

INTERNAL AUDIT PERFORMANCE THROUGH THE EYES OF THE BALANCED SCORECARD: EVIDENCE FROM THE FINANCIAL SECTOR IN GREECE DURING CRISIS

STAVROPOULOU E

Department of Management Science and Technology, University of Western Macedonia, GR50100 Kozani, Greece. Email: stavreirini@yahoo.gr

GALYFIANAKIS G

Department of Accounting and Finance, Hellenic Mediterranean University, GR71410 Heraklion, Greece, GR50100 Kozani, Greece.

ALEXANDROS GAREFALAKIS

Department of Business Administration and Tourism, Hellenic Mediterranean University, GR71410 Heraklion, Greece. Department of Accounting and Finance, Neapolis University Pafos, Pafos, Cyprus. Email: agarefalakis@hmu.gr

RAGAZOU K

Department of Management Science and Technology, University of Western Macedonia, GR50100 Kozani, Greece. Department of Accounting and Finance, Neapolis University Pafos, Pafos, Cyprus. Email: koragazo@uth.gr

KONSTANTOPOULOS G

Department of Business Administration and Tourism, Hellenic Mediterranean University, GR71410 Heraklion, Greece.

VORTELINOS D

Department of Accounting and Finance, Hellenic Mediterranean University, GR71410 Heraklion, Greece GR50100 Kozani, Greece.

Abstract

This article examines how the balanced scorecard method affects the efficiency of the internal audit function, focusing on Greek banks. We discuss how the use of the Balanced Scorecard is connected to the performance enhancement of financial organizations via the mediating role of internal audit. We use a quantitative analysis of primary data obtained from a questionnaire survey, supplemented with qualitative data from the perspectives of seasoned bank executives in 2017. The sample comprises the main financial institutions in Greece. The study found that the Balanced Scorecard is suitable for assessing the performance of the internal audit department in financial institutions. It also highlighted its role as a management tool in aligning with the overall business strategy and departmental goals of these entities.

Keywords: Balanced Scorecard, Internal Audit, Performance, Banking, Crisis.







1. INTRODUCTION

Technological evolution and complexity of contemporary business environment attract research interest in the realm of internal audit. Organizations are always alert in identifying risks and applying strategies to mitigate them. Internal audit as a function has passed through the stage of infancy in Greek corporations entering an era of specialization based on the characteristics of domestic organizations and entrepreneurship. Fraud, corruption and infringement of classified inside information are phenomena that business world has always been concerned with, especially in banking sector.

The Balanced Scorecard (BSc), introduced by Kaplan and Norton (2002), has been widely used as a lighthouse in the effective management practice as a tool to provide valuable information pointing at the same time at areas that top management should focus on in order to improve overall business performance. Through the years, research studies have utilized BSc in various ways such as performance measurement or strategic analysis or even a tool to direct audit scope. At the same time, its appropriateness of its multifaceted nature was tested through real life case studies in various types of organizations and sectors.

Measuring business performance focusing solely on financial metrics published in financial statements emphasizes on past figures and provides a rather shortsighted view on strategy. Strategic decisions require the adoption of relevant tools to capture not only past performance, but also to indicate future opportunities open to an entity together with financial valuation of each of the alternatives. Through this prism, BSc evolves as an alternative tool to the internal audit function in fulfilling its consulting role within an organization signaling a transformation from a traditional to a contemporary management model.

Having the above in mind, the rationale for this research paper is to investigate the relationship between internal audit and BSc. Focusing on an under researched country in the field (Greece), we explore the value and benefits of utilizing the BSC when performing internal audits. We focus on the banking sector, which has suffered a lot of pressure not only as a result of the global financial crisis since 2008, but also due to sovereign debt crisis in Greece. Staring from the analysis of importance of internal audit and the dimensions of BSC in contemporary business world, we explore the efficacy of BSC to the value added by the internal audit function in financial institutions. Hence, the paper is structured as follows: second part discusses existing literature on internal audit, BSC and banking justifying the aim and objectives for the study; the third part presents the methodology followed; the fourth part presents and discusses data and findings; and fifth part critically discusses major conclusions and proceeds to proposals.

2. LITERATURE REVIEW

The role of Internal Audit in the Greek banking sector

Recently, there has been a focus on studying the internal audit function. The American Institute of Chartered Accountants initiated internal audit in 1983, which has since developed (Pantelidis et al., 2011). Internal audit encompasses processes, policies, techniques, and assurance





activities aimed at safeguarding assets and executing firm strategy (Papadatou, 2005). Internal auditing, as defined by The Institute of Internal Auditors, is an impartial and objective activity that provides assurance and advisory services to enhance an organization's operations and assist achieve its objectives. Sawyer (2003) defined it as a methodical, unbiased assessment of an organization's processes and internal controls to verify the accuracy of financial and operational information in published statements, identify and eliminate risks, ensure compliance with internal policies, efficient use of resources, and achievement of business objectives. Papastathis (2003) observed that corporate governance is dependent on internal audits. Internal audit is an independent role that utilizes technical and scientific methodologies to evaluate its effectiveness and competency, enhancing value and enhancing operations to identify and control company risks (Papastathis, 2003).

Internal audits initially had a distinct focus compared to external audits conducted by certified accountants and tax authorities (Tsaklagkanos, 2005; Kantzos and Chondraki, 2006). The internal audit function, as stated by the Hellenic Chapter of the Institute of Internal Auditors (2008), assists senior management in achieving particular objectives, optimizing organizational resources, safeguarding assets, generating dependable performance data, and adhering to policies, laws, and regulations. Internal audit strives to enhance corporate performance by promoting excellence rather than hindering it with excessive checklists. Internal audit aids top management in decision-making. The primary purpose of internal audit is to assist firms in achieving success by optimizing resource use, however specific objectives may differ based on company size, structure, and industry (Karagiorgos et al., 2010).

Internal audit encompasses any professional operations that may provide value, not limited to financial data (Nagy and Cenker, 2002). Audit types must be differentiated. Audits conducted by firms might be financial, administrative, functional, operational, or specialized (Stewart and Subramaniam, 2010). Papastathis (2003) explains that financial audits offer a thorough and accurate assessment of a business's financial activities within a specific period, administrative audits evaluate department performance by highlighting strengths and weaknesses, and functional audits pinpoint organizational structural issues and suggest improvements.

The increasing complexity of companies and their goal to merge and acquire in order to thrive need a skilled internal audit department to supervise corporate operations (Karagiorgos et al., 2010). The consultative role and the accuracy of figures, facts, and information in public pronouncements and reports are essential. An internal audit department is necessary to mitigate risks caused by human inefficiencies like fraud (Drogalas et al., 2005). Competition from both local and international sources has led financial institutions to assess risks and develop and exchange valuation models to optimize their portfolios. Since Basel II and the Bank of Greece required it, banks have successfully avoided moral hazards and adverse selection (Douros, 2007).

The Greek banking business has been significantly altered in the last two decades due to mergers, technological advancements, and regulatory reforms. Increased capital adequacy should facilitate growth for institutions. The institution requires an internal structural framework, internal audit, departmental cooperation, and coordination to achieve the





aforementioned objectives (Chatzoglou et al., 2010). In 1998, the Bank of Greece mandated financial institutions to create a robust internal audit system, including auditing processes and procedures, to guarantee the safe and efficient operation of the firm. Banks manage currency and invest in financial instruments. Bank clerks and workers are more prone to pilferage and theft while providing these services (Dimou, 2000).

An internal audit department is crucial for overseeing the integrity and viability of each transaction, avoiding errors, and suggesting remedies. Internal auditors' autonomy from the activities they examine and unrestricted access to crucial information enhance their likelihood of achieving success. The top organizational structure safeguards the internal audit department's objectivity and effectiveness by requiring senior management to endorse auditor independence (Papastathis, 2003; Nashwa, 2005). These findings align with Rezaee's (1995) advocacy for autonomy, data and asset accessibility, and robust risk management, information gathering, and process supervision.

Balanced Scorecard

In an effort to improve competitiveness, organizations develop models that monitor their performance incorporating financial and non-financial measures into them. The transformation from industrial to the information age has highlighted the importance of intangible assets to offer a competitive advantage. Balanced Scorecard (BSc) offers a framework to organizations of private and public sector to describe, evaluate and materialize their strategies aiming for the creation of value (Kaplan and Norton, 2004). It was back in '90s that Kaplan and Norton (1996) introduced BSc as a means of evaluating business performance combining key drivers to it (i.e. Key Performance Indicators) including: a) past financial figures, b) projections of future financial performance, and c) strategic success (Hoque, 2014).

BSc has become an invaluable strategic transformation tool ever since, which helps the organization to its successful materialization of selected strategic aims to measurable operational targets. In essence, BSc translates vision and business strategy into a sum of both short- and long-term measures that contribute to excellence and success. Thus, BSc is not only a tool of contemporary strategic management (Reisner, 2003) that helps the organization overcome fundamental difficulties in achieving its strategic goals, but also a framework that offers long-term benefits to its customers, employees, and new product development. In other words, BSc offers a balanced view of an entity including advantages/opportunities for its success highlighting potential risks and is useful to top management and various stakeholders, who require understanding and justification of strategic decisions (Ax and Bjornenak, 2005).

Successful application of BSc requires the standardization of strategies and targets as well as policies to be followed (Kaplan and Norton, 2004). Zervopoulos and Palaskas (2010) assert that access to reliable data, prior experience, application of performance measures, investment in the improvement and development of human resources, and information communication within business hierarchy are fundamentals to the application of BSc.





The latter is based on four perspectives; namely, one financial and three non-financial (customer, internal processes, and growth, innovation and learning) with each one of those with its own targets, measures of performance and policies to be followed. Besides, combining financial with non-financial measures of performance is vital to the long-term viability of an organization (Kaplan and Norton, 2008).

Balanced Scorecard and its application on the Greek banking sector

Many organizations in various sectors have successfully implemented the Balanced Scorecard, whether they are public or private, for-profit or non-profit. This has been demonstrated in studies by Hoque and James (2000), Cooper et al. (2017), Lee et al. (2017), Papalexandris et al. (2004), Nielsen and Sorensen (2004), Malmi (2001), Irwin (2002), and Sohn et al. (2003). The widespread use of the BSc across many companies contributed to its growth and the framework continues to evolve, demonstrating the flexibility and applicability of its core concepts (Bible et al., 2006).

The BSc was first utilized as a performance assessment tool, with various researchers investigating its correlation with financial performance and corporate performance. It was later demonstrated to be suitable as a strategic management and audit framework. The BSc emphasized the need for senior management to prioritize elements that would enhance future performance rather than making decisions exclusively based on historical data analysis. Therefore, a direct connection exists between strategy and performance by using the Balanced Scorecard (BSc) as discussed by Malina and Selto (2001), Oslon and Slater (2002), and Nielsen and Sorensen (2004).

The adoption of the BSc by organizations is contingent upon their unique and distinctive qualities. Smaller companies, particularly SMEs, may have challenges in successfully implementing the BSc because to a lack of skills, advanced knowledge, competence, financial and human resources, and senior management's unfamiliarity with strategic decision making. SMEs and big firms vary in their innovation tendencies and their comfort with uncertainty (Garengo et al., 2005; Boumediene et al., 2013; Basuony, 2014). The BSc was originally used as a performance model that included financial and non-financial variables organized into four dimensions. It has been used as both a strategic management tool and an audit model. Organizational structure and management procedures vary between these two main groups of businesses.

The use of BSc is shown to bring insights into performance assessment and strategic decision making, with McAdam (2000) stating that the model positively contributes to all levels of organizational hierarchy. Small and medium-sized enterprises are reluctant to embrace the Balanced Scorecard because they prioritize short-term financial goals over the long-term financial and non-financial components that larger companies consider. Performance metrics vary between major organizations, which often use 18-23 measures, and small and medium-sized enterprises (SMEs), which typically use 5-15 measures. Planning for a BSc is comparable for both SMEs and big enterprises, however SMEs make a choice via the four elements quicker than large businesses (Andersen, 2001).





The process of using the BSc has steps that begin with formulating a vision and progress to strategic goals, tactical actions, and performance metrics for a business organization. Implementing the aforementioned information involves adjustments since strategy aligns better with performance assessment in bigger organizations than in small and medium-sized enterprises (SMEs) (Garengo et al., 2005; Malagueño et al., 2018). Another notable distinction is that major firms invest in their personnel by offering systematic training, expecting them to make a valuable contribution to operational improvement (McAdam, 2000). Employee trust in top management and job satisfaction vary between SMEs and larger organizations, impacting their performance (McAdam, 2000; Hvolby and Thorstenson, 2000; Johanson et al., 2006; Fernandes et al., 2006). An entrepreneur who owns a firm is more attuned to business intelligence and delivering strategic information to workers than is often seen in a huge organization (Beaver, 2003).

Both kinds of companies might gain from the use of the BSc from a cost-benefit analysis perspective. However, benefits manifest gradually in SMEs whereas costs accumulate shortly after adoption. Although the BSc application in SMEs has advantages, it may become economically unfeasible.

The planning process for adopting the BSc follows similar steps in both small and medium enterprises (SMEs) and big businesses. These phases include establishing a vision, defining strategic aims, and determining appropriate policies and strategies (Andersen, 2001; Fernandes et al., 2006; Gumbus and Lussier, 2006). The primary distinction is in the length of the planning phase. Andersen (2001) claims that the process is quicker in SMEs due to their smaller workforce and simpler organizational structures in comparison to bigger firms. SMEs have implemented all versions of the model for performance evaluation and strategic decisionmaking as shown by Garengo et al. (2005), Fernandes et al. (2006), Gumbus and Lussier (2006), and Henscel (2006). Choosing the right mix of financial and non-financial performance measures is crucial for small and medium-sized enterprises (SMEs). These organizations typically emphasize specific operational and financial aspects as performance metrics, such as delivery times, quality, and accuracy. Emphasizing strategic management is crucial for small and medium-sized enterprises (SMEs), since it involves making decisions that support the company's vision and goals within a structured framework like the Analytic Hierarchy Process (AHP) model (Taticchi et al., 2010; Tenhunen et al., 2001). This concept aligns with McAdam's (2000) recommendation for performance assessment systems to have a broad perspective rather than focusing just on superficial aspects.

It is clear from the previous discussion that there is a need for empirical research in the topic, particularly focusing on organizations in industries with complex risk dynamics. The internal audit department is crucial for maintaining the level of company governance, particularly during times of turbulence. Focusing on the financial sector of the Greek economy, we examine the effects of both the global financial crisis and the local debt crisis. Our goal is to enhance current literature on internal audit performance management by providing empirical evidence on how the Balanced Scorecard (BSc) may be used as a management tool to assess the performance of the internal audit department in leading Greek banks.





3. METHODOLOGY

This section elaborates on the methodological technique for evaluating the performance of the internal audit department in Greek banks using the BSc reasoning. The population comprises workers and managers of the Greek banking industry. We selected a convenience sample of 100 workers and 50 managers who volunteered to participate in the research by completing a questionnaire with 24 closed-ended qualitative questions and 2 open-ended questions. Later on, respondents might provide their perspectives on the issue based on their experiences and personal observations.

We created the questionnaire based on recommendations from previous researchers in the area and disseminated it via online social media to choose our respondents (Ibrahim, 2015; Rostami et al., 2015; Dincer et al., 2016; Nielsen et al., 2017). The framework began with an introduction note ensuring respondents' confidentiality. Questions were categorized based on the following topics:

- a) Questions on internal audit,
- b) The value and place of internal audit function in hierarchical structure,
- c) Questions on first dimension of the BSc: the internal customer of internal audit,
- d) Questions on second dimension of the BSc: internal audit process,
- e) Questions on third dimension of the BSc: innovation,
- f) Questions on the BSc, its requirements and benefits, and
- g) General questions on each of the respondent of the sample (demographics).

After we collected responses, we performed a reliability test applying Cronbach's Alpha reliability indicator with values above 0.7 being satisfactory ones and above 0.6 being acceptable. The analysis indicated that for groups b and f as described above, Cronbach's Alpha was 0.702, for group c was 0.631, for group d 0.597 and for group e it was 0.634.

The analysis was performed using SPSS and multicriteria analysis utilizing as interpreting variables: a) the bank that each responded worked for, b) if they had experienced an internal audit in their departments, c) the years of employees' banking experience isolating in this way the partial effect of each one of the above.

4. STATISTICAL ANALYSIS AND ECONOMETRIC FINDINGS

This section presents and discusses the results from the above described data collection. Initially, we present the number of respondents per individual bank. According to table 2, 27.5% were from Pancreta Bank, 18.8% from National Bank of Greece, 18.8% from Alpha Bank, 17.5% from Eurobank and 17.4% from Piraeus Bank indicating that our sample of respondents worked for the large banks.





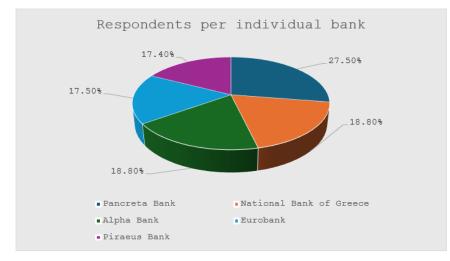


Table 2: Respondents per Bank

Table 3 shows that 53.8% of bank professionals had more than ten years of banking experience in the same bank, 32.1% had a similar experience of 6-10 years, and 14.1% had working experience in the sample employer for less than five years indicating that respondents had sound banking experience.

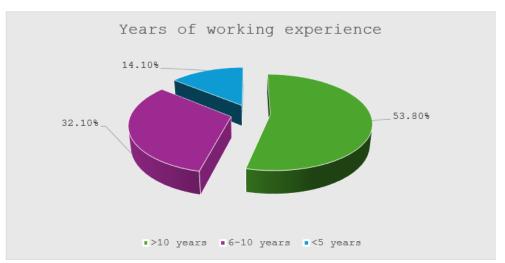


Table 3: Years of working experience

Table 4 indicates that 53.8% of employees believes that internal audit hierarchically refers to the audit committee, 42.5% to the Board of Directors, 2.5% to the C.E.O., and 1.3% to another person or body. It is important to point that respondents who mentioned that internal audit refers to the Board of Directors, they did not have experience from internal audit practice within the departments they worked for. Hence, there was a significant part of respondents who did not know exactly the organizational structure within the financial institution.





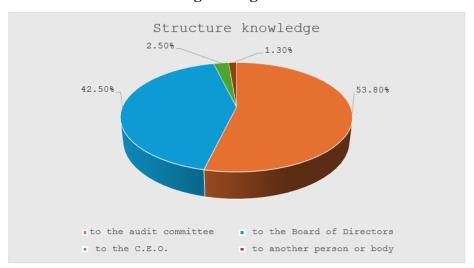


Table 4: Knowledge of Organizational Structure

Table 5 shows that 91.3% of employees believes that top management defines the image of internal audit within the organization, 88.8% of respondents think that communication dictates the added value of the internal audit function, and 84.8% think that it is the annual audit plan that affects the performance of the internal audit department. That is why the support and confidence from top management could significantly contribute to the improvement of internal audit department performance.

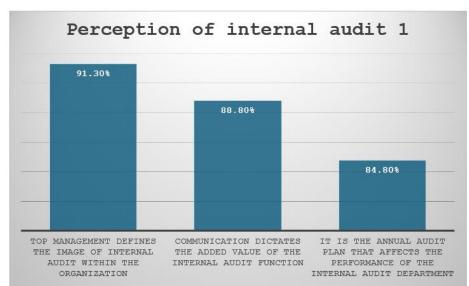


Table 5: Perception of Internal Audit 1

In table 6 we see that 69.2% of employees believes that proposals made from the internal audit department are being accepted by top management of each financial institution, 61.3% thinks that internal auditors' work is supported by external auditors, 56.4% feels that internal







customers of the internal audit function are satisfied, and 43.1% thinks that internal auditors have better career prospects compared to other employees of the financial institution. Acceptance of proposals indicates that suggestions made are understood, problematic areas have been identified and, effectively, top management was not hesitant in accepting suggestions to the improvement of performance of organization. Satisfaction of internal customers is crucial for the overall image of the internal audit department within the financial institutions, which facilitates not only the applicability of suggestions made but also the collection of new data in future audits. Also, respondents have indication that internal auditors have better career prospects, which indicates that their work is respected and their auditing experience offers them an integrated view of on the operation of the organization, which excels their experience leading to promotions to senior posts in the future.

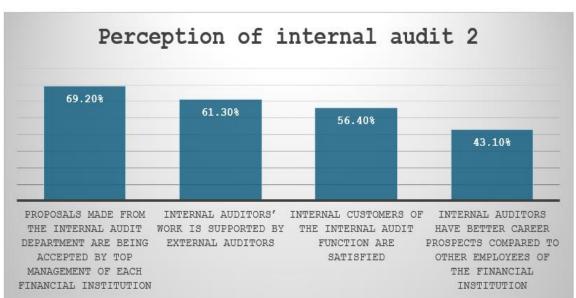


 Table 6: Perception of Internal Audit 2

Table 7 indicates that 84.8% of respondents believes that quality of internal audit depends on the spectrum of audit services offered to the entity, 83.8% supports that internal audit performance directly relates to the compliance with international auditing standards, 77.5% asserts that the dimension of time devoted to perform audits (time expense) affects the overall quality of internal audit activity. The latter means that the time dedicated to an audit is accepted as a quality dimension by auditees, especially when audits comply with internationally accepted standards and widely-accepted audit processes applied to financial institutions globally. Moreover, the wide spectrum of audit scope leads auditors to make proposals regarding many operations followed by the financial institution, which positively affects quality as perceived by auditees.





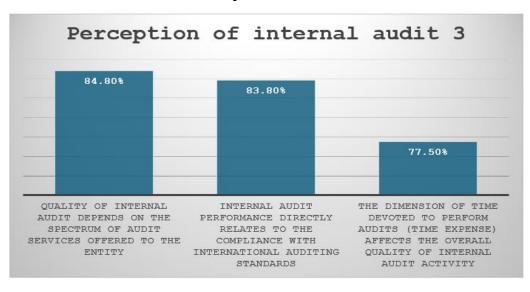
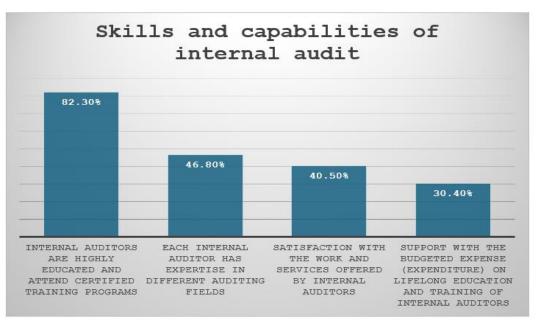


 Table 7: Perception of Internal Audit 3

Focusing on innovation, skills and capabilities, in table 8 we see that 82.3% of respondents believes that internal auditors are highly educated and attend certified training programs on audit to keep up with the advancements in the field, 46.8% thinks that each internal auditor has expertise in different auditing fields, 40.5% expresses satisfaction with the work and services offered by internal auditors, and 30.4% expresses its support with the budgeted expense (expenditure) on lifelong education and training of internal auditors.









Finally, we realize that the major advantages of applying the BSc are: a) the communication of strategy to all levels of the organization together with the alignment with set targets (potentially with the implementation of SWOT analysis), b) the focus on the achievement of specific goals with significant impact on strategic success, c) connection between achievement of strategic goals/targets and rewards (in the form of remuneration), d) the understanding, clarification on the meaning and consent granted for the vision and strategy, and e) the focus of audit scope to factors that affect performance aiming for its improvement. In addition to the above, data collection revealed that the adoption of the BSc by the sample banks could potentially improve communication and cooperation among various departments in each one of them as well as accountability to its internal stakeholders. On the other hand, what was not strongly supported by respondents was the link between the BSc and i) the needs of society and of other external stakeholders, ii) the investment on intangible assets, and iii) the alignment with resources and strategic initiatives.

Referring to the main use of the BSc by the banking institutions of our sample, they suggested its appropriateness as: a) an integrated reference tool that covers many dimensions of performance measurement, b) a communication tool for the targets and financial performance, c) a guidance for the activities of the personnel at all hierarchical levels, d) a management tool to monitor and evaluate performance of all departments of the institution (in collaboration with the management information systems providing feedback for internal use and decision making).

Moving on to econometric findings, we declare that we present cases of functions with at least one estimation being statistically significantly different than zero (possibility of error less than 1%). Also, we apply a probit analysis with robust estimators.

5. CONCLUSIONS

The data analysis showed that the BSc is a crucial tool for senior management in organizations, especially financial institutions in Greece. Upon completion of a structural change, a significant barrier to executing the company plan has been overcome. The model's dimensions include all facets of organizational operations. This technique is comprehensive for measuring and assessing company performance and may be used across all levels of organizational structure, including individual, departmental, and overall performance.

Internal audit is portrayed as a crucial foundation inside modern organizations, holding a multifaceted role that extends across many divisions. Therefore, it aids in reaching goals by fulfilling supervising and consultative duties. It monitors processes and provides valuable insights to senior management, aiding decision-making and enhancing corporate governance inside the firm to protect assets and fulfill the institutional goal. The internal audit department's structure determines its performance and impacts the financial institution's overall performance in this context. Applying a management tool is essential for the efficient functioning of a certain department. The study found that key factors for enhancing the quality of services provided by the internal audit department include auditors adhering to globally recognized auditing standards and top management acknowledging that these standards enhance the financial





institution's operations. Standards must be consistently examined and revised to align with evolving business circumstances and hazards in a worldwide context. Internal auditors should enhance their expertise via advanced, accredited training programs.

This study contributes to the current body of research by addressing the lack of information on performance management tools suitable for financial institutions in Greece during a crisis period from 2011 to 2015. It also documents the opinions of employees in major Greek banks on the role of the internal audit department in enhancing performance during a time of significant socioeconomic changes that affected financial institutions and the country's business and banking landscape.

The data collected and analyzed showed that most respondents believe: a) the internal audit department reports to an audit committee rather than the board or CEO; b) internal auditors in financial institutions participate in certified training and lifelong learning programs; and c) financial institutions in Greece have implemented the principles of the BSc in evaluating the performance of their internal audit departments.

Noteworthy findings include: i) the reputation of the internal audit department is shaped by decisions made by the board of directors and the level of collaboration with them; ii) the board of directors typically approve proposals put forth by the internal audit department; iii) the range of services provided by the internal audit department impacts its overall contribution to business performance; iv) the Balanced Scorecard (BSc) aids in communicating business strategy across all levels and aligning with departmental goals; and v) implementing the BSc covers various performance metrics.

Furthermore, workers who have 6-10 years of experience feel that enhancing communication inside the financial institution by providing detailed information about the competence of internal auditors in different areas of the organization improves the value of the outcomes provided by the internal audit department. Experienced participants favored the idea that auditors should engage in lifelong learning programs to maintain the quality of their services. The results indicate that internal auditors have more opportunities for advancement within the corporate hierarchy.

The study's weaknesses may be attributed to the sample used. It would be interesting to collect several sorts of samples, such as a stratified random sample, from bank personnel and then compare the results. We might enhance the research by comparing the perspectives acquired in this survey with those gathered following the crisis that impacted the Greek banking industry.

As a potential area for future study, we may analyze and compare our results with data from other nations. We might also examine the condition in other areas of the economy. The BSc might be used as a performance assessment tool for the internal audit department in different corporate environments and compared to other management tools to assess its effectiveness in collecting all performance aspects.





References

- 1) Alharbi, F., Atkins, A., Stanier, C. and Al-Buti, H. A. (2016). Strategic value of cloud computing in healthcare organisations using the Balanced Scorecard approach: a case study from a Saudi hospital. *Procedia Computer Science*, 98, 332-339.
- Andersen, H. (2001). Balanced Scorecard Implementation in SMEs: Reflection on Literature and Practice, 4th SME-SME International Conference, Allborg University, Denmark, 14-16 May.
- 3) Ax, C. and Bjornenak, T. (2005). Bundling and Diffusion of Management Accounting Innovations-The Case of the Balanced Scorecard in Sweden. *Management Accounting Research*, (16) 1, 1-20.
- 4) Bakkali, C., Maurice, J. and Naro, G. (2016). The Management of Entrepreneurial Support through the Balanced Scorecard as an Interactive Control Tool: A Field Study in Five Incubators. In ICSB World Conference Proceedings (pp. 1-8). International Council for Small Business (ICSB).
- 5) Basuony, M. A. (2014). The Balanced Scorecard in large firms and SMEs: A critique of the nature, value and application. *Accounting and Finance Research*, 3 (2), 14-22.
- 6) Beaver, G. (2003). Management and the Small Firm. *Strategic Change*, 12 (2), 63-68.
- 7) Beaver, G. and Jennings, P. (2005). Competitive Advantage and Entrepreneurial Power: The Dark Side of Entrepreneurship. *Journal of Small Business and Enterprise Development*, 12 (1), 9-23.
- 8) Beaver, G. and Prince, C. (2004). Management, Strategy and Policy in the UK Small Business Sector: A Critical Review. *Journal of Small Business and Enterprise Development*, 11 (1), 34-49.
- 9) Bhattacharya, A., Mohapatra, P., Kumar, V., Dey, P. K., Brady, M., Tiwari, M. K. and Nudurupati, S. S. (2014). Green supply chain performance measurement using fuzzy ANP-based balanced scorecard: a collaborative decision-making approach. *Production Planning and Control*, 25 (8), 698-714.
- 10) Bible, L., Kerr, S. and Zanini, M. (2006). The Balanced Scorecard: Here and Back. *Management Accounting Quarterly*, 7 (4), 18-23.
- 11) Bohari, A. M., Hin, C. W. and Fuad, N. (2017). The competitiveness of halal food industry in Malaysia: A SWOT-ICT analysis. *Geografia-Malaysian Journal of Society and Space*, 9 (1).
- 12) Bota-Avram C., Popa I., and Ștefănescu C. (2010). Methods of measuring the performance of internal audit. The Annals of the "Ștefan cel Mare". University of Suceava. Fascicle of the Faculty of Economics and Public Administration, 10, Special Issue, 137-146.
- 13) Boumediene R., Delroy C. and Densil W., (2013). SMEs' adoption of enterprise applications: A technologyorganisation-environment model. *Journal of Small Business and Enterprise Development*, 20 (4), 735 – 753.
- Bull, J. W., Jobstvogt, N., Böhnke-Henrichs, A., Mascarenhas, A., Sitas, N., Baulcomb, C. and Carter-Silk, E. (2016). Strengths, Weaknesses, Opportunities and Threats: A SWOT analysis of the ecosystem services framework. *Ecosystem Services*, 17, 99-111.
- 15) Campbell, D., Datar, S. M., Kulp, S. L. and Narayanan, V. G. (2015). Testing strategy with multiple performance measures: Evidence from a balanced scorecard at Store24. *Journal of Management Accounting Research*, 27 (2), 39-65.
- 16) Chatfield, C. (2018). Introduction to multivariate analysis. New York: Routledge.
- 17) Chatzoglou, P., Diamantidis, A., Vraimaki, E., Polychrou, E. and Chatzitheodorou K. (2010). Banking productivity: an overview of the Greek banking system. *Managerial Finance*, 36 (12), 1007-1027.
- 18) Carmona, S. and Gronlund, A. (2003). Measures VS Actions: The Balanced Scorecard in Swedish Law Enforcement. *International Journal of Operations and Production Management*, (23) 12, 1475-1496.





- Commission of the European Communities (2003). Commission Recommendation Concerning the Definition of Micro, Small and Medium-Sized Enterprises. *Official Journal of the European Union*, L 124, 36-41.
- 20) Cooper, D. J., Ezzamel, M. and Qu, S. (2017). Popularizing a management accounting idea: The case of the balanced scorecard. *Contemporary Accounting Research*, 34 (2), 991-1025.
- 21) Davis, S. and Albright, T. (2004). An Investigation of the Effect of Balanced Scorecard Implementation on Financial Performance. *Management Accounting Research*, 15 (2), 135-153.
- 22) Dimou, N. (2000). Auditing I: Principles of Auditing in Banking. Athens: Ellinon Publications.
- 23) Dincer, H., Hacioglu, U. and Yuksel, S. (2016). Balanced scorecard-based performance assessment of Turkish banking sector with analytic network process. *International Journal of Decision Sciences & Applications-IJDSA*, 1 (1), 1-21.
- 24) Douros, A. (2007). Banking in Practice. Corinth, Greece.
- 25) Drogalas, G., Fotiadis, T., and Soubeniotis, D. (2005). Conceptual Framework for the Internal Audit: Theoretical Approach and Case Study. *Management Information Journal*, 32, 52-65.
- 26) Fernandes, K. J., Raja, V. and Whalley, A. (2006). Lessons from Implementing the Balanced Scorecard in a Small and Medium Size Manufacturing Organization. *Technovation*, 26, 623-634.
- 27) Frese, M., Van Gelderen, M. and Ombach, M. (2000). How to Plan as a Small Scale Business Owner: Psychological Process Characteristics of Action Strategies and Success. *Journal of Small Business Management*, 38 (2), 1-18.
- 28) Frigo, M. L. (2002). Strategic competencies of return driven strategy. Strategic Finance.
- 29) Garengo, P., Biazzo, S. and Bititci, U. S. (2005). Performance Measurement Systems in SMEs: A Review for a Research Agenda. *International Journal of Management Reviews*, 7 (1), 25-47.
- 30) Gibbons, R. and Kaplan, R. S. (2015). Formal Measures in Informal Management: Can a Balanced Scorecard Change a Culture?. *American Economic Review*, 105 (5), 447-51.
- 31) Gogan, M. L. (2014). An innovative model for measuring intellectual capital. *Procedia- Social and Behavioral Sciences*, 124, 194-199.
- 32) Gumbus, A. and Lussier, R. N. (2006). Entrepreneurs Use a Balanced Scorecard to Translate Strategy into Performance Measures. *Journal of Small Business management*, 44 (3), 407-425.
- 33) Hansen, E. G., and Schaltegger, S. (2016). The sustainability balanced scorecard: A systematic review of architectures. *Journal of Business Ethics*, 133(2), 193-221.
- 34) Hellenic Bank Association (HBA) (2017). Documentation data on the operation of the Greek Banking System.
- 35) https://www.hba.gr/UplDocs/HBA_GreekBankingSystem_January2017_EN.pdf
- 36) (12/11/2019)
- 37) Hellenic Chapter of Institute of Internal Auditors (2008). Standards for the Professional Practice of Internal Auditing.
- 38) Henschel, T. (2006). Risk Management Practices in German SMEs: An Empirical Investigation. *International Journal of Entrepreneurship and Small Business*, 3 (5), 554-571.
- 39) Hoque, Z. and James, W. (2000). Linking Balanced Scorecard Measures to Size and Market Factors: Impact on Organizational Performance. *Journal of Management Accounting Research*, 12, 1-17.





- 40) Hoque, Z. (2014). 20 years of studies on the balanced scorecard: trends, accomplishments, gaps and opportunities for future research. *The British Accounting Review*, 46 (1), 33-59.
- 41) Hvolby, H. και Thorstenson, A. (2000). Performance Measurement in Small and Medium-Sized Enterprises, In Proceedings 3rd International Conference on Stimulating Manufacturing Excellence in SMEs, Coventry University, 324-332.
- 42) Ibrahim, M. (2015). Investigating the use of the four perspectives of balanced score card (BSC) as technique for assessing performance by Nigerian banks. *Journal of Accounting and Taxation*, 7 (4), 62-70.
- 43) Iora, S. R., Maciel, G. M., Zielinski, A. A., Silva, M. V., Pontes, P. V. D. A., Haminiuk, C. W. and Granato, D. (2015). Evaluation of the bioactive compounds and the antioxidant capacity of grape pomace. *International Journal of Food Science and Technology*, 50 (1), 62-69.
- 44) Irwin, D. (2002). Strategy Mapping in the Public Sector. Long Range Planning, 5 (3), 637-647.
- 45) Ittner, C. D., Larcker, D. F. and Randall, T. (2003). Performance Implications of Strategic Performance Measurement in Financial Services Firms. *Accounting, Organizations and Society*, 28 (7-8), 715-741.
- 46) Johanson, U., Skoog, M., Backlund, A. and Almqvist, R. (2006). Balancing dilemmas of the balanced scorecard. *Accounting, Auditing and Accountability Journal*, 19, 842-857.
- 47) Jorge, F., Saraiva, M. and da Silva, P. R. (2017). House of quality for higher education institutions (HQ4HEI)-presentation and validation of the questionnaire motivation, satisfaction, citizenship and quality (MOSCQual). *The Business and Management Review*, 9 (2), 113-113.
- 48) Kaplan, R. S. and Norton D.P. (1996). Using the Balanced Scorecard as a Strategic Management System, *Harvard Business Review*, 74 (1), 75-85.
- 49) Kaplan, R. and Norton, D. (2002). The Strategy Focused Organization: How Balanced Scorecard Companies Thrive in the New Business Environment, *Internal Auditor*, 59 (1), 21-22.
- 50) Kaplan, R. S. and Norton D.P. (2004). Strategy Maps: Converting Intangible Assets into Tangible Outcomes. Boston: HBS Press.
- 51) Kaplan, R. S. and Norton D.P. (2008). Mastering the Management System. *Harvard Business Review*, 86 (1), 62-77.
- 52) Kantzos, K., and Chondraki, A. (2006). Auditing: Theory and Practice II. Stamoulis Publications. Athens, Greece.
- 53) Karagiorgos, T., Drogalas, G. and Giovanis, N. (2010). Evaluation of the effectiveness of Internal Audit in Greek Hotel Business. *International Journal of Business and Economic Sciences Applied Research*, 4 (1), 19-34.
- 54) Karamanis, K. (2008). Contemporary Auditing Theory and Practice According to International Auditing Standards. Memphis Publications. Athens, Greece.
- 55) Kazatzis, I.C. (2006). Auditing and Internal Auditing: A Systematic approach to Meanings, Principles, and Standards. Piraeus: Business plus Publications.
- 56) Keyes, J. (2016). Implementing the IT balanced scorecard: Aligning IT with corporate strategy. New York: Auerbach.
- Lee, S., Brownlee, E., Kim, Y. and Lee, S. (2017). Ticket sales outsourcing performance measures using balanced scorecard and analytic hierarchy process combined model. *Sport Marketing Quarterly*, 26 (2), 110-120.
- 58) Li, C. Z., Hong, J., Xue, F., Shen, G. Q., Xu, X. and Luo, L. (2016). SWOT analysis and Internet of Thingsenabled platform for prefabrication housing production in Hong Kong. *Habitat International*, 57, 74-87.





- 59) Madsen, D. Ø. (2015). The Balanced Scorecard in the Context of SMEs: A Literature Review (August 29). *Review of Business Research*, 15 (3), 75-86.
- 60) Magnus, K., and Fredrik, N. (2000). Performance measurement at Nordic companies. *European Management Journal*, 18 (1), 113-127.
- 61) Malagueño, R., Lopez-Valeiras, E., & Gomez-Conde, J. (2018). Balanced scorecard in SMEs: effects on innovation and financial performance. *Small Business Economics*, 51 (1), 221-244.
- 62) Malina, M. A. and Selto, F. H. (2001). Communicating and Controlling Strategy: An Empirical Study of the Effectiveness of the Balanced Scorecard. *Journal of Management Accounting Research*, 13, 47-91.
- 63) Malmi, T. (2001). Balanced Scorecard in Finnish Companies: A Research Note. *Management Accounting Research*, 12 (2), 207-220.
- 64) McAdam, R. (2000). Quality Models in an SME Context. *International Journal of Quality and Reliability Management*, 17 (3), 305-323.
- 65) Monk, R. (2000). Why Small Businesses Fail, CMA Management, 74 (6), 12-13.
- 66) <u>Nagy, A.</u> and <u>Cenker, W.</u> (2002), an assessment of the newly defined internal audit function. <u>Managerial</u> <u>Auditing Journal</u>, 17 (3), 130-137.
- 67) Nashwa, G. (2005). The role of Audit Committees in the Public Sector. CPA Journal, 75 (8), 42-43.
- 68) Nielsen, C., Lund, M. and Thomsen, P. (2017). Killing the balanced scorecard to improve internal disclosure. *Journal of Intellectual Capital*, 18 (1), 45-62.
- 69) Nielsen, S., and Sorensen, R. (2004). Motives, Diffusion and Utilisation of the Balanced Scorecard in Denmark. *International Journal of Accounting, Auditing and Performance Evaluation*, 1 (1), 103-124.
- 70) Oslon, E. M., and Slater, S. F. (2002). The Balanced Scorecard, Competitive Strategy, and Performance, Business Horizons, 45: 11-16.
- Pantelidis, P., Drogalas, G., Vitsiou, T. και Kesisi, E., (2011). Internal Audit and Bank fraud, ESDO 2011, Serres, Greece Conference Proceedings.
- 72) Papadatou, T. (2005). Internal-External Audit S.A.: International Accounting Standards Applications, Financial Audit. Sakkoulas Publications (2nd Edition).
- 73) Papalexandris, A., Loannou, G. and Prastacos, G. P. (2004). Implementing the Balanced Scorecard in Greece: A Software Firm's Experience. *Long Range Planning*, 37 (4), 351-366.
- 74) Papastathis, P. (2003). Contemporary Internal Audit in Business-Organizations and its Application in Practice. Athens: OPAP.
- 75) Park, S., Lee, H. and Chae, S. W. (2017). Rethinking balanced scorecard (BSC) measures: formative versus reflective measurement models. *International Journal of Productivity and Performance Management*, 66 (1), 92-110.
- 76) Reisner S., (2003): Das Integrative Balanced-Scorecard-Konzept: Die praktische Umsetzung im Krankenhaus. Stuttgart: Kohlhammer.
- Rezaee, Z. (1995). What the COSO report means for internal auditors, *Managerial Auditing Journal*, 10 (6), 5-9.
- 78) Rigby, D. (2001). Management Tools and Techniques: A Survey, *California Management Review*, 43 (2) 139-160.
- 79) Rostami, M., Goudarzi, A. and Zaj, M. (2015). Defining balanced scorecard aspects in banking industry using fahp approach. *International Journal of Economics and Business Administration*, 1 (1), 25-38.





- 80) Sarens, G. and De Beelde, I. (2006). Internal auditors' perception about their role in risk management: a comparison between US and Belgian companies. *Managerial Auditing Journal*, 21 (1), 63-80.
- 81) Simon, A., Bartle, C., Stockport, G., Smith, B., Klobas, J. E. and Sohal, A. (2015). Business leaders' views on the importance of strategic and dynamic capabilities for successful financial and non-financial business performance. *International Journal of Productivity and Performance Management*, 64 (7), 908-931.
- 82) Silk, S. (1998). Automating the Balanced Scorecard. Management Accounting (USA), 79 (11), 38-42.
- 83) Simons, R. (2000). Performance Measurement and Control Systems for Implementing Strategy, Prentice-Hall, Inc., New Jersey.
- 84) Sohn, M. Ho, You, T., Lee, S. and Lee, H. (2003). Corporate Strategies, Environmental Forces, and Performance Measures: A Weighting Decision Support System Using the K-Nearest Neighbor Technique. *Expert Systems with Applications*, 25, 279-292.
- 85) Speckbacher, G., Bischof, J. and Pfeiffer, T. (2003). A Descriptive Analysis on the Implementation of Balanced Scorecard in German-Speaking Countries. *Management Accounting Research*, 14 (4), 361-387.
- 86) Stewart, J. and Subramaniam, N. (2010). Internal Audit Independence and Objectivity: Emerging Research Opportunities. *Managerial Auditing Journal*, 25 (4), 328-360.
- 87) Taticchi, P., Tonelli, F. and Cagnazzo L. (2010). Performance measurement and management: a literature review and a research agenda. *Measuring Business Excellence*, 14 (1), 4-18.
- 88) Tenhunen, J., Rantanen, H. and Ukko, J. (2001). SME-Oriented Implementation of a Performance Measurement System, Lahti, Finland: Department of Industrial Engineering and Management, Lappeenranta University of Technology.
- 89) Timm, R. W., Timmer, M. D., Widenhouse, T., Lang, M. M., Stammen, J. L., Knight, G. W. and Schmid, K. J. (2016). U.S. Patent No. 9,241,714. Washington, DC: U.S. Patent and Trademark Office.
- 90) Tjader, Y., May, J. H., Shang, J., Vargas, L. G. and Gao, N. (2014). Firm-level outsourcing decision making: A balanced scorecard-based analytic network process model. *International Journal of Production Economics*, 147, 614-623.
- 91) Tsaklagkanos, A. (2005). Auditing (2nd Edition). Thessaloniki: Kyriakidis Bros Publications.
- 92) Williams, S. (2001). Drive Your Business Forward with the Balanced Scorecard. *Management Services*, 45 (6), 28-30.
- 93) Wu, W. Y. and Liao, Y. K. (2014). A balanced scorecard envelopment approach to assess airlines' performance. *Industrial Management and Data Systems*, 114 (1), 123-143.
- 94) Zervopoulos, P. and Palaskas, T. (2010) Applying Quality-Driven, Efficiency-Adjusted DEA (QE-DEA) in the Pursuit of High-Efficiency High Quality Service Units: An Input-Oriented Approach, 8 th International Conference on Data Envelopment Analysis, Performance Management and Measurement: Lebanon.
- 95) Zolfani, S. H., Yazdani, M. and Zavadskas, E. K. (2018). An extended stepwise weight assessment ratio analysis (SWARA) method for improving criteria prioritization process. *Soft Computing*, 22 (22), 7399-7405.

