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Analysis of Goodwill in Brazilian Listed Companies: An Examination of its Representativeness, Disclosure Quality, and Impairment Tests

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Resumo

Objetivo: verificar a qualidade da evidenciação, a representatividade do goodwill reconhecido e os testes do valor recuperável realizados nas companhias abertas brasileiras. **Método:** Com base nas informações do Economática, foram identificadas 33 empresas com goodwill reconhecido no Balanço Patrimonial em 31/12/2022, sendo estas que constituíram objeto de estudo nesta pesquisa. Para análise do nível de evidenciação, foram elaboradas duas listas de verificação com base nas normas aplicáveis ao goodwill e aos seus testes do valor recuperável. **Resultados:** revelam que nenhuma empresa atendeu por completo todos os requisitos de divulgação do CPC 15 (R1) e CPC 01 (R1). Com relação à expressividade, o goodwill se mostrou o mais representativo dentro do grupo do intangível, especialmente no setor químico. A evidenciação dos testes do valor recuperável (impairment test) do goodwill foi baixa por parte da amostra, especialmente no setor de construção. Quanto à qualidade da divulgação do goodwill reconhecido, a maior parte dos itens da lista de verificação se classificou como "Deficiente", nenhum item obteve a classificação de "Ótimo". **Contribuições:** os resultados evidenciam a persistência da complexidade do goodwill e deficiências na divulgação dos seus testes de impairment, sugerindo que os avanços regulatórios ainda não foram suficientes para preencher todas as lacunas na transparência e divulgação de informações relacionadas a este ativo.

Palavras-Chave: Goodwill. Testes de Impairment. CPC 01 (R1). CPC 15 (R1).

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Abstract

Objective: was to assess the quality of disclosure, the representativeness of recognized goodwill, and the impairment tests conducted in Brazilian public companies. **Method:** Based on data from Economatica, 33 companies with recognized goodwill on their Balance Sheet as of 31/12/2022 were identified, which constituted the sample for this study. For the analysis of the disclosure level, two checklists were developed based on the applicable standards related to goodwill and its impairment tests. **Results:** reveal that no company fully complied with all disclosure requirements of CPC 15 (R1) and CPC 01 (R1). Regarding significance, goodwill was found to be the most representative component within the intangible asset group, particularly in the chemical sector. The disclosure of goodwill impairment tests was low among the sample, especially in the construction sector. In terms of the quality of goodwill disclosure, most items on the checklist were classified as "Deficient," and no item received the classification of "Excellent." **Contributions:** the results highlight the ongoing complexity of goodwill and the deficiencies in the disclosure of its impairment tests, suggesting that regulatory advances have not yet been sufficient to bridge all gaps in transparency and information disclosure related to this asset.

Keywords: Goodwill. Impairment Tests. CPC 01 (R1). CPC 15 (R1).

Análisis del Goodwill en las Compañías Abiertas Brasileñas: Una Mirada a su Representatividad, Calidad de la Evidenciación y a las Pruebas de su Valor Recuperable

Resumen

Objetivo: verificar la calidad de la divulgación, la representatividad del goodwill reconocido y las pruebas de valor recuperable realizadas en las compañías abiertas brasileñas. **Método:** Con base en la información de Economatica, se identificaron 33 empresas con goodwill reconocido en el Balance General al 31/12/2022, las cuales constituyeron el objeto de estudio de esta investigación. Para el análisis del nivel de divulgación, se elaboraron dos listas de verificación basadas en las normas aplicables al goodwill y sus pruebas de valor recuperable. **Resultados**: revelan que ninguna empresa cumplió completamente con todos los requisitos de divulgación de las normas CPC 15 (R1) y CPC 01 (R1). En cuanto a la representatividad, el goodwill resultó ser el componente más representativo dentro del grupo de activos intangibles, especialmente en el sector químico. La divulgación de las pruebas de valor recuperable (test de deterioro) del goodwill fue baja por parte de la muestra, particularmente en el sector de la construcción. En cuanto a la calidad de la divulgación del goodwill reconocido, la mayoría de los ítems de la lista de verificación fueron clasificados como "Deficientes", y ningún ítem recibió la clasificación de "Excelente". **Aportes:** los resultados evidencian la persistencia de la complejidad del goodwill y las deficiencias en la divulgación de sus pruebas de deterioro, lo que sugiere que los avances regulatorios aún no han sido suficientes para cerrar todas las brechas en la transparencia y la divulgación de información relacionada con este activo.

Palabra clave: Goodwill. Pruebas de Deterioro. CPC 01 (R1). CPC 15 (R1).

Introduction

In recent decades, business combinations have become a widely used strategy by companies to expand their operations, replacing traditional organic growth. According to Baker *et al.* (2014), while the development of new products was previously the main form of expansion, mergers and acquisitions have now become routine practices for market diversification and management strengthening.

These transactions often result in the accounting recognition of the *goodwill*, intangible asset associated with the expectation of future profitability of the acquired company (Santos *et al.*, 2022). According to the *Financial Accounting Standards Board* (FASB, 2022), *goodwill* represents intangible factors that generate above-average profits, not individually recognized.

In the accounting context, *goodwill* must be tested annually for its recoverable amount, as required by IFRS 3 and the Brazilian accounting standards CPC 15 (R1) and CPC 01 (R1). These tests, known as *impairment test*, are essential to ensure that the *goodwill* continue to reflect future economic benefits and to be adequately evidenced (Carvalho & Rodrigues, 2010; CPC 15 R1, 2011).

However, studies such as those by Vogt *et al.* (2015) and Stenheim and Madsen (2016) show that the recognition of *goodwill* impairment losses may be influenced by managerial incentives, affecting the quality of accounting information. In this regard, Khairi *et al.* (2012) identified significant gaps in compliance with the requirements of IAS 36 in relation to the disclosure of *goodwill impairment*. In Brazil, research such as Reimann and Schmidt (2010) and Pacheco *et al.* (2017) also indicate the existence of subjectivities and deficiencies in the measurement and disclosure of *goodwill* after business combinations.

In this context, a research gap is evident regarding the quality of disclosure and the representativeness of *goodwill* in Brazilian publicly traded companies, especially considering the current relevance of the topic in the national corporate environment.

Considering the complexity of *goodwill* and the disclosure deficiencies pointed out in the *impairment*, aiming to bring contributions to the topic, the following research problem was elaborated: **The quality of the evidence and the representativeness of the *goodwill* recognized and its recoverable amount tests performed in Brazilian public companies?** The objective of this research is to verify the quality of the evidence, the representativeness of the *goodwill* recognized, as well as the recoverable value tests performed in Brazilian public companies.

This study aims to contribute to the literature on business combinations and *accounting disclosure quality*, especially regarding the measurement, disclosure, and *impairment* testing of *goodwill*, complementing previous studies such as those by Stenheim and Madsen (2016), Khairi *et al.* (2012), and Reimann and Schmidt (2010).

The relevance of the research intensifies in the face of the significant volume of recent business combinations in Brazil. An example is the acquisition of Avon by Natura & *Co Holding* S.A., which resulted in *goodwill* of R$11.5 billion (Natura & *Co Holding* S.A., 2021), requiring annual *impairment* tests to assess whether the expectation of future economic benefits is being maintained.

Thus, the results of this study are expected to provide support for the improvement of *disclosure* practices by publicly traded companies and serve as a basis for researchers and regulators in enhancing the standards related to the accounting treatment of *goodwill*.

Theoretical Framework

Evidence of *goodwill* and the recoverable amount tests

In recent decades, business combinations have become a strategy widely used by companies to expand their activities. According to Baker *et al.* (2014), if before the development of new products and expansion into new markets were the traditional forms of growth, today many companies choose to expand through mergers and acquisitions, known as business combinations.

These operations often result in the recognition of the *goodwill*, an intangible asset related to the expectation of future profitability of the acquired company (Santos *et al.*, 2022).

According to the *Financial Accounting Standards Board*, *goodwill* comprises all intangible factors that enable a company to generate above-average profits and that cannot be separately recognized (FASB, 2022).

From an accounting perspective, *goodwill* is defined as an asset that generates future benefits arising from other assets acquired in a business combination, but which are not individually identifiable (CPC 15 R1, 2011).

Considered an asset with an indefinite useful life, *goodwill* is not amortized but must be subjected to the *impairment test* at least annually, being allocated to Cash Generating Units (CGUs) (CPC 01 R1, 2010).

IFRS 3, issued by the *International Accounting Standards Board* (IASB), governs the accounting aspects of business combinations, imposing greater complexity both in the subsequent measurement of *goodwill* and in the level of required disclosures (Carvalho & Rodrigues, 2010). In Brazil, this regulation was incorporated by CPC 15 (R1), which addresses the recognition and measurement of *goodwill*, aligned with IFRS 3.

Souza and Borba (2017) further emphasize that in business combinations it is essential to identify the acquirer, the party that obtains control, who must apply the acquisition method

by measuring the acquiree's assets and liabilities at fair value to determine the adjusted equity and recognize the transaction's *goodwill* and any excess payment.

Due to the inherent subjectivity in the recognition and application of the *impairment test* on *goodwill*, CPC 15 (R1) requires that if the mandatory disclosures are insufficient, the acquirer must provide additional information necessary for users' full understanding.

Empirical studies show that the losses determined in the test of the recoverable amount of the *goodwill* can significantly impact companies ' results, equity ,and cash flows (Vogt *et al.*, 2015).

It is important to highlight that *impairment tests*, also known as deterioration or impairment tests, involve a high degree of subjectivity, especially when there are incentives for earnings management (Stenheim & Madsen, 2016).

The low quality of the disclosures of *impairment* is a recurring theme. Khairi *et al.* (2012) point out that 90% of the companies evaluated did not comply with the basic requirements of IAS 36, particularly regarding the allocation of *goodwill* to CGUs and the assumptions used in estimating the recoverable amount.

In the Brazilian context, Reimann and Schmidt (2010) highlighted the complexity of measuring *goodwill* and the influence of external and internal factors that can lead to *impairment* losses, emphasizing the possibility that such indicators may be managed by companies.

Pacheco *et al.* (2017) also identified that, despite the low number of companies that recognized *goodwill impairment* losses, those that did showed a greater reduction in the expectation of future profitability following business combinations.

Historically, the concept of *goodwill* evolved. Over time, the concept expanded to include the synergy between tangible and intangible assets, management, sales force, location, and customer loyalty (Martins *et al.*, 2009).

The standard CPC 01 (R1, 2010) conceptualizes the *goodwill* as an asset that represents future economic benefits from non-individualized assets, so it must necessarily pass the recoverable amount test. *Goodwill* gained even more prominence, as it represents the difference between the amount paid by the acquiring company and the fair value of the identifiable net assets of the acquired company (CPC 15, R1, 2011).

For the purposes of recoverable amount testing, the *goodwill* should be allocated to the corresponding CGU. Carlin studies *et al.* (2007) identified inconsistencies in the disclosures of *impairment* in Australian corporations, especially in the detailing of CGUs and the procedures adopted.

Costa *et al.* (2023) emphasize that if the recoverable amount of the CGU is lower than its carrying amount, the loss must be initially allocated to *goodwill*, with any remaining amount distributed among the other assets. In this sense, Stenheim and Madsen (2016) observed that the absence of adequate corporate governance increases the subjectivity in *impairment*.

Oghoghomeh and Akani (2016) also warn about the possibility of inflated assets and aggressively managed earnings due to the subjectivity of *impairment* estimates, which can compromise the quality of financial statements.

Alauro (2013) systematized three main lines of research on *goodwill impairment*: (i) the use of *impairment* for earnings management; (ii) the impact of loss recognition on market values and stock returns; and (iii) the quality of *impairment* disclosures.

In the Brazilian scenario, Souza (2015) found a deficiency in the dissemination of information on the recoverability of *goodwill* in the Explanatory Notes. Similarly, Avallone and Quagli (2015) found that managers manipulate variables such as the long-term growth rate to minimize or avoid *impairment* losses, reinforcing the need for stricter regulations to mitigate opportunistic behavior.

These results suggest that subjective estimates and information asymmetries increase the risk of strategic use of impairment tests, making regulatory oversight of the disclosure of key assumptions essential, such as growth and discount rates (Avallone & Quagli, 2015).

Finally, the classification of *goodwill* as an asset with an indefinite, but not infinite, useful life implies a foreseeable limit to the generation of economic benefits and reinforces the need for rigor and transparency in the measurement of its recoverable amount (Costa *et al.*, 2023).

Thus, it can be inferred that the topic of *goodwill* and its respective impairment tests still raise important questions regarding the subjectivity and the quality of its accounting disclosure. Updated and in-depth research is essential to understand how companies are implementing these standards in practice and to promote advancements in the accounting literature on *disclosure*,corporate governance, and the quality of financial information.

Accounting *disclosure*

According to Verrecchia (2001), if a manager's goal is to maximize the company's performance and there are costs associated with it, there are equilibria in which information that favorably enhances performance is disclosed, while information that unfavorably affects it is withheld.

In this context, Pernamasari and Tanjung (2022) explain that one of the opportunistic practices of the manager is results management. This behavior arises due to the high information asymmetry between investors and managers, as well as weak regulation and control. If information asymmetry is high, stakeholders lack the resources, incentives, or sufficient access to relevant information to effectively monitor managers' actions.

Nurcholisah (2016) discusses that financial distortions or low-quality financial statements, such as hiding the actual performance in a given period, can cause information asymmetry. Information asymmetry occurs when one or more parties involved in a transaction process receive reliable or more information compared to other parties also involved in the transaction process.

Thus, the imbalance of information, both from the owners (investors) and from the managers of the company, can lead to informational asymmetry, which according to the agency theory, can provide benefits for managers in maximizing their personal benefits to the detriment of the interests of investors and other external users (Pernamasari & Tanjung, 2022).

Gunawan and Lina (2015) explain that, aiming to reduce information asymmetry, there are two types of *disclosure*, it can be done mandatorily or voluntarily. Mandatory *disclosure* is the information disclosure required by law, which mandates the presentation of information in the financial statements as established by the Securities and Exchange Commission. Voluntary *disclosure*, on the other hand, refers to the release of information beyond the minimum requirements set by the applicable capital market regulations.

The Theory of Voluntary *Disclosure* is based on the central premise that *disclosure* is an endogenous event, where managers and/or companies have economic incentives to disclose, or not, information voluntarily, given that external users of financial statements are the consumers of this information (Verrecchia, 2001).

According to Barako (2007), voluntary *disclosure* presents an excellent opportunity to apply agency theory, in the sense that managers, who have better access to a company's inside information, can communicate reliably with the market to optimize the company's value.

Kirch *et al.* (2012) state that financial disclosure practices (corporate disclosure) are an important mechanism in the functioning of an efficient capital market because they provide investors and potential investors with useful and reliable information about a company's operations, processes, and management. Thus, companies must provide and make available a

minimum amount of *disclosure* mandatory, such as financial statements, explanatory notes and management reports. The objective is to mitigate the problems arising from the existence of informational asymmetries in the capital market and, consequently, to enable its more efficient functioning.

Murcia and Santos (2009) sought to identify the factors that explain the level of voluntary *disclosure* among publicly traded companies in Brazil across six categories: Business Environment, Operational Activity, Strategic Aspects, Financial Information, Financial Ratios, and Corporate Governance. They found that companies that are more regulated and adopt stricter standards tend to have a higher level of *disclosure*.

For Peixe *et al.* (2023), companies have the ability to build relationships of trust with their stakeholders and add value by adopting the practice of information disclosure. The trust a company earns is intrinsically linked to the information it publicly discloses to stakeholders.

According to Lopes *et al.* (2007), the theoretical advances that preceded modern financial theory played a key role in recognizing the importance of information in capital markets. Accounting disclosure has emerged as one of the most widely studied areas in Finance, where key concepts such as risk, return, optimization, immunization, asset pricing, and other derivatives have been formalized and integrated into this theory.

It appears that accounting disclosure is an essential component in driving financial decisions and promoting market efficiency. In this context, the agency theory gains prominence, as transparent disclosure contributes to mitigating conflicts of interest between principals and agents. Moreover, the practice of *disclosure* becomes relevant by providing clear and accessible information, thereby reducing information asymmetries and enabling more informed decision-making.

Accounting transparency has a direct impact on the quality and credibility of the financial information disclosed, influencing the confidence of *stakeholders*. Taken together, these factors demonstrate the vital interconnection between accounting disclosure and fundamental aspects of agency theory, *disclosure* practices, earnings management, and information asymmetry in financial markets.

Similar studies

To gather previous studies, a search was conducted in the *Scientific Periodicals Electronic Library* (SPELL), the CAPES Journals Portal, and *Google* Scholar. The keywords used in the search were: *Goodwill*, Loss per *impairment*, CPC 01 (R1), CPC 15(R1), IAS 36, and *Impairment Test*.

The survey returned 17 articles related to the theme of this research. Only 08 of these articles have a similar approach to the present investigation. Table 1 presents the previous studies on the theme of loss by *impairment* of assets and *goodwill*.

Table 1
SIMILAR RESEARCHES

Authors	Objective and period analyzed	Result
Tavares *et al.* (2010)	Evidence whether the sectors classified by Bovespa complied with the recognition, measurement, and disclosure policy recommended by the CPC 01 pronouncement regarding the operationalization of the loss due to *impairment*. The period analyzed was the year 2008.	The authors found that none of the analyzed sectors fully met the requirements recommended by the CPC 01 regulation.

Alauro (2013)	Examine the quality of disclosure on impairment of the *goodwill* and its relationship with the magnitude of its write-off and with the performance of profits. The period analyzed was the years from 2006 to 2008.	The author verified that there is inherent subjectivity to the premises of the test of reduction to recoverable value, suggesting that this could be used opportunistically by managers.
Mazzioni *et al.* (2013)	Verify the factors determining the level of compliance in the disclosure of information relating to the write-down of assets (*impairment test*), required by CPC 01, of companies listed on BM&FBOVESPA. The period analyzed was the years 2010 to 2011.	The results showed that companies with higher levels of corporate governance mechanisms are more transparent than companies without such a characteristic, at least in relation to the evidence of the *impairment test*.
Vogt *et al.* (2015)	To investigate the determinants of *goodwill impairment* loss recognition The sample comprised 43 companies listed on the BM&FBOVESPA that reported losses per goodwill *impairment.* The period analyzed was the years from 2009 to 2013.	It was generally concluded that, unlike international studies, the *goodwill impairment* losses recognized by the analyzed companies were not driven by specific factors, making it impossible to identify particular motivations behind the recognition of such losses.
Oghoghomeh and Akani (2016)	To inform users of accounting information about the relationships that asset impairment losses may have with the value of the firm. The period analyzed was the year 2016.	The study found that the tests applied to the recoverable amount of assets presented by IAS 36 are subjective and that the estimates are probably not verified, and therefore can lead to inflated net assets, aggressively managed profits, and decisions on the applicability of the tests only for the purpose of managing results.
Souza e Borba (2017)	To examine the *value relevance* of the *disclosure* level regarding business combinations and *goodwill* recognized for expected future profitability in Brazilian publicly traded companies. The period analyzed was the years from 2010 to 2013.	The research revealed that none of the companies analyzed fully disclosed all the determinations issued by CPC-01, with regard specifically to the disclosure of loss on recoverable amount of assets.
Marinho *et al.* (2018)	To verify whether companies listed in the Novo Mercado segment of B3 are complying with the requirements established by CPC 01 (R1) regarding the impairment of assets. The period analyzed was the years 2011 to 2012.	It was found that most companies claim to perform *impairment* tests; however, they do not disclose the methodologies used, and the information provided is often unclear and lacking in objectivity, which hinders users' understanding of such disclosures.
Coast *et al.* (2023)	Conduct a comparative analysis between the different ways of reducing the book value of *goodwill*, in light of the *Iasb Discussion Paper*/2020/1. The period analyzed was the years from 2020 to 2021.	The authors identified that the *impairment* test, currently used to reduce *goodwill*, presents several limitations, such as high cost, delayed recognition, and the *shielding* effect. The reflection developed proposes that the permanence of this test as the only form of subsequent accounting for goodwill implies a reduction in the quality of accounting information; thus, other forms of reduction are recommended to more reliably represent the values contained in the financial statements

Source: Prepared by the authors (2024).

The studies referenced in Table 1 aimed to highlight the *disclosure* related to *goodwill impairment* losses, their recognition, and the relationship with key indicators for their reporting during the early years of the implementation of accounting standard CPC 01 (R1), as well as with prior research on the subject.

As researchers explore the complexity of *disclosure* accounting, they recognize the importance of considering subjective factors that permeate disclosure decisions. In the studies presented in Table 1, factors such as corporate governance, profitability, earnings, and market indicators influence, to some extent, the quality of the information, leading to limited and even misleading user understanding due to the lack of broader disclosure.

Research methodology

Population and research sample

We analyzed all Brazilian publicly traded companies listed on Brasil, Bolsa Balcão (B3) that had *goodwill* on the balance sheet of 31/12/2022. To identify the research sample, the Economática *software* was used, through which 36 companies were initially found. However, it was identified that two of them had a parent-subsidiary relationship; therefore, to avoid data duplication, only the parent company was retained. A company in the financial sector was also identified, in which the recognized loss was not within the scope of CPC 01 (R1), so it was also excluded from the sample.

Thus, the final sample object of study in this research made up a total of 33 companies for the fiscal year ending in 2022. Table 4 shows the sample of companies by sector.

Table 4
RESEARCH SAMPLE BY INDUSTRY SECTOR

Sector	Quantity
Agriculture and Fishing	2
Food and Beverages	2
Retail	2
Construction	1
Cyclic Consumption	3
Electronics	1
Electric Power	2
Industrial Machinery	2
Basic Materials	1
Non-Metallic Minerals	1
Chemistry	2
Health	3
Steel and Metal industry	2
Software and Data	3
Telecommunication	1
Transport and Services	1
Public Utility	1
Vehicles and Parts	3
Total	**33**

Source: Prepared by the authors based on research data (2024).

As can be seen in Table 4, the research sample consisted of 33 companies divided into 18 different sectors. The explanatory notes of each of the companies were analyzed qualitatively, making it possible to achieve the objective of this research.

As for the objective, the present research is descriptive. Descriptive research aims primarily at describing the characteristics of a given population or phenomenon, or at establishing relationships between variables (Gil, 2008).

As for the approach to the problem, the research takes a qualitative and quantitative approach. The qualitative approach allows for the in-depth and contextualized analysis, interpretation, and attribution of meaning to the studied phenomena, while the quantitative

approach is used due to the application of descriptive statistical techniques for data analysis (Prodanov & Freitas, 2013).

Regarding data collection, the research is documental in nature, having as its main source the Balance Sheet and the Explanatory Notes included in the Standardized Financial Statements (DFPs) for the year 2022, available on the *website* of Brasil, Bolsa, Balcão (B3).

Research Instrument

As research instruments, two checklists were developed: i) one based on CPC 15 (R1), to assess the level of disclosure and identify the characteristics of the recognized *goodwill*; and ii) another based on CPC 01 (R1), to measure the level of disclosure regarding the impairment tests of *goodwill*.

This topic also presents the parameters for analyzing the representativeness of the *goodwill* and their recognized losses.

Analysis of information on the characteristics and level of evidence of *goodwill*

Analysis of the characteristics and level of evidence of *goodwill*, a checklist was prepared based on the disclosure requirements contained in accounting pronouncement CPC 15 (R1), which is shown in Table 2.

Table 2

CHECKLIST ON THE CHARACTERISTICS AND LEVEL OF EVIDENCE OF GOODWILL.

1. Business combination that gave rise to the *goodwill*.
2. Future expectations regarding the benefits of the acquired company that generated the *goodwill*.
3. Detailed value of *goodwill* recognized if they come from several different business combinations.
4. Mention of the cash-generating unit(s) related to the recognized *goodwill*.
5. Costs related to the acquisition that generated the *goodwill*.
6. Business elements relating to the acquiree that generated the *goodwill*.
7. Expectation of the acquiree's workforce that generated the *goodwill*.

Source: Prepared by the authors based on CPC 15 (R1, 2011).

As Table 2 shows, 7 items for analyzing the level of disclosure of recognized *goodwill* in the companies of the sample.

Representativeness of *goodwill*

To analyze the representativeness of *goodwill* recognized, two approaches were used: i) the ratio between the value of the *goodwill* and the total value of the intangible asset, and (ii) the ratio of the *goodwill* and the value of non-current assets (NCA).

Research instrument for analyzing the disclosure and characteristics of *goodwill* recoverable amount tests

For analysis of the level of evidence of *goodwill* recoverable amount tests, a checklist was developed based on CPC 01 (R1), which is shown in Table 3.

Table 3

CHECKLIST FOR THE DISCLOSURE OF GOODWILL RECOVERABLE AMOUNT TESTS.

(a) The amount of the loss in *goodwill*.

(b) The value of the Cash-generating Unit at which the *goodwill* was allocated for testing purposes.
C) Events or circumstances that led to the recognition of the loss.
(d) The method used in calculating the recoverable amount.
(e) Assumptions used in the calculation of "value in use".
(f) Assumptions used in calculating "fair net value of selling expenses".
(g) Description of the key assumptions used to calculate the *goodwill* recoverable amount tests.
h) Line in the income statement where the impairment loss was included.
I) Whether the set of assets to identify the cash-generating unit has changed since the previous estimate.
(j) Discount rate used.
(k) Description of management's approach to the allocation of key assumptions.
(l) The period of the Cash Flow projection used to calculate the value in use.

Source: Prepared by the authors based on CPC 01 (R1, 2010).

As shown in Table 3, 12 items related to the disclosure of impairment tests of recognized *goodwill* in the sample companies were analyzed.

Research procedures

For the calculation of the disclosure index of the companies in the sample, the methodology used in the study by Nakayama and Salotti (2014) was adopted, assigning 1 (one) for "Item Disclosed", 0 (zero) for "Item Not Disclosed", and NA (Not Applicable) for cases in which certain item(s) on the list did not apply to the respective case(s).

The formula presented was used for the calculation of both *goodwill* and *impairment*. Furthermore, to fully meet the objective of this research, the types of cash-generating units identified in the sample companies were presented for the purpose of performing *goodwill* impairment tests, allowing for a comprehensive mapping of this asset.

The source of data collection was the explanatory notes belonging to the standardized financial statements (DFPs), referring to the year 2022.

Each disclosure index was obtained by dividing the amount evidenced in the explanatory notes by the total amount of items on the list applicable to the disclosure. The following formula illustrates the procedure used to calculate the index. It should be noted that each component of the sample was analyzed individually and each index was calculated individually.

$$\textit{Disclosure}\text{Index} = \frac{\text{Number of items highlighted in the Explanatory Notes}}{\text{(Total amount of items in the metric-items that do not apply)}}$$

Source: Adapted from Nakayama and Salotti (2014).

As outlined in the formula, the approach ensured that situations in which a specific checklist item was not applicable were appropriately excluded from the case in question, as such items were not included in the total reference count for the determination of the disclosure index.

In scenarios where the company did not address the presence or absence of a specific event related to an item in the measurement, thereby leaving it uncertain whether the event should have been disclosed, it was designated as 'Lack of Evidence of the Item' and assigned a score of zero, as it is not possible to determine whether the event occurred or whether it should have been disclosed.

It was assumed that, if the event was not pertinent to the company, it could have mentioned it in its explanatory notes, thus eliminating any ambiguity for its users regarding the occurrence or non-occurrence of the element.

The quality levels were established to express the different degrees of characteristics, using the terms "deficient", "reasonable", “satisfactory”, "good”, and "optimal". The 'great' rating was assigned to companies that met all the disclosure requirements and expectations in full (100%). The 'good' rating applied to those that consistently met between 71% and 99%. The 'satisfactory' rating was given to those that met more than 50% and up to 70%. The 'fair' rating applied to cases where disclosure expectations were partially met, ranging from above 30% to 49%. Finally, the 'deficient' rating was assigned to cases that did not meet the minimum disclosure expectations or had a very low level of disclosure, from 0% to 29%.

Research findings

Evidence and expressiveness of *goodwill*

For the disclosure analysis, the calculated indexes for *goodwill* were examined, based on the items listed in the checklist (presented in Table 2). The representativeness by sector was also calculated, and the results are presented as sector averages in Table 5.

Table 5

ANALYSIS OF THE LEVEL OF EVIDENCE AND EXPRESSIVENESS OF RECOGNIZED GOODWILL

Sector of Activity	Qty.	Average level of evidence	Expressiveness	
			G / AI	G / ANC
Public Utility	1	85,71%	79,28%	47,37%
Telecommunication	1	71,43%	18,96%	6,76%
Vehicles and Parts	3	66,67%	70,22%	13,68%
Agriculture and Fishing	2	64,29%	68,01%	3,36%
Food and Beverages	2	64,29%	78,07%	32,08%
Retail	2	64,29%	33,66%	17,42%
Health	3	61,90%	74,80%	51,22%
Cyclic Consumption	3	57,14%	96,60%	55,52%
Non-Metallic Minerals	1	57,14%	87,04%	14,30%
Software and Data	3	52,38%	83,47%	72,50%
Electric Power	2	50,00%	3,07%	0,53%
Steel and Metal industry	2	50,00%	97,33%	24,16%
Industrial Machinery	2	42,86%	83,06%	20,28%
Basic Materials	1	42,86%	49,23%	4,13%
Transport and Services	1	42,86%	70,57%	19,67%
Chemistry	2	35,71%	99,29%	34,19%
Construction	1	28,57%	51,39%	6,10%
Electronics	1	28,57%	45,45%	6,54%

Legenda: G: *Goodwill*; AI: Intangible Asset; ANC: Non-Current Asset; Qtd: Quantity.

Source: Prepared by the authors based on research data (2024).

As in Table 5, the companies that most evidenced the *Goodwill* are part of the following sectors: Public Utility (85.71%), Telecommunication (71.43%), and Vehicles and Parts (66.67%). On the other hand, the sectors that disclosed the least information on *Goodwill* were: Electronics and Construction (28.57%) and Chemicals (35.71%).

The results of this research differ from those observed by Querino and Souza (2020), who analyzed the operating sectors of Brazilian public companies. In their research, the authors highlighted that the Oil, Gas and Biofuels and Healthcare sectors were the ones that most disclosed *goodwill*, with average disclosure levels of 80.56% and 77.08%, respectively. It should be noted that the period analyzed by the authors was the pandemic year, which may have had some influence on a more comprehensive analysis, it can be verified that the economic and business conditions of the country tend to influence the level of disclosure of *goodwill*.

No segment has reached 100% in relation to the transparency of the *goodwill*, indicating the need for improvement in disclosure by companies. These findings are consistent with previous research, such as that of Souza and Borba (2017), which also revealed that none of the companies analyzed in their study fully disclosed all the requirements set forth by CPC 01 (R1).

As for expressiveness, it is possible to notice that the *goodwill* is expressive in the intangible group, and in some sectors it accounts for more than 50%. The most significant sectors were chemical, reaching 99.29%, followed by steel, with 97.33%, and cyclic consumption, with 96.60%. hese figures indicate a significant predominance of *goodwill* in relation to other types of intangible assets, corroborating previous studies by Pacheco and Rover (2020), which observed that *goodwill* represented 30.33% of the intangible asset group in a sample of 301 companies between 2010 and 2017, becoming the most expressive component.

It is important to highlight that, despite the two companies in the Chemicals sector showing a high proportion of *goodwill* in relation to their total intangible assets, the average disclosure level of these companies was 35.71%, which is considered deficient according to the parameters adopted in this research.

Analysis of *goodwill* recoverable amount tests (*impairment test*)

Table 6 shows the average level of evidence of the *goodwill impairment* by sector of activity of the research companies. As only two companies in the sample presented a loss in the recoverable amount of the *goodwill*, Table 6 did not include expressiveness. However, the analysis in relation to these two cases of loss was presented in detail after Table 6. It should be noted that even if there is no loss, according to CPC 01 (R1), all companies that have *goodwill* shall disclose information relating to the testing of *impairment* accomplished.

Table 6

ANALYSIS OF THE LEVEL OF EVIDENCE OF THE GOODWILL IMPAIRMENT TEST

Sector of Activity	Qty.	Average level of evidence
Telecommunication	1	66,67%
Food and Beverages	2	58,33%
Retail	2	54,17%
Electric Power	2	50,00%
Non-Metallic Minerals	1	50,00%
Transport and Services	1	50,00%
Health	3	44,44%
Cyclic Consumption	3	41,67%
Basic Materials	1	41,67%
Steel and Metal industry	2	41,67%
Public Utility	1	41,67%
Vehicles and Parts	3	41,67%
Agriculture and Fishing	2	37,50%
Software and Data	3	36,11%
Industrial Machinery	2	33,33%
Chemistry	2	29,17%
Electronics	1	16,67%
Construction	1	8,33%

Source: Prepared by the authors based on research data (2024).

The study reveals a tendency toward a low level of disclosure regarding *goodwill impairment* tests, with an overall average below 60% for most of the sectors analyzed. The exception was the telecommunications sector, composed of only one company, which

presented a rate of 66.67%. However, the construction sector, also with only one company, stood out as the worst scenario, with an alarmingly low rate of only 8,33%.

These results corroborate previous research, such as that of Pereira and Rover (2016), which also identified gaps in the evidence of the *goodwill impairment* in many areas of B3. Specifically, the construction sector was highlighted as one of those that did not adequately demonstrate the performance of this test. This consistency in findings across studies reinforces the importance of improving disclosure practices and accounting compliance, especially regarding transparency in the assessment of the recoverable amount of *goodwill*.

It was found that only two companies in the sample reported impairment losses on *goodwill*, which can be attributed to the inherent subjectivity of the tests performed. The companies were Grupo Natura (commercial sector) and Energias BR (electric energy sector), whose losses were R$ 282,921.00 and R$ 460,236. 00, respectively, representing 0.78% and 2.66% of net sales revenue and 9.89% and 45.06% of net income for the year. It is important to note that the amounts quoted are expressed in thousands of reais in order to maintain consistency in the financial analysis.

Of the two companies that disclosed a loss, only Grupo Natura (66.67%) clearly evidenced some of the items required by CPC 01 (R1) listed in Table 3, while Energias BR did not disclose them. These items include: “method used in the calculation of the recoverable amount” (item d), “cash flow projection period used in the calculation of value in use” (item l), “value of the cash-generating unit to which *goodwill* was allocated” (item b), “discount rate used” (item j), “description of the key assumptions underlying the calculation of the *goodwill* recoverable amount tests” (item g), “amount of the *goodwill* impairment loss” (item a), “events or circumstances that led to the recognition of the loss” (item c), and “line in the income statement where the loss was included.” Only the items dealing with ”description of management's approach“ (item k),” assumptions used in calculating the value in use“ (item e), ”assumptions used in calculating the fair value net of selling expenses“ (item f) and ”whether the set of assets to identify the cash-generating unit has changed since the previous estimate" (item i) were not met.

At Grupo Natura, the measurement of the recoverable amount (value in use) was carried out using the discounted cash flow method, based on financial budgets approved by the Board of Directors over a three-year period and supplemented by a discretionary ten-year period, estimated by management with a terminal value projected at the end of the period. They were discounted using a discount rate calculated before taxes and in the currency consistent with that used in the projections, being 18.05% for the Natura & Co Latam operating segments. (Natura, 2022).

No segment has achieved 100% *disclosure* of the recoverable amount tests of the *goodwill*, listed in the Checklist in Table 3. This demonstrates a deficiency in disclosure and the minimum criteria required by CPC 01 (R1). The least evidenced items were the ones related to cash generating units, discount rates, and assumptions used in value in use and fair value net of selling expenses.

The results of this study corroborate findings from previous research, such as Tavares *et al.* (2010), which revealed that none of the sectors analyzed in 2008 fully complied with the requirements established by CPC 01 (R1) regarding the *goodwill* recoverable amount tests. This finding sheds light on a persistent concern: even after 16 years of the recoverable amount test standard being in effect in Brazil, companies may still not be providing all the relevant information regarding these tests.

Previous studies, such as Alauro's (2013), identified the presence of this subjectivity in the premises of the test of reduction to recoverable value, suggesting that managers could exploit it opportunistically.

Oghoghomeh and Akani (2016) also addressed the issue of subjectivity in their research, concluding that the tests applied to the recoverable amount of assets, as established by IAS 36, are susceptible to subjective interpretations and that the estimates are likely not validated. This scenario can result in inflated net assets, earnings manipulation, and decision-making regarding the tests primarily based on earnings management.

Quality of *goodwill* evidence

In order to identify the quality, the frequencies of the dissemination of the *goodwill* and its recoverable amount tests on the qualitative conceptual scale referring to the checklist items listed in Table 2 of the methodology. The results relevant to the *goodwill* recognized are shown in Table 7.

Table 7
QUALITY OF GOODWILL DISCLOSURE RECOGNIZED

Item Evidence *goodwill* recognized	Deficient		Fair		Satisfactory		Good		Great	
	Qty.	(%)	Qty.	(%)	Qty.	(%)	Qty.	(%)	Qty.	(%)
1. Business combination that gave rise to the *goodwill*.	0	0%	11	33%	17	52%	5	15%	0	0%
2. Future expectations regarding the benefits of the acquired company that generated the *goodwill*.	22	67%	4	12%	6	18%	1	3%	0	0%
3. Detailed value of *goodwill* recognized if they come from several different business combinations.	6	18%	12	37%	11	33%	4	12%	0	0%
4. Mention of the cash-generating unit(s) related to the recognized *goodwill*.	4	12%	10	30%	9	27%	10	30%	0	0%
5. Costs related to the acquisition that generated the *goodwill*.	30	91%	0	0%	1	3%	2	6%	0	0%
6. Business elements relating to the acquiree that generated the *goodwill*.	10	30%	9	27%	10	30%	4	12%	0	0%
7. Expectation of the acquiree's workforce that generated the *goodwill*.	32	97%	0	0%	0	0%	1	3%	0	0%

Source: Prepared by the authors based on research data (2024).

It is possible to observe in Table 7 that the quality of the disclosure of *goodwill* recognized had a higher concentration on the conceptual scale classified as "deficient“ and that none of the items on the checklist were on the ”great" scale, considered the best classification of the conceptual scale.

Items 2, 5, and 7 that address the "future expectations regarding the benefits of the acquired company that generated the *goodwill*", "Costs related to the acquisition that generated the *goodwill*" and the "existence of expectation in relation to the workforce of the acquiree that generated the *goodwill*", respectively, were the most critical, as the companies did not clearly and objectively disclose the evidence.

On the other hand, the best-rated items were items 1 and 4, which refer to the “business combination that gave rise to the *goodwill*” and “mention of the cash-generating unit(s) related to the recognized *goodwill*,” respectively.

Quality of tests of *goodwill* recoverable amount

To evaluate the quality of the disclosure of the *goodwill* impairment tests, the disclosure frequencies were examined based on the qualitative conceptual scale of the items listed in Table 3 of the Methodology. The results were detailed in Table 8.

Table 8
QUALITY OF DISCLOSURE OF RECOVERABLE AMOUNT TESTS

Item evidencing the recoverable amount test	Deficient		Fair		Satisfactory		Good		Great	
	Qty.	(%)	Qty.	(%)	Qty.	(%)	Qty.	(%)	Qty.	(%)
(a) The amount of the loss in *goodwill*.	30	91%	0	0%	0	0%	1	3%	2	6%
(b) The value of the Cash-generating Unit at which the *goodwill* was allocated for testing purposes.	4	12%	8	24%	8	24%	9	27%	4	12%
C) Events or circumstances that led to the recognition of the loss.	31	94%	0	0%	1	3%	1	3%	0	0%
(d) The method used in calculating the recoverable amount.	0	0%	11	33%	11	33%	11	33%	0	0%
(e) Assumptions used in the calculation of "value in use".	29	88%	0	0%	3	9%	1	3%	0	0%
(f) Assumptions used in calculating "fair net value of selling expenses".	31	94%	0	0%	1	3%	1	3%	0	0%
(g) Description of the key assumptions used to calculate the *goodwill* recoverable amount tests.	12	36%	8	24%	8	24%	1	3%	4	12%
h) Line in the income statement where the impairment loss was included.	30	91%	0	0%	0	0%	3	9%	0	0%
I) Whether the set of assets to identify the cash-generating unit has changed since the previous estimate.	33	100%	0	0%	0	0%	0	0%	0	0%
(j) Discount rate used.	7	21%	0	0%	10	30%	15	45%	1	3%
(k) Description of management's approach to the allocation of key assumptions.	18	55%	0	0%	12	36%	2	6%	1	3%
(l) The period of the Cash Flow projection used to calculate the value in use.	3	9%	0	0%	18	55%	11	33%	1	3%

Source: Prepared by the authors based on research data (2024).

As Table 8 shows, the item that had better evidence regarding the recoverable value test was the "method used to calculate recoverable value" (item d) of the checklist in Table 3, being contemplated by the 33 companies in the sample.

Therefore, the least publicized item was (item i) of the Checklist in Table 3 that included the 33 companies, being in the conceptual scale considered as "deficient". None of the companies has fully met all the disclosure requirements of CPC 01 (R1), relevant to the tests of the recoverable amount of assets. The study by Khairi, Laili, and Tran (2012) also observed similar results, reporting, among other issues, a lack of detailed information regarding the allocation of *goodwill* to the cash-generating units.

The results found in this study corroborate those observed in the research by Marinho *et al.* (2018), who found that most companies report performing the *impairment* test; however, they do not disclose the methodology used to carry it out, and the information provided is unclear and lacks objectivity, making it difficult for users to understand such information.

Research findings

Based on the results of the research, it is possible to infer that the complexity of *goodwill* and the gaps in disclosure identified in the *impairments*still persist. It is essential that companies improve their disclosure to provide more robust evidence of *goodwill impairment* tests, which would be highly relevant for external users, considering its impact on current and future financial statements, as well as providing *insights* into the expectations that gave rise to the *goodwill*, whether they remain valid or have caused a reduction in the ability to generate future benefits.

It is important to note that the study identified a low accounting disclosure of *goodwill*, influencing the quality of financial information, which can directly affect the confidence of *stakeholders*. This study is significant because it helps shed light on the accounting practice involved in conducting the *impairment*.

Despite regulatory advances, there are still gaps in the transparency and disclosure of information related to *goodwill*, highlighting the ongoing need for improvement and oversight in this area.

The transparency and accuracy of disclosures about *goodwill*, as well as its recoverable value tests, are crucial to prevent opportunistic behavior and ensure compliance with accounting standards. Regulatory oversight, along with the adoption of effective corporate governance practices, is critical to ensuring the integrity and accuracy of accounting information related to the *goodwill*.

It is relevant to highlight that the results of this study are limited to the investigated sample and are based on the analysis of the standardized financial statements released in 2022, thus, the findings specifically reflect this sample during the delimited period.

Based on the research results, a suggestion for future studies would be to conduct a statistical analysis comparing the disclosure levels of *goodwill* and its impairment tests by companies from emerging and developed countries. The aim would be to assess whether the level of a country's development influences corporate disclosure. Additional variables could also be included in the investigation, thereby broadening knowledge in this area for an increasingly wider academic audience.

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