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# An Analysis of Impairment Recognition in the COVID-19 Period: Big Four Versus Non-Big Four

## *Uma Análise sobre Reconhecimento de Impairment no Período de COVID-19: Big Four Versus Não Big Four*

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marcio\_pimenta@id.uff.br**ABSTRACT**

The period of the COVID-19 pandemic has brought challenges to companies around the world, affecting their ability to generate revenue and causing changes in market conditions. Given these circumstances, the assessment of Impairment expenses has become crucial for companies to correctly reflect the recoverable value of their assets and provide serviced information to external users. Thus, we sought to carry out a comparative analysis on the recognition of Impairment in listed companies audited by the Big Four (the four largest audit firms in the world) versus non-Big Four during the period of COVID-19. The intuition of the analysis is that the companies audited by the Big Four companies face more difficulties in using accounting numbers opportunistically than other companies. The analysis seeks to understand the approaches adopted, the accounting policies applied, and the disclosures related to Impairment in different audit contexts. It is hoped that the results of this analysis will contribute to a more comprehensive understanding of the effects of COVID-19 on financial disciplines, loss assessment, and whether the pandemic would impact audit quality. In addition, the study aims to provide relevant insights for accounting, auditing and investors professionals, helping them to make outstanding decisions and to assess the quality of accounting information in times of crisis.

**Keywords:** Impairment, COVID-19, Big Four, audit, accounting policies, disclosures

**1. INTRODUCTION**

The sanitary crisis triggered by the coronavirus has resulted in drastic changes in market conditions, business operations and company projections, significantly affecting their assets and, consequently, the need to assess impairment.

Impairment, or the recoverable value of assets, is a highly relevant topic in the field of accounting and auditing. It refers to the periodic assessment of the value of certain assets in an entity, such as properties, investments, intangible assets and others, in order to check whether their book value exceeds their recoverable value, directly affecting the measurement and presentation of companies' financial statements. As highlighted by Oliveira, Camacho and Oliveira (2012), Impairment is a fundamental issue in accounting, as it significantly influences companies' financial statements, requiring the correct application of accounting guidelines to ensure the transparency of accounting information.

The proper assessment of impairment is essential to provide reliable information to users of financial statements and to support informed decision-making. Upon recognizing the impairment of an asset, the entity must adjust its carrying amount to reflect its recoverable amount, thereby reducing its equity. This reduction can have significant implications for users of financial statements, such as shareholders, investors, creditors and financial analysts, as it influences the assessment of the company's financial health, profitability and performance. According to Santos, Murcia and Oliveira (2013), accurate impairment analysis contributes to a more accurate assessment of companies' financial health and helps in making investment and credit decisions. Therefore, it is essential that Impairment measurement and disclosure policies are applied correctly.

In this context, the analysis of the impairment of companies audited by the Big Four and others during the COVID-19 period is justified by the magnitude of the economic and financial impacts generated by the pandemic. According to Locati (2021), times of crisis create unique opportunities for opportunistic actions due to all the significant pressures and uncertainties, entities enter survival mode by quickly exploring alternatives to ensure the continuity and stability of their business, often without sufficient time to adapt internal control procedures to these changes, and the alternatives adopted may create opportunities for illegal and fraudulent activities.

Thus, the experience and knowledge acquired in a variety of global contexts provide the Big Four with a competitive advantage in offering quality services (DeFond et al., 2021). With the expertise and influence of these large companies in the field of auditing, it can be suggested that the Big Four companies would offer better quality auditing services than their competitors. This analysis will reveal possible divergences in approaches, accounting policies adopted, and disclosures related to Impairment, providing insights on auditing practices during the crisis.

The pandemic has caused a global recession, with adverse effects on economic activities, supply chains and consumer demands. Studies show that uncertainty has led to a decrease in economic activity, negatively affecting financial markets (Baker et al., 2021). This has resulted in reduced revenues, financial constraints and volatility in the markets, requiring companies to reassess the recovery of the value of their assets.

The economic and financial uncertainties generated by the pandemic have affected the assumptions and estimates used in calculating the recoverable value of assets. Discount rates, cash flow projections and other key factors have changed, making it necessary to carefully adjust the book values. Thus, the main objective of the analysis is to assess the relationship between audit quality and impairment disclosure during the Covid-19 period.

The relevance of this study stems from the fact that COVID-19 has forced companies to reassess their business prospects and adjust their short- and long-term strategies. These changes in forecasts have direct implications for the assessment of impairment, since assets must reflect realistic expectations of cash generation.

It is important to emphasize that the analysis of Impairment during the pandemic not only provides a more comprehensive view of the effects of the crisis on the financial statements but also contributes to the transparency and reliability of accounting information, helping external users to make informed decisions.

## 2 THEORETICAL FRAMEWORK

### 2.1 Impact of COVID-19 on the economy

The COVID-19 pandemic has triggered an unprecedented global crisis, with profound impacts on the world economy with a sharp drop in global financial markets, with volatility in stock, bond and commodity prices. Studies show that uncertainty has led to a decrease in economic activity, negatively affecting financial markets (Baker et al., 2020).

Many studies and analyses have been conducted to understand the impact of COVID-19 on the world economy. According to McKibbin and Fernando (2020), the pandemic has effects on both supply and demand. On the supply side, the restriction measures have led to company closures, production stoppages and a reduction in the supply of goods and services. On the demand side, the crisis has generated uncertainty among consumers, reduced income and increased unemployment, leading to a drop in consumption and investment.

The magnitude of the economic impacts of COVID-19 is evident in various indicators. According to an analysis conducted by Marcio Borba (2022) focusing on the G20, which is the group of 19 countries + the European Union, from the point of view of Gross Domestic Product - GDP, it experienced a drop of -4.28% in 2020. The fluctuation of nations gives an idea of the size of the challenge the world economy has faced as a result of the pandemic,

Sectors such as tourism, transportation, retail and industries dependent on global supply chains have been particularly impacted. Studies by Baldwin and Tomiura (2020) highlight the vulnerability of these sectors in the face of travel restrictions and border closures. In addition, small and medium-sized businesses, which represent a significant portion of the economy, have faced financial and operational challenges, with a greater risk of bankruptcy (OECD, 2020).

The economic impacts of COVID-19 have also been felt in the financial markets. Volatility has increased, with sharp falls in stock indices and an increase in credit spreads. According to Baele et al. (2020), the pandemic has generated a simultaneous demand shock and a supply shock, negatively affecting financial asset prices and investor confidence.

With regard to the economic policies adopted, governments and central banks have implemented measures to stimulate and support the economy. Fiscal incentives, employment support programs and

expansionary monetary actions have been used to mitigate the negative impacts and promote economic recovery (Baldwin and Weder di Mauro, 2020).

In short, the impact of COVID-19 on the world economy is significant and far-reaching. The crisis affects both supply and demand aspects, with adverse consequences in various sectors and financial markets. Projections for economic recovery are still uncertain, depending on the control of the pandemic, the effectiveness of the policies adopted and the resilience of companies and countries.

### 2.2 Impairment

Impairment is an extremely important issue in accounting, as it deals with measuring and recording the devaluation of the assets of a company. According to Technical Pronouncement CPC 01 (R1), issued by the Accounting Pronouncements Committee (CPC), impairment occurs when the book value of an asset exceeds its recoverable value, i.e. the higher of the fair value net of selling expenses and the value in use.

The importance of impairment in accounting is due to the fact that its correct measurement has a direct impact on the financial statements of companies. An inadequate assessment can lead to distortions in the calculation of results, equity and the generation of reliable information for users of financial statements.

According to Iudicibus et al. (2019), Impairment is a fundamental tool to ensure the faithful representation of a company's equity, since it aims to reflect the updated value of assets in relation to their ability to generate future benefits. In addition, Impairment contributes to the efficient management of resources, allowing the company to make appropriate decisions regarding assets that are suffering devaluation.

In the context of the COVID-19 period, Impairment gains even more importance. The crisis caused by the pandemic has had significant impacts on economic activities, resulting in abrupt changes in market conditions and companies' ability to generate revenue. According to Leonardo Maia (2021), the analysis of Impairment indicators needs to be re-accessed considering the reality of entities in the pandemic scenario. In this scenario, the correct assessment of Impairment becomes essential so that companies can adequately reflect the recoverable value of their assets, considering the uncertainties and volatilities imposed by the crisis.

According to Almeida (2020), the COVID-19 pandemic has brought additional challenges to the assessment of impairment, especially due to the uncertainty regarding the future recovery of the cash flows generated by the assets. Companies face difficulties in projecting revenues, estimating the useful life of assets and determining appropriate discount rates. These uncertainties require companies and their auditors to adopt cautious approaches and consider additional information when assessing Impairment.

Regarding auditing, the assessment of impairment also presents challenges for auditors. Measuring impairment involves the use of significant estimates, which requires professional judgment and consideration of market conditions. In this sense, according to the Financial Accounting Standards Board (FASB, 2021), the audit plays an important role in analyzing these disclosures, verifying that they comply with regulatory requirements and that they are adequate to convey a clear and complete view of Impairment.

Therefore, the analysis of impairment is extremely important to ensure the transparency and reliability of accounting information in times of crisis, such as COVID-19. The correct measurement and disclosure of Impairment provides users of financial statements with a more accurate view of the company's assets and their financial impact. In addition, the role of auditors in reviewing and validating accounting policies contributes to the reliability of the information presented. According to Leonardo Maia (2021), auditing has the role of ensuring that information and disclosures are provided to enable

users of financial statements to understand the impacts of the COVID-19 pandemic on the equity and financial position of entities.

## 2.3 Audit Approach to Impairment Treatment

Impairment, or the reduction in the recoverable value of assets, is a relevant topic in accounting and audits, especially when significant economic events occur, such as economic recessions or financial crises. The way in which audits approach impairment is crucial to ensuring the proper measurement and disclosure of losses in the value of companies' assets. As highlighted in the International Accounting Standards Board report (2021), the correct measurement and disclosure of Impairment in financial statements is essential to provide relevant information to investors and creditors, allowing them to assess the financial health of companies and make informed decisions.

One of the approaches commonly used by audits in the treatment of Impairment is based on internationally recognized accounting standards, such as the International Financial Reporting Standards (IFRS) and Generally Accepted Accounting Principles (GAAP). These standards establish criteria and guidelines for measuring impairment and require companies to periodically review the book value of assets for possible losses in value (IASB, 2015).

However, despite the existence of accounting standards, their interpretation and application can vary between audits. Different audit firms may adopt different approaches to the identification, measurement and disclosure of impairment, which can result in variations in results and estimates (Groot et al., 2020). These differences can be related to the experience and knowledge of the auditors, as well as the internal policies and guidelines of the audit firm.

Another important approach in audits is to assess the risk management and accounting estimates made by the audited company. Auditors should consider the quality of the information and assumptions used to calculate impairment and assess whether they are reasonable and consistent with market conditions (Cohen et al., 2017). The ability of auditors to identify possible biases or distortions in accounting estimates is essential to ensure the reliability and objectivity of audit results.

Furthermore, audits can also consider other sources of evidence, in addition to the information provided by the audited company, such as macroeconomic data, market analysis and comparability with other companies in the same sector (Wu et al., 2019). This additional information can help auditors gain a broader view of the economic environment in which the company operates and help identify possible signs of Impairment.

## 2.4 Big Bath

The concept of Big Bath refers to an accounting practice used by some companies which consists of recognizing extraordinary losses in a given accounting period in order to reduce profit and create reserves to be used in the future. This practice can be adopted with the aim of improving financial results in future periods, creating a more favorable basis for comparison (Frankel et al., 2016).

One of the main reasons why companies may choose to conduct a Big Bath is the need to justify poor performance in a given accounting period. By concentrating all losses in a single period, the company can attribute the negative results to specific, non-recurring events, which can reduce the perception of mismanagement and convey the idea that the company is taking steps to rectify the situation (Dechow et al., 2010).

Although the concept of Big Bath is not an illegal practice, it is important to note that its use can distort the company's financial reality and make it difficult to accurately analyze its results. By concentrating

losses in a single period, the company can mask ongoing problems and make it difficult to identify trends and the organization's real performance (Ravi et al., 2020).

In addition, the practice of Big Bath can generate distrust on the part of investors and stakeholders, as it can be interpreted as a strategy to manipulate accounting results. The lack of transparency and the perception that the company is managing its numbers can damage the credibility and trust of stakeholders, affecting the evaluation and decision-making related to the company (Zhou et al., 2018).

However, it is important to note that not all companies adopt the Big Bath concept. Some organizations have the principle of transparency and adequate disclosure of their financial information, avoiding accounting practices that could distort the reality of the results. The adoption of strict accounting standards and the professional ethics of managers and auditors can help to avoid the misuse of Big Bath (Rees et al., 2019).

## 2.5 Previous comparisons made on Impairment and its importance for the accounting scenario

Impairment or reduction in the recoverable value of assets is a relevant topic in the accounting field, because it affects the proper measurement and disclosure of companies' assets. Over time, a number of comparisons have been made to assess how impairment is treated and its importance in the accounting scenario.

One of the comparisons made is regarding the approach to impairment in national accounting standards compared to international standards, such as the International Financial Reporting Standards (IFRS). Studies have shown that the adoption of IFRS by several countries has brought greater harmonization and consistency in the measurement and recognition of Impairment (Christensen et al., 2013). This makes it easier to compare the financial results of different companies and strengthens the transparency and reliability of accounting information.

Another relevant comparison is the way in which different industry sectors treat impairment. Some studies have shown that certain sectors, such as the financial sector, may face unique challenges in measuring Impairment, due to the complexity and nature of the financial instruments involved (Grimmer, 2014). These comparisons are important to identify possible divergences and specific challenges faced by different sectors, contributing to the improvement of accounting practices and Impairment recognition policies.

In addition, comparisons between companies audited by the Big Four and other auditing firms have also been analyzed. Studies have shown that companies audited by the Big Four are generally less likely to recognize impairment compared to companies audited by other audit firms (Hung et al., 2018). This difference can be attributed to the reputation and expertise of the Big Four, who have the resources and specialized knowledge to help companies measure and properly recognize impairment.

The importance of Impairment in the accounting scenario can also be assessed through its relationship with the quality of accounting information. Studies have highlighted the relevance of impairment as an indicator of the quality of accounting information, as it reflects companies' ability to adequately measure the recoverable value of their assets (Dechow et al., 2019). The quality of accounting information is fundamental for the decision-making of financial statement users, such as investors and creditors.

## 2.6 Audit quality

Audit quality is a broad and multidimensional concept. According to Arens et al. (2020), audit quality can be defined as the adequacy of the work performed by the auditor in relation to professional stan-

dards and the expectations of the users of the financial statements. This definition encompasses several dimensions of audit quality.

According to Almeida et al. (2021), technical competence is one of the primary dimensions of audit quality. It involves the knowledge, skills and experience of the professionals responsible for the audit. Competent auditors have solid technical knowledge, understand auditing standards and accounting practices, and apply appropriate methods to obtain evidence and identify risks.

Independence is a critical dimension of audit quality, as it guarantees the impartiality and objectivity of the auditor's work. According to Andrade et al. (2021), independence is one of the essential dimensions of audit quality, both in appearance and in reality, in order to maintain the confidence of the users of the financial statements in the audit work.

Professional ethics is another essential dimension of quality auditing. It involves adherence to ethical principles such as integrity, objectivity, confidentiality and professional competence. As pointed out by Santos et al. (2021), professional ethics is a central dimension of audit quality. The integrity and ethical conduct of auditors are fundamental to credibility and trust in the audit process. Ethical auditors follow codes of conduct and professional standards, acting with integrity and respecting the interests of the parties involved.

Quality control is a dimension that refers to the internal procedures and policies adopted by auditing firms to guarantee the quality of their work. It includes reviewing and supervising audit processes, establishing internal guidelines and standards, and conducting tests and monitoring procedures. According to Silva et al. (2021), quality control of the audit process is an important dimension of audit quality. The implementation of a robust quality control system contributes to the standardization of work and the continuous improvement of audit processes.

### 3 METHODOLOGY

This section will describe the procedures undertaken to highlight the effects of audit quality on the impairment recognition levels of publicly traded companies during COVID-19. The classification of the research, the selection of the sample and the statistical tests used to verify the difference between companies audited by the Big Four and the rest of the companies are shown.

#### 3.1 Research classification

According to the taxonomy proposed by Vergara (1998), research is classified by means and ends.

In terms of purpose, this research is exploratory, descriptive and explanatory. Exploratory due to the need for greater knowledge about the subject, providing an overview of it through research into articles, dissertations and the internet. Descriptive, because it aims to expose the main characteristics of the subject; and explanatory because its main objective is to make the subject intelligible.

In terms of means, the research is bibliographical and field research. The research is of the bibliographical type because it uses materials accessible to the general public such as books and electronic networks, as described by Vergara (1998), with the aim of building the theoretical basis that provides support for the research.

#### 3.2 Model used

The statistical technique of linear regression was used in this study. Previous analyses by Esteves L. (2020) to understand which factors can influence the recognition of goodwill impairment losses

had the data treated and analyzed using the same analytical method. The study presented 9 variables, 3 of which proved to be significant in explaining goodwill impairment losses, ranging from 1% to 10% statistical significance.

Another good example to justify our strategy is the study conducted by Charles E. Jordan & Stanley J. Clark (2015) on Canadian companies and whether they use Big Bath accounting when recording goodwill impairment losses. The statistical technique used was the same as cited above and evidence was found in the study to suggest that goodwill impairment losses in Canada were not recorded in a timely manner, but instead were recognized only after several years of substandard earnings had occurred, indicating that managers are recording impairment to provide relevant information to users of financial statements.

Based on this, we used a linear regression which represents the influence of the audit quality variable, represented by the Big Four dummy<sup>1</sup>, assigning 1 to companies audited by the Big Four and 0 to the others. We also used the variable Impairment weighed by total assets as our independent variable. According to Equation 1:

$$Impairment_{i,t} = \beta_0 + \beta_1 BigFour_{i,t} + \varepsilon_{i,t} \quad (1)$$

In which:

$Impairment$  = Impairment expense/Total assets

$Big Four$  = Dummy for audit quality, 1 for Big Four and 0 for the others.

In this way, the level of significance of the explanatory power of the variable of interest in relation to the levels of impairment recognized by the companies during the Covid-19 period was verified.

#### 3.3 Sample selection

For our sample, we used the database provided by Prof. Marcelo Perlim, a reference in the publication of R codes in the financial area in Brazil, who kindly provided the data extracted from the Securities and Exchange Commission of Brazil (CVM) by its code on his website: <https://msperlin.com/data/>.

The period selected was from 20192 (the year of the world's first Covid-19 case) to 20213 (the year of the first vaccine in Brazil). In addition, we selected the companies that disclosed impairment expenses, which totaled 185 observations from 92 companies. Table 1 shows the descriptive data:

| In thousands of reais |   | Impairment |
|-----------------------|---|------------|
| Mean                  | - | 537.836    |
| Median                | - | 9.593      |
| Standard Deviation    |   | 3.165.767  |
| Maximum               | - | 34.259.000 |
| Minimum               |   | - 24       |
| Note.                 |   | 185        |

Source: Prepared by the authors

Thus, it can be seen that there was great variability in the data due to the different types and sizes of company. However, in order to carry out the linear regression, we chose to divide the values by the assets in order to make the data equivalent.

<sup>1</sup> In statistics or econometrics, particularly in regression analysis, a dummy variable is one that takes the value of "zero" or "one" indicating the absence or presence of qualities or attributes.

<sup>2</sup> <https://exame.com/ciencia/primeiro-caso-de-covid-19-no-mundo-completa-dois-anos/>

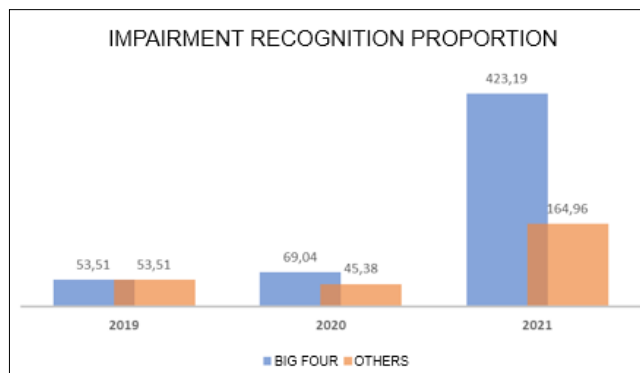
<sup>3</sup> <https://portal.fiocruz.br/noticia/brasil-celebra-um-ano-da-vacina-contra-covid-19>



### 4. ANALYSIS OF RESULTS

The first analysis was based on the total balance of the companies' assets, divided by the amount of impairment recognized in the financial statements of the sample collected, as shown in Figure 1.

**Figure 1 - Comparison between companies audited by the Big Four and the others**



Source: Prepared by the authors

The results showed that in 2019, before the pandemic was officially declared, the proportion of impairment recognition among companies that were audited or not by a Big Four was equivalent. Thus, for every R\$53.51 in assets, R\$1.00 was recognized as asset impairment. According to the data, on average, 1.87% of the asset values during the period analyzed were recognized as an impairment loss and were recorded in the income statement for the period.

The data related to subsequent years began to undergo evident changes related to the decree of a state of pandemic by the Coronavirus.

In order to guarantee the reliability, robustness and significance of the relationship between the variables, the sample was subjected to statistical validation using the linear regression technique carried out in accordance with the methodology. After the calculations, the results are shown in Table 2.

**Table 2 - Linear Regression Results**

|                               |        |
|-------------------------------|--------|
| R-Squared                     | 0,05   |
| Coefficient <i>Impairment</i> | - 1,71 |
| T-Statistic                   | - 3,11 |
| P-value                       | 0,00   |

Source: Prepared by the authors

It can be noted that the fact that companies are audited by a Big Four company has a negative impact ( $\beta$  of -1.71 and T-Statistic of -3.11) on the amount recorded as impairment, with statistical significance of 99% (P-Value of 0.00) and explanatory power of 5% ( $R^2$  of 0.05). This suggests that Big Four audit companies play a fundamental role in preventing Big Bath activities, which are detrimental to the corporate transparency of companies. In this way, companies audited by the Big Four are more reluctant to excessive recognize expenses due to the thorough investigation of the justifications for accounting decisions.

In this way, our results are in line with the auditing literature, which states that auditing is an important driver of good accounting practi-

ces, acting in line with the idea of mitigating the informational asymmetry permeated by the corporate capital environment.

### 5. FINAL CONSIDERATIONS

The main objective of this research was to assess the relationship between audit quality and impairment disclosure. To do this, we used the impairment balances and total assets from 2019 to 2021 of the listed companies audited by the Big Four and other companies.

After collecting the data, an analysis was conducted through which it can be inferred that companies audited by the Big Four have a lower recognition of asset devaluation compared to other companies at the time of the Covid-19 pandemic, suggesting an inhibition of Big Bath activities.

In general, this work confirms the studies conducted by Hung et al. (2018) that found that the "Big Four" are less likely to recognize inadequate impairment.

Previous comparisons conducted on Impairment and its importance in the accounting scenario have contributed to the improvement of accounting practices and recognition policies. The adoption of international standards, sector analysis, the differences between companies audited by the Big Four and other auditing firms, and the relationship with the quality of accounting information are all relevant aspects to be considered in understanding and properly applying impairment.

The Big Bath concept involves the accounting practice of recognizing extraordinary losses in a given period in order to improve future results. Although legal, this practice can distort the company's financial reality and damage transparency and stakeholder confidence. It is essential that companies adopt sound accounting standards and professional ethics to avoid the misuse of Big Bath and ensure accurate disclosure of their financial information.

In addition, the study shows the high reliability of the market in relation to Deloitte, EY, PWC and KPMG, since they prevent the use of the Big Bath strategy (earnings management tool), making the financial statements more reliable to the companies' scenario.

A limitation of this study is the small number of companies listed on the Securities and Exchange Commission (CVM) that presented impairment in their financial statements in 2019, 2020 and 2021, making it impossible to analyze and compare the companies audited.

Independent auditors should be more active in highlighting the recoverable value of assets. It is also up to independent auditing firms to provide training and disclosures on the correct approach so that good practices in issuing financial statements are used. A standardized audit approach would give stakeholders greater reliability in the information disclosed.

Audit approaches to the treatment of impairment involve the application of accounting standards, the assessment of risk management and accounting estimates, and the use of additional evidence. Although there are standards and guidelines to be followed, the interpretation and application of these standards may vary between audits. The ability of auditors to exercise professional judgment, considering the quality of the information and adopting an analytical approach, is essential to ensure an adequate analysis of impairment.

In summary, the Big Four stand out from other companies in the same industry due to their size, global presence, financial capacity and established reputation in the market. These factors give the Big Four a competitive edge, allowing them to serve multinational clients, offer high quality services and maintain a leading position in the accounting and auditing services sector.

Based on the study conducted, an analysis of the scenario in the years following the pandemic and according to economic sectors is proposed for future research.

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