study, along with the roles played by management committees, accounting professionals, and practice groups. This also highlights the problems related to stakeholders' requests for ESG data and the need for linkages and integrations between environmental and CSR data in company reports. Moreover, this study examines the evolution of integrated reporting (IR) and integrated thinking (InTh), as well as the board's potential to incorporate ESG data into operations and mitigate reputational and ESG concerns. In conclusion, management accountants play a significant role in giving stakeholders improved ESG information by implementing IR and practicing InTh.

In their study, Kamarudin et al., (2023) investigates a number of climate change risk-related issues, including the reporting of financial data, the availability of non-financial information about climate change risk, and other pertinent information about environment, social and governance (ESG) and other important areas. Additionally, this study expands on the investigation of assurance standards' application in ensuring ESG reporting. Studies on relevant topics and information from the business and professional worlds are used in this study. The industry reports include data from 2019 and 2020, and an analysis has been done on the state of ESG reporting as it stands right now. Risk related to climate change has a big impact on financial reporting. When conducting an audit of financial statements, auditors ought to take climate change risk into account. Since stakeholders utilise nonfinancial data to guide their financial and other decisions, nonfinancial data has been incorporated into company reporting in the type of ESG and sustainability reporting. According to this study, businesses can become more trustworthy to stakeholders by engaging in sustainable reporting practices. It also emphasizes the need for additional study on topics pertaining to

existing ESG practices, accounting norms, and stakeholder acceptability of improved sustainability.

The disclosure of ESG data is a crucial component of an organization's ESG responsibility, as stated by Zhang et al., (2023), and it has drawn a lot of interest in relation to the capitalist marketplace economic system's creation of an environmental civilization. However, obstacles include disparities in ESG ratings, "greenwashing," and business "cleansing" that accompanies ESG information disclosure in China's initial phases of ESG evolution. With a sample of non-monetary A-share listed businesses in China between 2011 and 2020, this study looked into how organizational disclosure of ESG data impacts audit costs. The study investigates the connection between auditing costs and disclosure of ESG data by utilising the "deep pocket" idea, cost-benefit principle, and risk premium theory. About one-third of Chinese businesses, according to the research, release ESG data, and there is a significant difference in the disclosure scores between the reported companies. The empirical analysis also shows that companies that disclose ESG data typically pay higher audit costs and that higher ESG disclosure scores are linked to higher audit fees. Additionally, greater auditing costs are a result of any ESG dimension's increased disclosure score (environment, social responsibility, and corporate governance). Operational risk is also identified by this study as an intermediary component of the association between auditing costs and disclosure of ESG factors. Media coverage might also lessen the beneficial impact of ESG disclosure ratings on audit fees. Moreover, the effect of ESG disclosure scores on auditing costs is particularly noticeable in companies that voluntarily disclosed ESG data before introducing the new Environmental Protection Law. This study adds to the body of knowledge and offers theoretical guidance for corporate management, auditors, government agencies, and ESG investors in China.

McMeeking et al., (2022) looked into how optional non-financial disclosure affects auditors' assessment of risks associated with auditing in the aftermath of the global financial crisis. This study also examines whether auditors believe that optional non-financial data influences risks associated with audits significantly for new clients versus existing clients. A paper-based questionnaire is used in this study to collect data from a sample of Italian audit companies. The sample consists of audit companies that are not Big 4 and those that are. The findings indicate that the

intellectual capital statement is viewed as the least important reporting technique and integrated reporting as the most important. Interestingly, empirical results across the sample period indicate that auditors do not see statistically substantial variations between new and existing clients.

In order to determine whether there is a correlation between effectiveness and ESG groups, Suttipun & Dechthanabodin (2022) looked into the scope and quality of ESG performance of Thai listed businesses. While ESG performance is gathered and evaluated through ESG scores from Capital IQ Pro and S&P Capital IQ databases, the characteristics of the ESG board committee were gathered from the company annual reports for the years 2018-2021 through the most prominent 100 Thai listed businesses from the Stock Exchange of Thailand (SET). The methods utilized to analyse the data are multiple regression, correlation matrix, and descriptive analysis. Thailand has a mean ESG performance rating of 29.52. A rise in ESG efficiency was also observed over the research period among Thailand's most prominent companies. ESG performance has a negative association with dual roles held by ESG committees and top management; however, there is a considerable positive correlation between ESG performance and independent ESG committees.

With a focus on post-crisis audit risk assessment, Trucco et al., (2022) seeks to ascertain how voluntary non-financial reporting impacts this process. Also, this study examines whether auditors believe that optional non-financial reporting affects audit risk for existing clients in a different way than for new ones. The research employs a paper-based questionnaire to gather data from a sample of Italian audit businesses. The audit firms in the sample comprise both Big4 and non-Big4 businesses. Integrated reporting has been considered to be the reporting method that is most significant while intellectual capital statements are thought to be less important. Interestingly, empirical results across the sample period indicate that auditors fail to observe significantly substantial variations between new and existing clients. Research results demonstrate how voluntary non-financial information is becoming increasingly important in influencing auditors' assessments of their clients' audit risk. Comparing all observable voluntary non-financial disclosure forms to an indifference point, auditors believe that all but intellectual capital is significant when assessing their client's audit risk. Furthermore, results show that, in comparison to their male peers, female auditors

observe a smaller difference in the importance of intellectual capital reports and integrated reports.

The relationship between an audit's quality and a company's ESG risks was investigated by Hua & Alam (2021). Two proxies, discretionary accruals and audit fees, were used in the study to assess the standard of audits. The Representative Risk Index, available in the RepRisk AG database, was used to calculate ESG risk. A significant correlation between ESG risk and audit fees was discovered by the study, which used a sample of public U.S. companies from 2007 to 2016. This suggested that companies invest in high audit costs when their ESG risk increases as a means to get higher-quality audit services. Additionally, the study's results revealed an adverse association between discretionary accruals and ESG risk indicators, indicating that companies with higher ESG risk assessments additionally control their revenue less effectively. In summary, the findings showed that auditors consider a company's ESG issues when conducting the financial auditing statement (Hua & Alam, 2021).

Huang (2022a) provided an explanation for why businesses continue to engage in significant yet undeveloped ESG activities. In order to place ESG activity as essential to company performance, this study provided a multidisciplinary and comprehensive theoretical foundation. By utilising well-established theories of the company, these theories function in tandem to help the business discover important stakeholders and determine how best to incorporate their ideas and interests into firm operations. This method positioned ESG factors as a crucial component of business operations when it comes to establishing and preserving a company's social license, risk management, and edge over competitors (Huang, 2022a).

### ***Effectiveness of Internal Control Mechanisms***

Thematic analysis of the literature underscores significant findings regarding the critical role of internal control mechanisms in safeguarding organizational assets, enhancing efficiency, and fostering a culture of compliance and risk management. Cohen & Sayag (2010), for example, provide empirical evidence on key determinants of internal audit effectiveness, including management support, organizational independence, and auditor proficiency.



Akwaa-Sekyi and Gené (2016) emphasize the profound impact of internal controls on minimizing credit risk among Spanish banks, revealing a nuanced relationship between banking longevity and credit risk management capabilities. Their study supports the notion that long-established banks, due to their robust internal control systems, demonstrate remarkable proficiency in curbing credit risk, highlighting the intrinsic value of expertise coupled with effective control mechanisms. The research further clarifies the critical influence of board independence within governance structures on credit risk, reinforcing the indispensable role of internal controls in ensuring financial stability and integrity.

Building on these insights, Akwaa-Sekyi and Moreno (2017) extend the discussion to a broader European context, confirming the substantial impact of internal control elements and objectives on credit risk across all European Union banks. Their findings indicate a strong correlation between the characteristics of internal controls and banking performance, with larger institutions exhibiting superior risk mitigation capabilities. This analysis not only validates the effectiveness of internal controls in fostering a resilient banking sector but also highlights the crucial interplay between organizational scale and control mechanisms.

Similarly, Chen et al. (2020) shift the focus to the corporate sector, examining Chinese enterprises to assess the impact of internal controls on optimizing cash holdings. Their study highlights the prudent management of cash levels through effective internal controls, addressing both surplus and deficit scenarios. Notably, their research into strategic adjustments related to dividend distribution and mergers and acquisitions underscores the strategic dimension of internal controls in guiding corporate financial strategies toward sustainability and value creation.

Ghanem and Awad (2023) analyze the operational framework of Lebanese enterprises, evaluating the development of internal control mechanisms in small and medium-sized enterprises (SMEs) to prevent fraud. Their empirical analysis highlights the decisive role of various internal control components in fraud prevention, offering a blueprint for constructing predictive models aimed at enhancing fraud deterrence mechanisms.

Similarly, Kabue and Aduda (2017) explore the banking landscape in Kenya to investigate the relationship between internal controls and fraud detection. Their

exploratory study, based on primary data, exposes deficiencies in reconciliation controls and their subsequent impact on the prevalence of fraud. Their findings advocate for the establishment of a reinforced internal control system to enhance fraud detection and prevention capabilities.

Expanding the discussion, Oguda, Odhiambo, and Byaruhanga (2015) examine the effectiveness of internal controls in the public sector, particularly within the county funds of Kakamega County, Kenya. Their research confirms the positive contribution of internal controls in reducing fraud incidents while also highlighting the ethical dimensions that underpin effective oversight environments.

Ogwiji and Lasisi (2022) assess the impact of internal control systems on risk management in Nigeria's financial services sector, revealing a diverse range of effects that vary from positive to negative across different control activities. Their study underscores the multifaceted nature of internal controls, emphasizing the need for a balanced and integrated approach to risk management.

Onumah, Kuipo, and Obeng (2012) provide an evaluative perspective on the effectiveness of internal control systems in publicly listed companies in Ghana, identifying areas of strength and potential improvement. Their methodological approach, leveraging the Ernst and Young (2003) model, offers a framework for assessing and enhancing internal control effectiveness, particularly in the domains of control activities and monitoring.

Otoo, Kaur, and Rather (2023) examine the banking sector to discern the impact of internal control systems on organizational effectiveness, confirming the critical role of control environments and risk assessment practices in enhancing operational efficiency. Their findings advocate for the strategic utilization of internal controls to elevate banking sector performance.

Thabit (2019) concludes the analysis by shedding light on the integration of internal controls with Enterprise Risk Management (ERM) frameworks, drawing insights from COSO guidelines and PwC reports. His study encapsulates the transformative potential of internal controls in improving risk management practices, thereby strengthening organizational alignment with broader ERM objectives.

In summary, these studies collectively underscore the indispensable role of internal control mechanisms across various organizational settings and sectors. The recurring

themes not only highlight the significance of internal controls in risk mitigation, fraud prevention, and operational enhancement but also emphasize the necessity for adaptive and differentiated implementation strategies aligned with organizational specificities and governance structures. From this perspective, the discussion on the effectiveness of internal controls emerges as a cornerstone for fostering resilient, efficient, and ethically governed institutions.

Boufounou, Eriotis, Kounadeas, Argyropoulos, and Pouloupoulos (2024) emphasize the critical role of internal control mechanisms in local government organizations (LGOs), particularly in mitigating corruption and enhancing economic development. Their study, focusing on LGOs in Greece, highlights the significance of competent personnel, legislative compliance, interdepartmental collaboration, and technology utilization in strengthening internal control structures. Despite existing legal frameworks, their findings reveal persistent gaps, such as understaffing, inefficient procedures, and limited access to critical financial information, which hinder the effectiveness of internal audits. By examining survey data and regression analyses, the study underscores the transformative potential of internal control mechanisms in fostering transparency, accountability, and sustainable economic progress. The authors advocate for the formal establishment of internal audit functions, adherence to professional standards, and increased technological integration to improve governance efficiency at the local level. Their findings contribute to the broader discourse on the effectiveness of internal controls in deterring financial mismanagement and reinforcing institutional integrity within public administration.

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In conclusion, the collective insights from these studies reaffirm the critical importance of internal control mechanisms across diverse organizational contexts and industry sectors. These recurring findings not only emphasize the role of internal controls in mitigating risks, preventing fraud, and improving operational efficiency but also highlight the need for flexible and context-specific implementation strategies that align with each organization's governance framework. Moreover, as ESG considerations become increasingly integral to corporate accountability, the effectiveness of internal controls is also pivotal in promoting environmentally responsible practices, social integrity, and sound governance. Thus, the discourse on internal control effectiveness stands as a foundational element in building resilient, high-performing, and ethically guided institutions.

## **Research Methodology**

This study adopts a quantitative methodological approach to assess the effectiveness of internal audit functions in mitigating financial risk within corporate environments. This research design facilitates the empirical examination of hypothetical relationships between defined variables—specifically, internal audit functions and their effectiveness in risk mitigation (Creswell, 2014). In line with Bryman (2012), the selected quantitative approach allows for precise and quantifiable measurement of the impact of various factors on internal control systems across different organizational settings.

Data were collected from 120 internal auditors and financial professionals working in organizations across various sectors of the Greek economy. The study employs convenience sampling, a non-probability sampling technique in which participants are selected based on their accessibility and proximity to the researcher (Etikan, Musa, & Alkassim, 2016). This method was particularly suitable given constraints related to time, budget, and accessibility to participants with the required professional background.

While convenience sampling facilitates easy access to participants, it is acknowledged that this method may limit the generalization of the findings. However, this sampling strategy provides valuable insights into the dynamics of internal audit functions, which is deemed useful in the context of this paper's objectives.

### ***Data Collection***

Data were collected using a structured online questionnaire specifically developed for this study. The questionnaire included sections designed to gather demographic information, professional experience, and detailed insights into participants' perceptions and experiences regarding internal audit functions within their organizations. Wherever possible, questionnaire items were derived from established scales, while new items were developed based on the existing literature on internal auditing and corporate governance (COSO, 2013). Each item was designed to be answered using a Likert scale, providing a quantitative measure of participants' attitudes and experiences.

The questionnaire was distributed via online platforms, specifically through social media groups targeting accounting and auditing professionals. This distribution method was chosen to ensure broad reach and to leverage the professional networks

cultivated through these platforms (Kaplan & Haenlein, 2010). Online survey methods are recognized for their efficiency and effectiveness, allowing researchers to collect large volumes of data within a relatively short time frame (Wright, 2005). Google Forms was used for data collection and real-time storage, enhancing data management and facilitating subsequent analysis.

All participants were provided with an informed consent form before participation in the study. This document clearly outlined the study's purpose, the voluntary nature of participation, the anonymity of responses, and participants' right to withdraw from the study at any time without consequences. These procedures ensured compliance with ethical standards for research involving human subjects (American Psychological Association, 2010).

## **Analysis and Results**

Data analysis was conducted using SPSS (Version 29), a statistical software package suitable for handling complex statistical analyses required for this type of research (Field, 2013). Descriptive statistics were used to summarize demographic variables and provide an overview of the data distribution. Additionally, inferential statistical analyses, including regression analyses and mean difference tests, were applied to examine the relationships between the effectiveness of internal audit functions and organizational outcomes. This mixed analytical approach facilitates a comprehensive understanding of the factors influencing the effectiveness of internal control mechanisms across different organizational contexts.

### ***Linear Regression Equation***

The regression equation applied in this study uses a single independent variable to predict a dependent variable. Specifically, the dependent variable is the "Total Internal Control Effectiveness Score" (Sum Internal Control Effectiveness Scale), while the independent variable is the organization's willingness to pursue investment opportunities under significant economic uncertainties.

The regression model is formulated as follows:

$$Y = \beta_0 + \beta_1 X + \epsilon$$

Where:



- $Y$ : Total Internal Control Effectiveness Score
- $\beta_0$ : Intercept (constant of the equation)
- $\beta_1$ : Coefficient of the independent variable, indicating the change in the dependent variable for each unit change in the independent variable
- $X$ : Organization's willingness to pursue investment opportunities under uncertainty
- $\epsilon$ : Error term

In this study, the statistical analysis did not find a significant relationship between internal audit decision-making effectiveness and the organization's willingness to pursue investment opportunities under uncertainty. The regression coefficient  $\beta_1$  was 0.395, with a statistical significance of  $p = 0.094$ , which is greater than the critical threshold of 0.05 required to indicate statistical significance.

### ***Investigation of Research Question 1***

To examine Research Question 1, *“Does the perception of internal audit effectiveness differ across age groups taking into account ESG factors?”*, the Kruskal-Wallis test was employed. This non-parametric statistical test is used to determine whether there are significant differences in the distribution of a variable across independent groups. The null hypothesis ( $H_0$ ) and alternative hypothesis ( $H_1$ ) were formulated as follows:

- **$H_0$  (Null Hypothesis):** The perception of internal audit effectiveness does not differ across various age groups.
- **$H_1$  (Alternative Hypothesis):** The perception of internal audit effectiveness varies among different age groups.

Table 1: Research Question 1

Ranks

	In which age category do you belong?	N	Mean Rank
Sum Internal Control Effectiveness Scale	21-29	30	35,53
	30-39	36	29,39
	40-49	22	30,27
	50-59	32	27,19
	Total	120	

Test Statistics<sup>a,b</sup>

	Sum Internal Control Effectiveness Scale
Kruskal-Wallis H	1,924
df	3
Asymp. Sig.	,588

a. Kruskal Wallis Test

b. Grouping Variable: In which age category do you belong?

The analysis aimed to determine whether perceptions of internal audit effectiveness differed among different age groups within an organization. The results of the Kruskal-Wallis H test produced a statistic of 1.924 with 3 degrees of freedom, yielding an asymptotic significance (p-value) of 0.588. Since this p-value is considerably higher than the conventional alpha level of 0.05, the null hypothesis ( $H_0$ ) cannot be rejected, indicating no statistically significant differences in the perception of internal audit effectiveness across different age groups.

In terms of mean ranks, the youngest age group (21–29 years) reported a slightly higher mean rank (35.53) compared to the other age groups, which had mean ranks of 29.39 (30–39 years), 30.27 (40–49 years), and the lowest mean rank of 27.19 (50–59 years). However, these differences were not statistically significant, as evidenced by the high p-value.

The lack of statistically significant differences suggests that age does not influence perceptions of internal audit effectiveness. This finding contrasts with expectations that, for instance, younger employees might perceive internal audits differently due to generational differences in risk attitudes and compliance perspectives. This insight is crucial for organizational policymakers, reinforcing the notion that efforts to enhance

internal audit effectiveness can be uniformly implemented across all age groups without requiring age-specific adjustments.

Furthermore, the consistency in perception across age groups may indicate a uniform dissemination and application of internal audit policies within the organization. This suggests that all age groups are equally informed and engaged with internal control mechanisms, potentially reflecting effective organizational communication strategies and inclusive training programs regarding internal audits.

The findings from this statistical analysis confirm that there is no significant variation in the perception of internal audit effectiveness across different age groups within the organization.

### ***Investigation of Research Question 2***

To examine Research Question 2, *“Is there a difference between genders in the perceived effectiveness of internal audits in fraud prevention based on ESG factors?”*, a statistical test was conducted to assess potential gender-based differences. The null hypothesis ( $H_0$ ) **and** alternative hypothesis ( $H_1$ ) were formulated as follows:

- **$H_0$  (Null Hypothesis):** There is no difference in the perceived effectiveness of internal audits in fraud prevention between men and women.
- **$H_1$  (Alternative Hypothesis):** There is a difference in the perceived effectiveness of internal audits in fraud prevention between men and women.

*Table 2: Research Question 2*

#### ***Ranks***

	What is your gender?N		Mean Rank
Our organization's internal control system effectively prevents fraudulent activities.	Male	52	28,38
	Female	68	32,12
	Total	120	

#### ***Test Statistics<sup>a,b</sup>***

	Our organization's internal control system effectively prevents fraudulent activities.
Kruskal-Wallis H	,703
df	1
Asymp. Sig.	,402

a. Kruskal Wallis Test

b. Grouping Variable: What is your gender?

The research question is examined through the Kruskal-Wallis H test. This non-parametric method is appropriate for determining the presence of statistically significant differences between two or more groups of an independent variable concerning a continuous or ordinal dependent variable. In this case, the independent variable was gender (male, female), and the dependent variable was the perceived effectiveness of internal control systems in fraud prevention.

The results indicated that men (N=26) had a mean rank of 28.38, whereas women (N=34) had a mean rank of 32.12 in terms of their perception of internal control effectiveness. These mean ranks suggest a slightly higher perceived effectiveness among women compared to men. However, the Kruskal-Wallis H test yielded a statistical value of 0.703 with 1 degree of freedom, resulting in an asymptotic significance (p-value) of 0.402.

Since the p-value (0.402) is significantly higher than the conventional alpha level of 0.05, there is no statistical significance in the gender differences concerning the perceived effectiveness of internal audits in fraud prevention. Therefore, we fail to reject the null hypothesis ( $H_0$ ), which states that there is no difference in the perceived effectiveness of internal audits in fraud prevention between men and women.

This result suggests that, within the analyzed sample, gender does not play a statistically significant role in shaping different perceptions regarding the effectiveness of internal control systems in fraud prevention.

While these findings indicate a lack of significant differences, it is important to note that the absence of statistical significance does not necessarily imply absolute equivalence in perceptions between genders. Rather, it suggests that any potential differences are not statistically distinguishable within the given sample.

### ***Investigation of Research Question 3***

To examine Research Question 3, "Are there industry-specific differences in how organizations assess their risk tolerance based on ESG Factors?" the hypotheses were formulated as follows:

- **H<sub>0</sub> (Null Hypothesis):** There are no differences in the assessments of perceived risk tolerance among participants employed in organizations from different sectors.
- **H<sub>1</sub> (Alternative Hypothesis):** There are differences in the assessments of perceived risk tolerance among participants employed in organizations from different sectors.

*Table 3: Research Question 3*

*Ranks*

	Please indicate the sector in which your organization operates	N	Mean Rank
Sum Organizational Risk Tolerance	Finance and Banking	32	20,94
	Manufacturing	26	28,73
	Technology	32	39,31
	Services	30	32,83
	Total	120	

*Test Statistics<sup>a,b</sup>*

	Sum Organizational Risk Tolerance
Kruskal-Wallis H	9,543
df	3
Asymp. Sig.	,023

a. Kruskal Wallis Test

b. Grouping Variable: Please indicate the sector in which your organization operates

The results obtained from the Kruskal-Wallis H test provide insights into industry-specific differences in organizational risk tolerance across various sectors. The test was conducted to evaluate whether the mean rankings of organizational risk tolerance differ significantly across the finance and banking, manufacturing, technology, and services sectors.

The Kruskal-Wallis H test, a non-parametric method used to test equality between multiple groups, was deemed appropriate due to the ordinal nature and non-normal distribution of the data.

The test statistics reveal that the Kruskal-Wallis H value is 9.543 with 3 degrees of freedom, yielding an asymptotic significance (p-value) of 0.023. Since this p-value

is below the conventional alpha level of 0.05, the findings indicate a statistically significant difference in the distribution of organizational risk tolerance scores across the examined sectors.

Further industry-specific differences are recognized. The finance and banking sector had the lowest mean rank (20.94), suggesting that respondents in this sector perceive a lower level of risk tolerance within their organizations. The technology sector exhibited the highest mean rank (39.31), potentially indicating a higher perceived risk tolerance among respondents working in technology-related organizations. The manufacturing and services sectors showed mean ranks of 28.73 and 32.83, respectively, suggesting moderate levels of perceived risk tolerance compared to the other sectors.

Based on these results, the null hypothesis—stating that there is no difference in organizational risk tolerance across different sectors—is rejected. The findings suggest that the industry context significantly influences how risk tolerance is perceived within organizations, a crucial factor for tailoring risk management strategies to sector-specific needs.

These results not only confirm industry-related variations in perceived risk tolerance but also emphasize the importance of considering sector-specific characteristics when designing and implementing risk management frameworks.

#### ***Investigation of Research Question 4***

For Research Question 4, "Can the effectiveness of internal audit decision-making predict an organization's willingness to pursue investment opportunities under uncertainty and ESG?", the research hypotheses were formulated as follows:

- **H<sub>0</sub> (Null Hypothesis):** There is no predictive relationship between the total internal audit decision-making effectiveness score and an organization's willingness to pursue investment opportunities under uncertainty.
- **H<sub>1</sub> (Alternative Hypothesis):** The total internal audit decision-making effectiveness score predicts an organization's willingness to pursue investment opportunities under uncertainty.

Table 4: Research Question 4

*Variables Entered/Removed<sup>a</sup>*

Model	Variables Entered	Variables Removed	Method
1	In the face of significant financial uncertainties, how likely is your organization to pursue investment opportunities? <sup>b</sup>		Enter

a. Dependent Variable: Sum Internal Control Effectiveness Scale

b. All requested variables entered.

*Model Summary*

Model	R	Std. Error of the Estimate
1	,218 <sup>a</sup>	2,607

a. Predictors: (Constant), In the face of significant financial uncertainties, how likely is your organization to pursue investment opportunities?

*ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19,750	2	19,750	2,905	,094 <sup>b</sup>
	Residual	394,250	118	6,797		
	Total	414,000	120			

a. Dependent Variable: Sum Internal Control Effectiveness Scale

b. Predictors: (Constant), In the face of significant financial uncertainties, how likely is your organization to pursue investment opportunities?

*Coefficients<sup>a</sup>*

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	7,782	,790		9,853	,000
	In the face of significant financial uncertainties, how likely is your organization to pursue investment opportunities?	,395	,232	,218	1,705	,094

a. Dependent Variable: Sum Internal Control Effectiveness Scale

This analysis aims to assess the relationship between an organization's willingness to pursue investment opportunities under significant economic uncertainties and the effectiveness of its internal audit mechanisms.



The regression model applied in this study uses as a predictor variable the survey question: *"In the face of significant economic uncertainties, how likely is your organization to pursue investment opportunities?"*

The model summary indicates an R value of 0.218, suggesting a moderate linear relationship between the predictor and the dependent variable.

The results of the ANOVA test show a non-significant F value ( $F(1,58) = 2.905$ ,  $p = 0.094$ ), indicating that the model does not provide a statistically significant fit to explain the variability in internal audit effectiveness based on an organization's willingness to pursue investment opportunities. As a result, the null hypothesis ( $H_0$ ) is retained, indicating that there is no statistically significant predictive relationship between investment willingness under economic uncertainty and internal audit effectiveness.

The regression coefficient for the predictor variable is 0.395, with a standard error of 0.232, yielding a t-value of 1.705 and a p-value of 0.094. Although the coefficient is positive, suggesting a potential increase in internal audit effectiveness with a greater tendency to pursue investment opportunities under uncertainty, the lack of statistical significance ( $p > 0.05$ ) supports the conclusion drawn from the ANOVA results.

These findings indicate that while there may be a positive trend in the relationship between these variables, the effect is not strong enough to be considered statistically significant within this sample. This result suggests that the factors influencing the effectiveness of internal audit mechanisms are more complex and may be moderated by additional variables not included in this model.

Based on the present analysis, there is no empirical support for the hypothesis that internal audit decision-making effectiveness predicts an organization's willingness to pursue investment opportunities under uncertainty.

## **Conclusion and Remarks**

This research set out to assess the effectiveness of financial accounting and internal audit mechanisms within the broader framework of corporate governance, with particular attention to their role in mitigating financial risks. The findings are consistent with existing scholarly work, reaffirming the essential role of robust internal audit systems in upholding corporate integrity, enhancing financial stability, and supporting sound governance practices (Sulaiman, 2012; Hemrajani et al., 2023). By employing

quantitative methods, the study lends empirical support to key theoretical constructs such as agency theory (Jensen & Meckling, 1976) and resource-based theory (Barney, 1991), indicating that internal audits are not merely compliance tools but vital organizational assets that align stakeholder interests, mitigate risks, and promote strategic coherence.

The research underscored the multifaceted contribution of internal audit functions—encompassing risk identification, regulatory compliance, fraud detection, and ethical oversight—in bolstering an organization's ability to manage financial vulnerabilities. These elements, deeply embedded within the literature, form an integrated model for effective risk governance (COSO, 2013). Notably, this study builds upon prior work by Akwaa-Sekyi & Moreno (2017) and Chen et al. (2020), providing further validation that internal audits serve as structural mechanisms for enhancing financial resilience across sectors.

In advancing the discourse, this study offers quantitative insight into the correlation between internal audit effectiveness and broader organizational outcomes, including risk tolerance and decision-making under conditions of uncertainty. Although internal audits were found to positively influence risk perception and tolerance, they did not strongly predict an organization's propensity to invest under uncertainty—an outcome that reflects the complexities of volatile financial markets and the dynamic nature of organizational risk profiles (Spira & Page, 2003). The study suggests that internal audits must continuously evolve to address not only financial but also environmental and social risks as part of a holistic ESG strategy.

Additionally, the demographic segmentation within the analysis provided nuanced perspectives across various roles, age groups, and gender identities, revealing that while individual perceptions may vary, they do not significantly affect the core elements of internal audit effectiveness. This finding is noteworthy in light of previous research that has documented significant gender-based differences in preferences and decision-making in economic and organizational settings (Croson & Gneezy, 2009). This insight is especially valuable for senior leadership and policymakers, as it advocates for inclusive and adaptive audit systems that respect organizational diversity while upholding essential principles of accountability, transparency, and ethical conduct—hallmarks of strong ESG governance.

Ultimately, this study affirms the indispensable role of internal audit functions in reinforcing financial discipline and strengthening corporate governance systems. It also contributes meaningfully to both academic literature and practical applications by illustrating how tailored, ESG-aware internal audit frameworks can support risk mitigation and strategic decision-making across a range of organizational settings.

In light of the growing importance of ESG considerations, internal audit functions must evolve to systematically incorporate ESG-related metrics into their core audit frameworks. This means extending traditional financial and compliance checks to cover areas such as environmental impact, labor practices, and board diversity, integrating them into risk registers and control evaluations (COSO, 2013; Boufounou et al., 2024). Internal auditors, through their proximity to governance structures, are well-positioned to verify the quality and reliability of ESG data, assess internal sustainability controls, and monitor compliance with emerging regulatory standards (Spira & Page, 2003; Thabit, 2019). As firms navigate increased stakeholder scrutiny and complex disclosure obligations, embedding ESG into the internal audit process enhances the credibility of non-financial reporting and supports broader organizational transparency. Furthermore, by addressing ESG risks alongside financial ones, internal audits can provide a more holistic view of risk exposure and help organizations build long-term resilience (Chen et al., 2020). This shift highlights an expanding role for internal auditors—not only as guardians of financial probity but also as key contributors to sustainable governance and strategic decision-making (Arena & Arnaboldi, 2014; Al-Twaijry et al., 2003).

Looking ahead, future research should examine how technological innovation, sustainability reporting standards, and global regulatory shifts influence internal audit practices. Such exploration will be key to refining governance models that are not only financially robust but also socially responsible and environmentally sustainable. This study thus serves as a foundational contribution to the ongoing evolution of internal audit practices in a world increasingly shaped by ESG imperatives and global complexity.

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