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Exploring ChatGPT's capabilities in solving accounting standards problems: the case of IAS 37

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ABSTRACT

Using a quasi-experimental method and content analysis as a technique, this study tests ChatGPT, in its version 4, by assessing its textual characteristics and overall understanding regarding the recognition criteria of provisions under International Accounting Standards (IAS) 37, as issued by the International Accounting Standards Board (IASB). For this purpose, it uses a set of questions (input) from the IASB's illustrative examples to compare the answers (output) from IASB and ChatGPT in two distinct strategies: with and without prompting. The findings indicate that ChatGPT's answers are wordier, have higher magnitude levels, and are more predominantly inserted in Business and Finance. The no-prompting strategy is globally more negative and subjective, while the prompting one improves the answers' focus and readability, also presenting more diverse tones in its textual characteristics, similar to what was found in the IASB's answers. However, some answers were not globally accurate in both strategies. These findings provide insights into how ChatGPT, as one of the most disseminated artificial intelligence tools, can be used by accounting professionals and educators, being aware of the potential risks and benefits from both strategies underlying this experiment. Then, by considering those aspects, practitioners, including accountants and managers, but also investors can use it to understand the matters and issues under assessment in a given situation, as well as the sources to consider when preparing financial statements or making a decision. Academics can also use it to open up discussions and promote students' critical thinking skills in a classroom environment.

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Introduction

The rapid development of generative Artificial Intelligence (AI) technology, namely large language models (LLMs) such as ChatGPT, is radically changing social processes, with a potential impact on the economy (Zadorozhnyi et al., 2023). Zhao and Wang (2024) stressed that ChatGPT exhibits a remarkable ability in understanding, interpreting, and generating human-like text, which led to a global discussion on its potential utility (Surapaneni et al., 2024). It has significantly impacted several industries, including the auditing and accounting profession (P. Cheng et al., 2024; Eisikovits et al., 2024; Emmett et al., 2023; Eulerich et al., 2024; Eulerich & Wood, 2023; Kayser & Telukdarie, 2024; Ross & Zhang, 2024), where tools have been improved through the integration of AI-powered chatbots, thereby augmenting efficiency (Boritz & Stratopoulos, 2023; Emmett et al., 2023; Kim et al., 2024a, 2024b, 2024c; P. Cheng et al., 2024; Vasarhelyi et al., 2023; Zadorozhnyi et al., 2023; Zhao & Wang, 2024).

Like its predecessors, ChatGPT is built on the Generative Pre-trained Transformer (GPT) architecture developed by OpenAI, a type of neural network specifically designed for processing sequential data, such as natural language. AI and reinforcement learning have the potential to empower agents to autonomously learn and execute tasks with performance surpassing human capabilities (Retzlaff et al., 2024).

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ChatGPT is pre-trained on large datasets of text from the internet, allowing it to learn the statistical patterns and structures of human language, and enabling the models to generate coherent and contextually relevant text when given a prompt or question. According to Retzlaff et al. (2024), the application of Reinforcement Learning from Human Feedback in ChatGPT demonstrates the effectiveness of prioritizing user experience optimization and integrating their feedback into the training loop. The development of ChatGPT involved fine-tuning and optimization for conversational purposes, aiming to create a more responsive chatbot experience which can generate diverse data (Surapaneni et al., 2024).

According to Dong et al. (2024), recent research on ChatGPT and related LLMs in accounting and finance has been focusing on three main topics: (1) the use of ChatGPT and LLMs in accounting and finance; (2) harnessing ChatGPT and LLMs as novel research instruments by leveraging their functionalities such as classification, summarization, and text generation; and (3) implications of LLM adoption for accounting and finance professionals, as well as for diverse organizations and industries.

The implications of generative AI have been studied in several accounting topics, such as management accounting (Shchyrba et al., 2024), sustainability accounting, reporting, assurance and report usage (De Villiers et al., 2023), sentiment analysis, and Environmental, Social, and Governance (ESG) (Cao & Zhai, 2023). Furthermore, AI technologies have frequently been employed in accounting research to assess, for example, disclosure sentiment and readability, word counts, sentence structure, keyword frequency, disclosure comparisons, and disclosure topics (Bochkay et al., 2023).

Research has stressed that professionals outside academia perceive AI as tools to enhance efficiency and content quality, whereas within academia apprehensions regarding biases, manipulation, and potential job displacement are being expressed (Papakonstantinidis et al., 2024). Despite the remarkable benefits of using ChatGPT, potential limitations cannot be disregarded and mitigated to ensure its ethical and reliable utilization (Emett et al., 2023; Ross & Zhang, 2024; Vasarhelyi et al., 2023; Zhao & Wang, 2024).

Thereby, AI technologies raise new and significant challenges for the accounting academy (Ballantine et al., 2024), making ChatGPT both a threat and an opportunity (Abeysekera, 2024; Voshaar et al., 2024). Researchers have studied technology usage in accounting teaching and learning (AI Ghatrifi et al., 2023). In this regard, and considering ChatGPT's capability to attain high scores on several mainstream academic and professional standard exams (Abeysekera, 2024; Cao & Zhai, 2023; Eulerich et al., 2024), assessments have been identified as a risk area where what is assessable knowledge must be revisited (Abeysekera, 2024; X. Cheng et al., 2024). According to Alshurafat et al. (2023), accounting students used ChatGPT to cheat, shedding light on the impact of the broader misuse of AI on the educational system. Notwithstanding, ChatGPT may be useful in improving the technical readability of accounting exam texts for students (Voshaar et al., 2024).

As stressed by the literature, AI tools serve as a means, not replacing human intelligence, namely whenever professional judgment is required, where ChatGPT underperforms (Cohen et al., 2023; Freitas et al., 2024). According to Wecks et al. (2024), students using AI tools to write essays had lower performance than non-users. Also, students outperform ChatGPT in accounting assessments (Wood et al., 2023). Therefore, while these tools can effectively aid in problem-solving, a certain level of subject matter expertise is needed, either to formulate pertinent questions or prompts and to ensure that the generated response from the technology makes sense and adequately addresses the problem (Stott & Stott, 2023). Consequently, it is important to be aware that ChatGPT can provide detailed and persuasive responses without fully understanding the question (Abeysekera, 2024; Cohen et al., 2023; Freitas et al., 2024; Rudolph et al., 2023).

On the other hand, in accounting research, professional judgment and comparability traditionally pose significant concerns, as the worldwide adoption of International Accounting Standards Board (IASB) standards does not guarantee their consistent interpretation and application (Gierusz et al., 2022). Notably, the understanding of key accounting concepts may be influenced by professionals' characteristics, such as language (Hellmann et al., 2021; Hellmann & Patel, 2021; Zhang et al., 2020), as well as by national cultural differences (Gierusz et al., 2022). Despite efforts to harmonise accounting practices across nations, principle-based IASB standards necessitate substantial professional judgment for their application (Coram & Wang, 2021; Maradona et al., 2024), potentially compromising comparability (Gierusz et al., 2022; Hellmann et al., 2021; Hellmann & Patel, 2021).

Moreover, most of the IASB's standards incorporate subjective uncertainty expressions, also subject to professional interpretation and judgment (Gierusz et al., 2022; Zhang et al., 2019), which raises concerns about information quality and communication efficiency, prompting researchers to investigate their impacts on financial reporting and decision-making behaviour (Gierusz et al., 2022; Zhang et al., 2019, 2020). Among those, International Accounting Standard (IAS) 37 - Provisions, Contingent Liabilities and Contingent Assets stands out for eliciting significant differences in financial reporting due to professional judgment (Langa & Albuquerque, 2023; Marcelino et al., 2016), particularly regarding expressions like 'probable' concerning accounting disclosures (Gierusz et al., 2022).

Although ChatGPT has been successful in capturing the most relevant information when summarizing financial disclosures (Kim et al., 2024a), and in increasing accounting texts' readability (Emett et al., 2023; Voshaar et al., 2024), it has also been appointed as failing in answering to more technical matters requiring judgment and specialized knowledge (Abeysekera, 2024; Cohen et al., 2023; Freitas et al., 2024; Rudolph et al., 2023; Stott & Stott, 2023; Wood et al., 2023). Therefore, this raises the question of whether ChatGPT can be useful, or not, regarding the IASB standards, considering its subjectivity level and the professional judgment required for its proper application, particularly concerning IAS 37 given the use of uncertainty expressions. Then, this study aims to assess the textual characteristics (properties) and overall understanding of ChatGPT's answers, in its version 4, regarding the recognition criteria of provisions under International Accounting Standards (IAS) 37, as issued by the International Accounting Standards Board (IASB).

In this sense, considering the textual characteristics (properties), such as readability, that have been stressed as a positive aspect of ChatGPT's answers (Emett et al., 2023; Kim et al., 2024a; Voshaar et al., 2024), the research question (RQ) 1 has emerged as relevant for this analysis:

- **RQ1.** Do the textual characteristics (properties) of answers provided by ChatGPT for solving the illustrative examples on IAS 37 differ from those of the IASB?

Further, bearing in mind the concerns highlighted by the literature on the reliability of the answers provided by ChatGPT when faced with matters requiring professional judgment (Abeysekera, 2024; Cohen et al., 2023; Freitas et al., 2024; Rudolph et al., 2023; Stott & Stott, 2023; Wood et al., 2023), RQ2 is formulated as follows:

- **RQ2.** Can ChatGPT have an overall understanding of (it properly contextualizes and correctly answers) the questions for solving the illustrative examples on IAS 37?

The illustrative examples of IAS 37 (IFRS Foundation, 2021) served as input queries, while the responses (outputs) from ChatGPT were compared, where applicable, with those from the IASB. The content analysis covers different aspects, such as the messages' length, readability, tones, magnitudes, subjective or objective nature, thematic area, focus, transversality, explanatory depth, and accuracy.

This paper contributes to the literature by suggesting various analytical perspectives which can be used in future investigations in accounting and similar areas, standing as the first study, to the best of the author's knowledge. By illustrating the benefits and constraints of the use of ChatGPT as an auxiliary tool, it also has practical implications in the accounting field for practitioners, and academia, as well as several stakeholders of financial statements.

This paper is structured in three sections, in addition to this introduction. The next section identifies the research questions, materials and methods underlying the exploratory analysis proposed for this paper and is followed by the results section. Finally, the last section presents the conclusions, as well as the limitations and suggestions for future avenues.

Material and methods

From an exploratory perspective, this study aims to assess the textual characteristics (properties) and overall understanding (context and accuracy) of ChatGPT's answers regarding the recognition criteria of provisions under International Accounting Standards (IAS) 37, issued by the International Accounting Standards Board (IASB), considering its potential as an auxiliary tool for accounting professionals and educators.

To achieve its purpose, this study uses a quasi-experimental method and content analysis as a technique. Specifically, it uses a set of questions (input) and answers (output) regarding the IAS 37, provided by the IASB as illustrative examples of this standard application, being the source of comparative analysis (control element) with the answers (output) provided by ChatGPT to the same questions (input) inserted into the tool. Those questions focus on the recognition criteria underlying the provisions under IAS 37. The excerpts (questions) gathered from the illustrative examples of IAS 37 were selected as the research object, considering the level of inherent subjectivity that is usually attributed to its underlying content, requiring professional judgment to be properly applied (e.g. Coram & Wang, 2021; Maradona et al., 2024).

Specifically, it implies that ChatGPT should consider and make its decision by considering the following elements under IAS 37 (see, for instance, its paragraph 10): the existence of a present (legal or constructive) obligation arising from past events, the reliability of the measurement for the underlying estimate, and the probability of the outflows to settle the obligation embodying economic benefits. However, those are essentially the elements that define a liability overall, with the provisions being additionally defined as a liability of uncertain timing or amount. Therefore, the assessment of the findings from an experiment that relates to a subjective accounting topic, which requires a significant level of professional judgment, with one of the most disseminated and freely available artificial intelligence tools, can be of research interest and benefit accounting professionals, such as users, preparers, and auditors, as well as for academia.

Two strategies were used to assess ChatGPT's answers. The first, hereinafter called by simplification a no-prompting strategy, does not provide any initial input to ChatGPT regarding the context, topic, purpose or any other element. Then, the second one, hereinafter called by simplification a prompting strategy, previously indicates a set of initial elements that integrate the introductory component of the IASB's illustrative examples as a first input concerning what is expected from the answers to the issues regarding the recognition of provisions, as follows:

All the entities in the examples have 31 December year-ends. In all cases, it is assumed that a reliable estimate can be made of any outflows expected. In some examples the circumstances described may have resulted in impairment of the assets—this aspect is not dealt with in the examples. The cross-references provided in the examples indicate paragraphs of the Standard that are particularly relevant. References to 'best estimate' are to the present value amount, where the effect of the time value of money is material.

Therefore, the text initially inserted into ChatGPT as a previous command, and presented below, intended to integrate those elements, aiming to properly assess each one of the answers from this tool in the scope of the second strategy:

You are a financial expert with an understanding of the International Accounting Standards (IAS) and International Financial Reporting Standards (IFRS) and related interpretations issued by the International Accounting Standards Board (IASB). From now on, your task is to answer a case similar to IAS 37 to the International Accounting Standards Board (IASB) in its illustrative examples. Your response should address only all the relevant criteria for a provision to be recognised. Do not include any additional information or conclusions beyond this aspect. Also, consider that all the entities in the examples have 31 December year ends. In all cases, it is assumed that a reliable estimate can be made of any outflows expected. In some examples, the circumstances described may have resulted in impairment of the assets, but this aspect is not dealt with in the examples. Your answers can provide cross-references to the paragraphs of the Standard that are particularly relevant. Finally, references to 'best estimate' are to the present value amount, where the effect of the time value of money is material.

ChatGPT then delivered its understanding regarding this command, as follows: *'Understood. Please provide the specific case or example you would like analyzed, and I will focus solely on the relevant criteria for recognizing a provision under IAS 37'.*

The experiment uses the freely available version of ChatGPT 4.

Regarding RQ1, the analysis regarding the textual characteristics (properties) of ChatGPT's answers, based on different tools available, are proposed as follows:

- i. the length, measured as word count, number of characters, and sentences;
- ii. the readability, measured by the Flesch Index;

- iii. the message tones;
- iv. the message magnitudes;
- v. the subjective or objective approach;
- vi. the level at which the content of the messages can be seen as integrating the Business and Finance area.

The assessment of the overall understanding (context and accuracy) of ChatGPT's answers, underlying the RQ2, considers the following aspects:

- i. the global efficacy regarding the understanding of the issue (the focus on it);
- ii. the transversality of the topics considered;
- iii. the level of explanation of the related concepts;
- iv. the global accuracy (reliability).

In all cases, the differences between the answers from ChatGPT considering both strategies proposed will also be assessed, to identify which one better performs in comparison to the IASB's answers.

Regarding RQ1, the length analysis, measured as word count, number of characters, and sentences, was supported by Grammarly. Then, the readability score is based on the Flesch index (Flesch, 1948) and following Voshaar et al. (2024), ranging from 0 to 100, with higher scores indicating content that is globally easier to understand. This score is based on a formula that considers the following elements in analyzing text passages: (1) average sentence length in words; (2) average word length in syllables; (3) average percentage of 'personal words'; (4) average percentage of personal sentences. This analysis was performed by using a Python script based on its library 'Textstat'.

The analysis for remaining textual properties underlying RQ1 is supported by an application programming interface (API) available on the platform text2data, which uses text analytics based on NLP and machine learning. The API tool assesses the negativity or positivity of a message's tone, with a score that ranged from -1 to 1, respectively, with scores closer to zero (between -0.25 and 0.25) indicating a neutral tone. The messages magnitude can be interpreted as the volume of sentiment expressed throughout it, regardless of sentiment polarity, which can be used to detect the strength of emotions or fine-tune sentiment polarity, ranging from 0 to ∞ . Concerning the subjective or objective approach, the tool identifies the likely mode of how the discourse can be interpreted by readers, namely if it expresses opinions, feelings or doubts, conversely to those based on facts, providing three possible classifications or categories for it: objective, subjectivity and unknown. Finally, it identifies the inclusion of the text within a given thematic area, based on the Interactive Advertising Bureau (IAB) - Quality Assurance Guidelines (QAG) taxonomy, providing a classification between 0 to 1 for a given area and also for the sum of all areas found, which cannot be higher than 1 at a total.

The continuous variables underlying the analysis for RQ1 will be additionally assessed by using some descriptive statistics (means, median and standard deviation) and differences between the means by using a t-test or a Mann-Whitney U test, whether the normality of the distribution is verified or not, respectively.

Following, the analysis of RQ2 is based on a qualitative analysis of the content provided by ChatGPT, in comparison to those provided by the IASB and the authors' expertise and perspective on the matters under assessment.

Each one of the 12 examples (inputs) from the illustrative examples of IAS 37, which implicitly represents IASB's case studies, was individually inputted (case by case, i.e. one at a time by example) into the ChatGPT window on 7 September 2024 to collect each output (case by case, i.e. one at a time by example). The analysis will be performed by gathering the diversity of the issues that cover the different aspects of that document, whose titles are reproduced as they appear in that document, as follows:

Example 1 Warranties

Example 2A Contaminated land – legislation virtually certain to be enacted

Example 2B Contaminated land and constructive obligation

Example 3 Offshore oilfield

Example 4 Refunds policy

Example 5A Closure of a division – no implementation before end of the reporting period

Example 5B Closure of a division – communication/implementation before end of the reporting period

Example 6 Legal requirement to fit smoke filters

- At 31 December 20X0, the end of the reporting period
- At 31 December 20X1, the end of the reporting period

Example 7 Staff retraining as a result of changes in the income tax system-

Example 11 Repairs and maintenance

Example 11A Refurbishment costs – no legislative requirement

Example 11B Refurbishment costs – legislative requirement

The next section provides a summarisation of the findings. Moreover, the appendix provides the complete answers from ChatGPT by using both strategies performed (with and without previous prompting).

Results

This section presents and discusses the findings for each of the RQs detailed in the previous one.

For this purpose, the analysis begins with the textual characteristics underlying the messages (answers), as proposed in the **RQ1**.

Table 1 provides the figures for the analysis related to word counting.

Figures from Table 1 show that the answers from ChatGPT were globally wordier than those provided by the IASB regardless of the strategies adopted (with or without prompting). On average, the figures for the non-prompting strategy have five times more textual elements than the IASB's answers. Nonetheless, the prompting significantly reduced the level of characters, words and sentences to about half in comparison to the non-prompting strategy. Nonetheless, the prompting strategy still provided two times more textual elements than the IASB's answers, which can indicate that this entity may be excessively concise in the educational material that has been provided to users. The Mann-Whitney U test reinforces the previous findings by indicating statistically significant differences for all cases under

Table 1. Word count.

	IASB			ChatGPT No-prompting			ChatGPT prompting		
	C	W	S	C	W	S	C	W	S
Example 1	480	83	3	1,719	260	15	1,198	188	12
Example 2A	380	62	3	2,133	329	21	1,173	191	10
Example 2B	549	91	3	1,901	285	18	1,221	192	10
Example 3	833	151	6	2,397	393	22	1,522	248	14
Example 4	597	100	3	1,864	292	19	1,249	197	12
Example 5A	193	34	2	2,257	350	16	1,121	184	12
Example 5B	508	84	3	2,524	379	25	1,218	185	11
Example 6									
o At 31 December 20X0	316	54	2	2,755	445	21	1,112	182	10
o At 31 December 20X1	852	135	5	3,371	520	28	1,078	176	11
Example 7	213	34	2	2,890	452	27	1,195	194	10
Example 11									
Example 11A	773	123	5	3,189	479	21	1,250	212	10
Example 11B	854	137	5	4,339	657	29	1,610	258	13
Descriptive statistics									
Average	546	91	4	2,612	403	22	1,246	201	11
Median	529	88	3	2,461	386	21	1,208	192	11
Standard deviation	242	40	1	754	114	5	160	26	1
	IASB vs. ChatGPT No-Prompting			IASB vs. ChatGPT Prompting			ChatGPT No-Prompting vs. ChatGPT Prompting		
	C	W	S	C	W	S	C	W	S
MMean differences – Mann-Whitney U test (significance level)	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Legend: C (Word count – characters); W (Word count – words); S (Word count – sentences).

Table 2. Readability analysis based on the Flesch index.

	IASB	ChatGPT No-Prompting	ChatGPT Prompting
Example 1	44.71	25.29	55.54
Example 2A	42.72	39.77	52.09
Example 2B	32.87	34.46	47.99
Example 3	54.86	54.86	53.51
Example 4	38.69	43.73	56.05
Example 5A	63.7	32.87	52.8
Example 5B	44.07	33.75	47.38
Example 6			
o At 31 December 20X0	53.55	44.88	54.73
o At 31 December 20X1	44.27	38.96	55.24
Example 7	55.24	39.77	51.78
Example 11			
Example 11A	38.25	35.61	49.96
Example 11B	35.61	35.31	42.92
Descriptive statistics			
Average	45.71	38.27	51.67
Median	44.17	37.29	52.45
Standard deviation	9.27	7.40	3.96
	IASB vs. ChatGPT No-Prompting	IASB vs. ChatGPT Prompting	ChatGPT No-Prompting vs. ChatGPT Prompting
Mean differences – Mann-Whitney U test (significance level)	0.060	0.080	0.000

assessment, namely between the IASB and each one of the two strategies adopted as well as between both strategies.

Table 2, in turn, presents the figures for the analysis related to the Flesch readability score.

On the other hand, the readability scores were commonly lower for ChatGPT's answers based on the non-prompting strategy, followed by those provided by the IASB. The prompting strategy represents the case that provided answers with a high level of readability, even higher than those by the IASB, which interestingly indicates a likely benefit from a more focused command by users to ChatGPT. On average, however, the score for the answers from ChatGPT ranges between about 38 and 52 for the non-prompting and prompting strategy, respectively, with the IASB's answers at an intermediate level (45). The Man-Whitney-U test indicates a more robust result (with a significance level below 5%) when the figures for the readability level found between the two strategies performed are compared. The results from the prompt strategy corroborate the literature regarding the potential usefulness of ChatGPT in increasing the readability of accounting texts (Emett et al., 2023; Kim et al., 2024a; Voshaar et al., 2024).

Thereby, the findings from the readability score may suggest that this tool could have an oriented use to be helpful as a tool by standard-setters, such as the IASB, to improve its communication (standards, interpretations, pedagogical materials, etc.) with their different types of stakeholders who necessarily have different levels of financial skills and knowledge on those matters. From a wider perspective, preparers and auditors can also test the capabilities of this tool to improve their communications (financial and sustainability reports, press releases, etc.) to their stakeholders, such as regulatory authorities, investors and other capital providers.

Despite the numerical evidence above, the qualitative analysis of the answers provided by the different sources and methodologies indicates, by comparison, that those from ChatGPT (non-prompting strategy) are usually and possibly more 'reader-friendly', pedagogically proposed and 'sympathetically talkative'. Notwithstanding, it is worth stressing that, sometimes, the larger the answers the less readable they commonly are (Melloni et al., 2017), an element that can also explain the lower readability scores obtained by it. Moreover, and globally considered, the higher level of excerpts containing technical terms underlying the answers provided by ChatGPT can lead to those results since the score is not conceived for specific users but for a wider audience. On the other hand, it seems that the pattern seen of conciseness underlying the IASB's answers does not necessarily result in higher levels of readability and can lead to lower assertiveness and pedagogical usefulness.

Table 3 provides the figures for the analysis related to the sentiment analysis regarding the positive-negative messages tone.

Figures from Table 3 indicate either positive or negative tones underlying the messages from both sources (IASB's and ChatGPT's answers) but, in this latter case, more predominantly in the scope of the

Table 3. Message tones - Positive-negative analysis.

	IASB		ChatGPT No-Prompting		ChatGPT Prompting	
	Positive-Negative analysis	Level	Positive-Negative analysis	Level	Positive-Negative analysis	Level
Example 1	Positive	1.00	Positive	0.50	Positive	0.61
Example 2A	Positive	0.72	Neutral	0.12	Negative	-0.52
Example 2B	Positive	0.72	Neutral	-0.1	Positive	0.72
Example 3	Negative	-0.61	Negative	-0.62	Positive	0.74
Example 4	Positive	0.46	Negative	-0.55	Positive	0.68
Example 5A	Negative	-0.64	Negative	-0.64	Negative	-0.75
Example 5B	Positive	0.98	Negative	-0.62	Neutral	0.13
Example 6						
o At 31 December 20X0	Negative	-0.63	Negative	-0.63	Negative	-0.75
o At 31 December 20X1	Negative	-0.63	Negative	-0.99	Positive	0.62
Example 7	Negative	-0.63	Negative	-0.61	Negative	-0.75
Example 11						
Example 11A	Negative	-0.63	Negative	-0.51	Negative	-0.75
Example 11B	Negative	-0.64	Negative	-0.58	Negative	-0.52
Descriptive statistics						
Average	-0.04		-0.44		-0.05	
Median	-0.62		-0.60		-0.20	
Standard deviation	0.74		0.41		0.68	
	IASB vs. ChatGPT No-Prompting		IASB vs. ChatGPT Prompting		ChatGPT No-Prompting vs. ChatGPT Prompting	
Mean differences – Mann-Whitney U test (significance level)	0.749		0.642		0.271	

Table 4. Message magnitudes.

	IASB	ChatGPT No-Prompting	ChatGPT Prompting
Example 1	2.05	8.08	8.84
Example 2A	2.71	8.73	6.71
Example 2B	2.71	8.85	7.28
Example 3	3.93	7.72	8.38
Example 4	1.79	8.71	7.38
Example 5A	1.38	6.24	6.86
Example 5B	1.9	9.75	8.28
Example 6			
o At 31 December 20X0	1.44	9.76	7.53
o At 31 December 20X1	3.68	10.96	7.29
Example 7	1.44	9.18	6.7
Example 11			
Example 11A	3.12	5.15	6.56
Example 11B	3.71	8.77	7.79
Descriptive statistics			
Average	2.49	8.49	7.47
Median	2.38	8.75	7.34
Standard deviation	0.95	1.57	0.73
	IASB vs. ChatGPT No-Prompting		ChatGPT No-Prompting vs. ChatGPT Prompting
Mean differences – Mann-Whitney U test (significance level)	0.000		0.028

prompting strategy. Therefore, they were predominantly negative from ChatGPT with a non-prompting strategy. The textual characteristic of the prompting strategy may indicate that a commanded use of ChatGPT can be helpful in what concerns to provide a less ‘robotic’ or ‘artificial’ (or closer to a ‘natural’) analysis of a text by this tool. This strategy, therefore, provides a higher level of tone diversity, despite not necessarily coincident with those seen by questions from the IASB’s answers, which are similarly diverse, however. The average values are even closer in a comparison between the IASB’s answers and ChatGPT’s ones within the prompting strategy. Notwithstanding, the Mann-Whitney U analysis does not indicate any statistically significant differences for any of the cases under assessment.

Following, Table 4 indicates the magnitudes of the messages.

The magnitudes of the message, as can be seen from Table 4, were expressively higher for those from ChatGPT regardless of the strategies adopted, with the non-prompting strategy commonly presenting the

Table 5. Subjective-objective analysis.

	IASB	ChatGPT No-Prompting	ChatGPT Prompting
Example 1	Subjective	Subjective	Subjective
Example 2A	Unkown	Subjective	Subjective
Example 2B	Subjective	Subjective	Subjective
Example 3	Subjective	Subjective	Subjective
Example 4	Subjective	Subjective	Subjective
Example 5A	Subjective	Subjective	Subjective
Example 5B	Subjective	Subjective	Subjective
Example 6			
o At 31 December 20X0	Subjective	Subjective	Subjective
o At 31 December 20X1	Subjective	Subjective	Subjective
Example 7	Subjective	Subjective	Subjective
Example 11			
Example 11A	Objective	Subjective	Subjective
Example 11B	Unkown	Objective	Subjective

highest figures. Again, the substantial level of IASB's conciseness may likely explain these findings since the length of the messages can contribute to this indicator. Interestingly, however, it is worthwhile to notice that the prompting strategy achieved higher levels of magnitude with lower levels of words and characters in their message, which may indicate the existence of an optimum length of the message that simultaneously achieves higher levels of message magnitude and readability. The Mann-Whitney U test indicates statistically significant differences for any of the comparisons performed, despite only at a 5%-significance level in the context of the comparison between the two strategies adopted for ChatGPT.

Table 5, in turn, indicates the sentiment analysis in what concerns the subjective-objective approach of the messages.

As Table 5 shows, the subjective messages were mostly found in any of the cases assessed, but ChatGPT, in the scope of the prompting strategy analysis, provided this concept for all messages consistently. Overall, these findings highlight, on one hand, the subjectivity that underlies the theme under assessment (the provisions) within the process of making decisions, but also, on the other hand, the increasing level of a 'natural' analysis by ChatGPT in its prompting performance.

Finally, the figures that can be seen in Table 6 show the level at which the answers are inserted into the Business and Finance area, the last aspect of the sentiment analysis assessed in this research.

Similarly, the findings illustrate higher levels of integration into this area within both strategies performed for ChatGPT, especially for the prompting one. On average, for the IASB's answers, the level of identification is about 0.8, which may be compared to the 1.0 obtained for ChatGPT's answers in both cases. The Mann-Whitney U test precisely highlights this characteristic by indicating statistically significant differences only in what concerns the comparison between the IASB's answers and those from ChatGPT. Again, the prompting strategy performed better regarding the textual characteristics under assessment. This may indicate a positive perspective of its use to achieve higher levels of benefits concerning the understandability of the messages to be released to an overall audience by standard-setters.

To provide an overall assessment of the findings for the **RQ1**, it is worth stressing that the more consistent findings for ChatGPT in both strategies adopted can be explained, however, by the higher amount of words provided by this tool in their answers, which noticeably benefits the magnitude level and the proper identification of the scientific field in which the messages are integrated. Furthermore, the subjective approach found for the answers from ChatGPT can also result from the less assertive propositions provided for this source, particularly regarding the non-prompting strategy, which usually indicates different scenarios or assumptions first and, therefore, requires an additional analysis of the underlying elements by the readers. In other words, some answers are neither objectively nor directly provided by ChatGPT as the conclusion, which can also be seen as the reason why the sentiment analysis was probably more strengthened in what concerns the message from ChatGPT.

Following, the analysis associated with the overall understanding (context and accuracy) of the topics and issues underlying the messages by ChatGPT is presented, as stated in the **RQ2**.

The content analysis regarding the understanding of the issue indicates that ChatGPT properly identifies, in both strategies, the main issue underlying the questions. This is firstly evidenced by the common use of expressions such as 'in this scenario, ...', 'in this case, ...' or 'in this situation, ...' within the

Table 6. Business & Finance level of integration.

	IASB	ChatGPT No-Prompting	ChatGPT Prompting
Example 1	0.926	1.000	1.000
Example 2A	0.866	1.000	1.000
Example 2B	0.951	1.000	1.000
Example 3	0.991	1.000	1.000
Example 4	0.980	1.000	1.000
Example 5A	0.498	1.000	1.000
Example 5B	0.987	1.000	1.000
Example 6			
o At 31 December 20X0	0.129	1.000	1.000
o At 31 December 20X1	0.980	1.000	1.000
Example 7	0.483	1.000	1.000
Example 11			
Example 11A	0.868	0.994	0.997
Example 11B	0.992	0.996	1.000
Descriptive statistics			
Average	0.80	1.00	1.00
Median	0.94	1.00	1.00
Standard deviation	0.28	0.00	0.00
	IASB vs. ChatGPT No-Prompting	IASB vs. ChatGPT Prompting	ChatGPT No-Prompting vs. ChatGPT Prompting
Mean differences – Mann-Whitney U test (significance level)	0.000	0.000	0.482

answers from the non-prompting strategies, which indicates a good understanding of the problem-based case scenarios as the method used by IASB in their illustrative examples. Also, the answers provided by ChatGPT in this strategy globally refer to the analysis of the need to recognise and measure a given obligation (a liability) and the concepts underlying the IAS 37, with a single exception (examples 11 A and 11B) for which the answers have focused on IAS 16 (Property, Plant and Equipment), which is probably explained by the relevance of this topic in the input provided (the IASB's question).

The prompting strategy of ChatGPT even improved this characteristic, with all questions indicating the relevant criteria that should be met for recognising a provision, usually starting the sentences with the necessary elements 'to assess whether a provision should be recognized', and ending with a conclusion based on the fact that 'since the criteria for recognizing a provision are met at the reporting date' or '... are not met ...', its recognition should be considered or not, respectively. To also illustrate this, the answer by ChatGPT in the scope of this strategy specifically states that 'given that no present obligation exists as of the end of the reporting period, no provision should be recognized for the replacement of the furnace lining'.

Considering the transversality of the topics considered, the content analysis of the answers provided by ChatGPT in the scope of the non-prompting strategy indicates that the consideration of different topics besides those in the scope of IAS 37 is addressed by this tool, which is not the case of those provided either by the IASB or ChatGPT in its prompting strategy, predominantly focused on that exclusive standard. As examples of the first case, some answers indicate concerns regarding the subsequent events, a topic within the scope of the IAS 10 – Events after the reporting period, as well as disclosures and cost capitalizations. Another case of this can be illustrated by the answer provided for examples 11 A and 11B, as above mentioned, where the topic of property, plant and equipment relevantly emerged.

Therefore, even within the scope of the IAS 37, the answers from ChatGPT in its non-prompting strategy also require the analysis of a set of diversity topics such as the disclosure requirements, which additionally addresses, for readers' consideration sometimes, the possible use of accounting and reporting frameworks other than IAS/IFRS, as seen in its answer for the example 2 A.

Following, regarding the level of explanation, it can be seen that, even without a further request, ChatGPT in its non-prompting strategy also provides useful definitions and clarifications of the concepts behind its answers. For instance, the answer for example 7 mentions that 'a provision for future training costs can only be recognized if there is a present obligation due to past events, which is not the case here. The need for retraining results from future operating activities, not past obligations'.

Besides, to also strengthen this conclusion, it sometimes provides useful calculations to the users, as the answers for examples 11 A and 11B, where the figures for the yearly depreciations to be considered by users

Table 7. Accuracy of the answers.

	IASB		ChatGPT No-Prompting		ChatGPT Prompting	
	Should the provision be recognised?	Paragraphs from IAS 37 mentioned	Should the provision be recognised?	Paragraphs from IAS 37 mentioned	Should the provision be recognised?	Paragraphs from IAS 37 mentioned
Example 1	Yes	14, 24	Yes, with alternatives	None	Yes	14, 23, 36
Example 2A	Yes	14, 22	Yes	None	No	19(b)
Example 2B	Yes	10, 14, 17	Yes	None	Yes	10, 24, 23, 36
Example 3	Yes (90%)	14	Yes (90%), but sometimes may be unclear	None	Yes (90%), but sometimes may be unclear or vague and even wrong	14, 23, 36
Example 4	Yes	10, 14, 17, 24	Yes	None	Yes	10, 14, 23, 36
Example 5A	No	14, 72	No	None	No	14, 19(a), 23
Example 5B	Yes	14, 72	Yes	None	Yes	14, 23, 36
Example 6						
o At 31 December 20X0	No	14, 17-19	No	None	No	14, 19(a), 23
o At 31 December 20X1	Yes for probable fines and penalties	14, 17-19	Yes for all	None	Yes for fitting the smoke filters	14, 23, 36
Example 7	No	14, 17-19	No	None	No	14, 23
Example 11						
Example 11A	No	14, 17-19	No references to provisions (focused on IAS 16)	None	No	14, 23
Example 11B	No	14, 17-19	No references to provisions (focused on IAS 16)	None	Yes, but sometimes may be vague	14, 23, 36

are provided. Conversely, within the prompting strategy of ChatGPT, the answers are more exclusively focused on the criteria that should be met to recognise a provision, despite, even so, providing additional elements to be thought by users. This can be observed, for instance, from the answer provided for example 11B by this tool in this context, which indicates that ‘If the overhaul is due within the current reporting period or if costs need to be recognized proportionally, a provision should be recognized to reflect the expected cost of the overhaul based on the best estimate of the expenditure required. If the overhaul is due in the future but the obligation relates to the current reporting period, a provision should be recognized to allocate the cost accordingly’.

Finally, and concerning the answers’ global accuracy, it is relevant to stress that the answers provided by ChatGPT in both strategies can not be assumed as accurate in all cases, at least without further information, such as the framework used in what particularly concerns the non-prompting strategy. Table 7 intends to summarise the main conclusions by comparing the IASB’s answers with those provided by ChatGPT in the scope of the different strategies adopted.

Interestingly, as Table 7 shows, the use of a prompting strategy for ChatGPT, despite being more focused on the issues and the richness of the findings regarding the answers’ textual characteristics, provided less reliable conclusions. Besides, despite the common appearance of paragraphs when the IASB’s answers are compared with those by ChatGPT, namely paragraphs 10 and 14, with a few exceptions, there are others only provided by one of the sources under assessment. Since this is not necessarily wrong or incorrect, and assuming those as not unnecessary, these findings can be useful from the IASB perspective to consider if its answers are not excessively short, which is aligned with the previous evidence regarding the textual characteristics.

Moreover, besides the inaccuracy of some answers, Table 7 shows some cases of alternative answers provided by ChatGPT in its non-prompting strategy, as the answer for example 1 identifies. Finally, it also provides examples of answers from ChatGPT that can be seen, from the authors’ perspectives, as vague or unclear, particularly for those stakeholders with lower levels of knowledge regarding the IAS and IFRS matters, as the answer for example 3 can illustrate. Despite not being aligned with the IASB’s answer, these findings can be useful in identifying likely missing inputs in this entity’s examples.

Together, the previous findings regarding the **RQ2**, despite their limitations and constraints, can benefit users to identify different perspectives and approaches to a given problem, which may include its use as a pedagogical element, such as a case study, during classes oriented by teachers, or professionals with significant expertise on these matters, such as preparers and auditors to raise discussions in the professional environment. In this sense, educators and practitioners can use both strategies performed in this research, for instance, to compare their findings and warn students and junior professionals, respectively, about the risks of not using an oriented request, raising discussions about the potential consequences of missing the relevant contextual elements, such as the regulatory framework, the scope and the focus of the analysis.

Those findings and suggestions are aligned with the literature which stresses that ChatGPT may be useful to empower knowledge in the accounting area but should be used with caution, and by those who have the necessary skills to evaluate the answers (Abeysekera, 2024; Cohen et al., 2023; Freitas et al., 2024; Rudolph et al., 2023; Stott & Stott, 2023; Wecks et al., 2024; Wood et al., 2023).

The last section provides the conclusions from this study, including its limitations and suggestions for future research.

Conclusions

From an exploratory perspective and using a quasi-experimental method, this study intended to assess the usefulness of ChatGPT as an auxiliary tool for accounting professional or educational purposes by assessing its textual characteristics (properties) and overall understanding regarding the recognition criteria of provisions under International Accounting Standards (IAS) 37, as issued by the International Accounting Standards Board (IASB).

The content analysis covered different aspects of the messages through two RQ, such as the messages' length, readability, tones, magnitudes, whether messages can be seen as subjective or objective, thematic area, focus, transversality, explanation, and accuracy. The cases from the illustrative examples for the IAS 37 were used as the inputs (questions), and the answers (outputs) from ChatGPT were assessed in comparison, whenever relevant, with those by the IASB. ChatGPT's answers were obtained through two different strategies, with and without prompting.

The findings show that, regardless of the strategy, the answer from ChatGPT had commonly higher amounts of words and magnitude levels. Interestingly, the answers from this tool in its prompting strategy surpassed the readability level of the IASB answers, which suggests that this tool could potentially be useful for standard-setters to enhance their communication with stakeholders, but also for preparers and auditors when providing information to their users.

Moreover, the Business and Finance area was undoubtedly found as the main field in which the messages are inserted particularly through ChatGPT. Finally, the findings from the sentiment analysis have identified a predominance of a subjective approach and a negative tone, with the first being more consistent and the latter more diversified in the scope of the prompting strategy.

Globally considered, ChatGPT, even without further commands as proposed within the prompting strategy, properly understood what was proposed (problem-based case scenarios) with no further explanation, as well as the main issue underlying the messages (the one related to the recognition of a given liability) with a few exceptions. Notwithstanding, topics under IFRS to be considered by readers, other than that, or even from other accounting and reporting frameworks, were proposed by this tool, which also provided additional explanations regarding the concepts underlying the messages. These findings, however, were significantly improved for the answers based on the use of the prompting strategy.

Nonetheless, some answers were not globally accurate regardless of the strategies used, being also sometimes vague or unclear. The latter corroborates the literature findings regarding the need to acknowledge ChatGPT limitations, and the necessary expertise from users who must validate its answers.

Together, those findings may indicate that the outputs from ChatGPT can be a useful tool for practitioners, such as accountants and managers with the duty to prepare financial statements, as it provides a first overall understanding of the matters and issues under assessment in a given circumstance, and the relevant sources that need to be considered within the decision-making process. It is also useful for academics since it can be

an auxiliary, for instance, in a classroom environment to open discussions and promote the students' critical sense, individually or collectively (group works and discussions), with the teachers' assistance.

Besides practitioners and academics, this research can also be helpful to stakeholders with a basic understanding of financial reporting and accounting. By providing insight into how to improve the usefulness of documents of a similar nature, such as explanatory examples, as well as an understanding of how stakeholders can interpret or understand those documents, it can also be relevant for local and international standard-setting bodies. In addition to contributing to the literature by suggesting some viewpoints on a diversity of analysis which can be used in future investigations in accounting and similar areas, this study is the first to assess the content proposed (illustrative examples from an accounting and reporting standard-setter body) and sentiment analysis behind a document of such nature as far as the authors are aware.

As a result, future researchers will be able to derive the analysis behind this study from a variety of perspectives that are related. Using these AI tools, including those related to sentiment analysis, studies can compare the findings with the perceptions of readers who have a reasonable understanding of the language and the matters underlying accounting and reporting standards. This research field can also address the implications of this understanding, as well as its properness related to the preparers' interpretations and applications, which may include the analysis of potential judgment bias. Further experimental studies with individuals can be used to reach this research purpose, also providing a significant contribution to standard-setter bodies to achieve their goals when proposing future standards or amending existing ones.

Also, researchers can compare the findings from this research with similar ones that may result from the assessment of other standards also issued by IASB covering different aspects other than those provided by IAS 37. In a similar sense, the comparison between older standards, such as IAS 37, with the latest ones, such as those from IFRS 15 onwards, can be of interest to identify whether there is a different pattern from the findings according to the topics under assessment. Future researchers can also use further artificial intelligence tools, besides ChatGPT, such as Perplexity or Gemini, or other sentimental analysis measures other than those proposed in this research, such as the Fog index of readability based on the readers' expected educational level, to assess their potential risks and benefits, also considering their different properties and applications.

Finally, the findings from this study can be compared with those using standards of a similar nature but issued by other standard-setter bodies, such as the International Public Sector Accounting Standards (IPSAS) issued by the International Public Sector Accounting Standards Board (IPSASB), to compare if the answers from ChatGPT have a similar pattern or if there is a difference that can be attributed to the institutional specific profile, goals or stakeholders.

Despite the likely interest behind this research, a broader understanding of these findings requires acknowledging its limitations, which can be summarized in a set of main restrictions. The first is related to the size of the inputs, which cannot be, ideally, too short, or too large for a proper analysis of the characteristics assessed by the tool used. The second concern to the analysis performed by these tools, which still presents some inherent restrictions mostly derived from a focus on the text (for instance, keywords that are classified as expressing negative sentiments) over the context, despite the growing and rapid evolution over the last few years, considering the increasing machine learning developments. The third is from some subjective analysis that is inherent to studies of such nature, based on content analysis.

Finally, it is worth stressing that the answers from ChatGPT in its prompting strategy can be modified or improved depending on the initial inputs. Consequently, the findings from this research should necessarily consider the starting point proposed by the authors in the scope of the experimentation purposes of this research, which is a matter that is necessarily driven by the subjectivity of this method. Furthermore, given the characteristics of this tool, the findings from this research can only be read by the date on which the inputs were inserted, and the outputs gathered.

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Data availability statement

All data for this study are publicly available. Notwithstanding, the authors are available to share the data collected for this purpose upon reasonable request, namely for research purposes. If you are interested in this data, please contact the corresponding author.

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Appendix

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
Example 1 Warranties In this scenario, the manufacturer is providing a warranty that covers manufacturing defects for a period of three years from the date of sale. Since it is probable that there will be claims under these warranties based on past experience, the manufacturer should recognize a warranty liability in its financial statements. Here's how the manufacturer should account for this: 1. Estimate the Warranty Liability: The manufacturer needs to estimate the expected cost of warranty claims based on historical data, such as the frequency and cost of past claims. This involves estimating the total cost of repairs or replacements that are expected to be incurred under the warranty. 2. Record the Liability: At the time of sale, the manufacturer should record a warranty liability on the balance sheet. This is typically done by creating a provision or an accrual for the estimated cost of future warranty claims. The entry would generally be: • Debit Warranty Expense (on the income statement) • Credit Warranty Liability (on the balance sheet) 3. Adjust the Liability: The estimated liability should be reviewed and adjusted regularly based on new information and experience. As warranty claims are made, the manufacturer would reduce the warranty liability and recognize any actual repair or replacement costs. 4. Financial Statement Disclosure: The manufacturer should disclose the nature of the warranty arrangements and the estimated warranty liability in the notes to the financial statements. This includes the basis for the estimate and any significant assumptions used.	To assess whether a provision should be recognized for the manufacturer's warranties under IAS 37, the following criteria are relevant: 1. Present Obligation: There is a present obligation as a result of a past event. The sale of the product with a warranty constitutes the obligating event because the manufacturer has committed to repair or replace defects under the terms of the warranty. This is a legal obligation arising from the sales contract. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: Based on past experience, it is probable (more likely than not) that claims will arise under the warranties. This meets the threshold of probable outflow, as the likelihood of incurring costs for repairs or replacements is greater than 50%. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate can be made of the expected outflows based on past warranty claims history. The best estimate of the costs required to settle the obligation would be the expected value, considering the probability and extent of future claims. <i>Relevant paragraph:</i> IAS 37.36 Since all three criteria are met, a provision should be recognized for the expected warranty claims.

(continued)

Appendix. Continued.

ChatGPT's answers with a no-prompting strategy

This approach ensures that the financial statements provide a realistic view of the manufacturer's obligations and the associated costs of providing warranties.

Example 2A Contaminated land – legislation virtually certain to be enacted-

In this situation, the entity faces a potential obligation related to environmental contamination that has occurred but has not yet been legally required to be cleaned up. However, given that it is virtually certain that a draft law will soon be enacted requiring cleanup, the entity should recognize a liability for the anticipated cleanup costs in its financial statements as of 31 December 20X0.

Here's how the entity should account for this situation:

1. **Recognize a Provision:** Since it is virtually certain that the draft law will be enacted, the entity should recognize a provision for the cleanup costs as of the reporting date (31 December 20X0). According to accounting standards like IFRS (International Financial Reporting Standards) or GAAP (Generally Accepted Accounting Principles), a provision should be recognized when:
 - There is a present obligation (legal or constructive) as a result of a past event,
 - It is probable that an outflow of resources will be required to settle the obligation, and
 - The amount can be reliably estimated.

In this case:

 - The past contamination event creates a present obligation.
 - The enactment of the law, which is virtually certain, will require the entity to incur cleanup costs.
 - The entity should estimate the amount of the cleanup costs based on available information.
2. **Record the Provision:** The entity should record the provision with the following journal entry:
 - Debit Environmental Expense (or a similar account) on the income statement to recognize the cost.
 - Credit Provision for Cleanup Costs (or a similar liability account) on the balance sheet.
3. **Disclose in Financial Statements:** The entity should provide disclosure in the notes to the financial statements about:
 - The nature of the obligation.
 - The amount recognized as a provision.
 - The expected timing of any outflows of resources.
 - Any uncertainties regarding the amount or timing of the outflow.

By recognizing the provision and making the necessary disclosures, the entity ensures that its financial statements reflect the anticipated impact of the new legislation and provides users with relevant information about its obligations.

Example 2B Contaminated land and constructive obligation

In this scenario, the entity has a widely published environmental policy committing to clean up all contamination it causes, even though there is no current environmental legislation in the country requiring such cleanup. Since the entity has a history of honoring this policy, it creates a constructive obligation to clean up the contamination.

Here's how the entity should account for this:

1. **Recognize a Provision:** Even though there is no legal requirement, the entity's published environmental policy and history of honoring it create a constructive obligation. This obligation is recognized if:
 - The policy creates a valid expectation among stakeholders that the entity will clean up the contamination.
 - It is probable that the entity will have to incur costs to fulfill this obligation.
 - The amount of the cleanup costs can be reliably estimated.

Since the entity has a track record of adhering to its environmental policy, and the policy is publicly available, it can be reasonably concluded that a provision should be recognized.

2. **Record the Provision:** The entity should estimate the expected cost of cleaning up the contamination and record a provision as follows:

ChatGPT's answers with a prompting strategy

To determine if a provision should be recognized for the contamination cleanup under **IAS 37**, the following criteria apply:

1. **Present Obligation:** There is no present obligation at 31 December 20X0 because, at that date, there is no existing legislation requiring the cleanup. While the draft law makes it **virtually certain** that legislation will be enacted shortly after the year-end, this does not create a present legal obligation at the reporting date. Therefore, there is no obligating event as of 31 December 20X0.
Relevant paragraph: IAS 37.19(b)
2. **Probable Outflow of Resources:** While it may be probable that an outflow will occur once the law is enacted, this criterion is only relevant after the legal obligation arises. At 31 December 20X0, no obligation exists to enforce cleanup under law.
3. **Reliable Estimate:** A reliable estimate of the costs of cleanup could likely be made, but this is only relevant if a present obligation exists. As no obligation is present as of 31 December 20X0, this criterion does not apply.

Since the present obligation criterion is not met at the reporting date, no provision should be recognized as of 31 December 20X0.

To determine if a provision should be recognized for the cleanup under **IAS 37**, the following criteria apply:

1. **Present Obligation:** There is a **constructive obligation** as a result of a past event. Although there is no legal requirement due to the absence of environmental legislation, the entity's widely published environmental policy and its established record of honoring this commitment create a valid expectation in the public and other stakeholders that the contamination will be cleaned up. This constitutes a constructive obligation.
Relevant paragraph: IAS 37.10 and IAS 37.14
2. **Probable Outflow of Resources:** It is probable that an outflow of resources will be required to settle this obligation. Given the entity's history of complying with its policy, it is more likely than not that cleanup costs will be incurred.
Relevant paragraph: IAS 37.23
3. **Reliable Estimate:** A reliable estimate of the costs associated with the cleanup can be made based on past experiences or industry data. The best estimate would be the amount expected to be spent on cleaning up the contamination.
Relevant paragraph: IAS 37.36

Since all three criteria are met, a provision should be recognized for the cleanup costs.

(continued)

Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
• Debit Environmental Expense (or a similar account) on the income statement. • Credit Provision for Cleanup Costs (or a similar liability account) on the balance sheet. 3. Disclose in Financial Statements: The entity should provide appropriate disclosures in the notes to the financial statements, including: • The nature of the obligation arising from the environmental policy. • The amount recognized as a provision. • The timing of expected outflows of resources. • Any uncertainties regarding the amount or timing of the outflow. By recognizing the provision and making the necessary disclosures, the entity reflects its commitment to environmental cleanup and provides transparency to stakeholders about the associated financial implications. Example 3 Offshore oilfield In this case, the entity is required by its licensing agreement to remove the oil rig and restore the seabed at the end of production. The costs are divided between the removal of the rig and restoration of damage (90%) and costs related to the extraction of oil (10%). Since the rig has been constructed but no oil has been extracted yet, the entity should recognize a liability related to the future costs of removal and restoration. Here's how the entity should account for this situation: 1. Determine the Provision Amount: The entity needs to estimate the total costs of removing the oil rig and restoring the seabed. This estimate should include both the costs related to the removal and restoration (90%) and those related to the extraction of oil (10%). 2. Allocate the Costs: • Since no oil has been extracted yet, the costs related to extraction (10%) should not be recognized as a liability at this stage. Instead, these costs will be accounted for as part of the production process and recognized over the life of the production. • The remaining 90% of the costs (associated with rig removal and seabed restoration) should be recognized as a provision. 3. Recognize the Provision: • At the end of the reporting period, the entity should record a provision for the estimated costs related to the removal of the rig and restoration of the seabed. • The journal entry would be: • Debit Asset Retirement Cost (or a similar account) on the balance sheet to reflect the future obligation. • Credit Provision for Decommissioning Costs (or a similar liability account) on the balance sheet to recognize the liability. 4. Capitalize the Costs: • The provision for the future costs of rig removal and seabed restoration should be capitalized as part of the cost of the oil rig or related assets. This means it will be included in the carrying amount of the asset and depreciated over its useful life. 5. Disclose in Financial Statements: • The entity should disclose the nature of the obligation, the estimated amount of the provision, and the expected timing of the outflows in the notes to the financial statements. This includes information about the basis for the estimates and any uncertainties involved. By following these steps, the entity ensures that the financial statements accurately reflect the future costs associated with the oil rig and seabed restoration, and provides transparent information to stakeholders. Example 4 Refunds policy In this situation, the retail store has a policy of refunding purchases to dissatisfied customers even though there is no legal obligation to do so. Since the policy is generally known and the store has a practice of honoring it, this creates a constructive	To determine if a provision should be recognized for the removal of the oil rig and restoration of the seabed under IAS 37, the following criteria apply: 1. Present Obligation: A present obligation exists as a result of a past event. The licensing agreement constitutes a legal obligation requiring the removal of the oil rig and restoration of the seabed at the end of production. This obligation arises from the contractual terms agreed upon when the oilfield was licensed. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: It is probable that an outflow of resources will be required to settle the obligation. The entity is committed to removing the rig and restoring the seabed, which involves significant costs. Although the rig has not yet been used for oil extraction, the obligation to incur these costs is certain to arise when production ceases. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the costs to remove the rig and restore the seabed can be made. The costs should be allocated based on the percentage related to extraction and other factors. Since 10% of the costs are related to extraction, a provision should be recognized for this portion based on the best estimate of the cost to fulfill the obligation. <i>Relevant paragraph:</i> IAS 37.36 Since all three criteria are met, a provision should be recognized for the estimated cost of removing the rig and restoring the seabed, apportioned according to the percentage related to the extraction process. To determine if a provision should be recognized for the refund policy under IAS 37, the following criteria apply: 1. Present Obligation: The retail store has a constructive obligation arising from its past actions. Although there is no legal obligation to provide refunds, the store's established

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
obligation. Here's how the store should account for this: 1. Estimate the Refunds: The store should estimate the amount of refunds it expects to issue based on historical data, such as the percentage of sales that result in refunds. This estimate should be based on past experience with refunds under similar circumstances. 2. Recognize a Provision: At the end of the reporting period, the store should recognize a provision for the expected cost of future refunds. This is because: • The policy creates a valid expectation among customers that refunds will be provided. • It is probable that the store will incur costs to fulfill this expectation. • The amount of expected refunds can be reasonably estimated. The journal entry to recognize the provision would be: • Debit Refund Expense (or a similar account) on the income statement. • Credit Provision for Refunds (or a similar liability account) on the balance sheet. 3. Disclose in Financial Statements: The store should disclose in the notes to the financial statements: • The nature of the refund policy and the provision. • The amount recognized as a provision for refunds. • The basis for estimating the provision and any significant assumptions used. 4. Adjust the Provision: The store should review and adjust the provision regularly based on actual refund experience and any changes in the refund policy or expected refund rates. By recognizing and disclosing this provision, the retail store ensures that its financial statements accurately reflect the expected costs associated with its refund policy and provides transparency to stakeholders regarding its obligations. Example 5A Closure of a division – no implementation before end of the reporting period In this scenario, the entity's board decided to close down a division on 12 December 20X0, but the decision had not been communicated to those affected nor had any steps been taken to implement the closure by the end of the reporting period (31 December 20X0). Here's how the entity should account for this situation: 1. Assessment of Provision Requirements: • No Provision Required: Since the decision to close down the division was not communicated to those affected and no steps were taken to implement the decision by the end of the reporting period, the entity does not yet have a present obligation as of 31 December 20X0. According to accounting standards, a provision for the costs associated with the closure (such as employee termination benefits or asset write-downs) should only be recognized when the entity has a present obligation resulting from a past event, and it is probable that an outflow of resources will be required to settle the obligation. 2. Disclosure Requirements: • Disclosure in Notes: Even though no provision is required at the end of the reporting period, the entity should disclose the closure decision in the notes to the financial statements. The disclosure should include: • The fact that a decision to close down the division was made after the reporting period but before the financial statements were authorized for issue. • The nature of the decision and the reasons for the closure. • The expected financial effects of the closure, if known, including potential costs and any impact on future operations. • Any plans for implementation or potential timelines. 3. Subsequent Events: • Adjust Financial Statements: Since the closure decision was made after the reporting period but before the financial statements were authorized for issue, it is considered a non-adjusting event (subsequent event)	policy and its practice of honoring this policy create a valid expectation among customers that refunds will be provided. This makes it a constructive obligation. <i>Relevant paragraph:</i> IAS 37.10 and IAS 37.14 2. Probable Outflow of Resources: It is probable that an outflow of resources (refunds) will be required to settle this obligation. Given that the store has a track record of honoring its refund policy and this policy is well-known, it is likely that some customers will claim refunds. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the refund costs can be made based on historical data of refund claims or the store's past experience with such refunds. The best estimate should reflect the expected cost of future refunds based on past patterns. <i>Relevant paragraph:</i> IAS 37.36 Since all three criteria are met, a provision should be recognized for the estimated cost of refunds to dissatisfied customers. To determine if a provision should be recognized for the closure of the division under IAS 37, the following criteria apply: 1. Present Obligation: As of 31 December 20X0, there is no present obligation because the decision to close down the division was made on 12 December 20X0, but it had not been communicated to those affected or acted upon. Therefore, the obligating event has not yet occurred, and there is no present obligation at the reporting date. <i>Relevant paragraph:</i> IAS 37.14 and IAS 37.19(a) 2. Probable Outflow of Resources: Since no steps have been taken to implement the decision and the closure has not been communicated, it is not yet probable that an outflow of resources will occur. The outflow is contingent on the decision being communicated and implemented. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: As there is no present obligation, the question of making a reliable estimate does not arise at this point. In summary, no provision should be recognized as of 31 December 20X0 because the criteria of having a present obligation and probable outflow of resources are not met.

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
1. Obligation and Provision • No Present Obligation at 31 December 20X0: At the reporting date (31 December 20X0), the entity is not legally required to have already fitted the smoke filters. The obligation to install them only arises as of 30 June 20X1. Therefore, there is no present obligation as of 31 December 20X0 because the law is not yet in force. No fines or penalties are due yet, and the entity still has time to comply with the legislation. • No Provision Required: Since the entity has no present legal or constructive obligation to fit the filters as of 31 December 20X0, a provision for the cost of installing the smoke filters should not be recognized in the financial statements as of that date. 2. Disclosure of Future Obligation • Disclose the New Legislation: Although a provision is not required at the reporting date, the new legislation represents a future obligation. Therefore, the entity should disclose the fact that new legislation will require it to fit smoke filters by 30 June 20X1. • Nature of the Legislation and Costs: In the notes to the financial statements, the entity should explain the nature of the new legislation, its compliance requirements, and the estimated costs of fitting the smoke filters, if these can be reasonably estimated. • Potential Impact: The entity should also disclose the potential financial impact of the legislation, especially if the costs are significant or could affect the entity's future cash flows or profitability. 3. Subsequent Events • Non-adjusting Event: The requirement to install the smoke filters represents a non-adjusting event as of 31 December 20X0. This means the financial statements should not be adjusted to reflect the future cost of installing the filters, but the obligation should be disclosed, as it provides relevant information about future liabilities. 4. Recognition of Costs in Future Periods • Recognize Costs When Incurred: The entity will recognize the costs associated with fitting the smoke filters in the period when the work is performed (likely in the first half of 20X1). These costs will likely be capitalized as part of the asset (factory) if they meet the criteria for capital expenditure, or expensed if they are treated as repairs and maintenance. By following these steps, the entity ensures that its financial statements at 31 December 20X0 provide accurate and transparent information about the new legislation and its future impact, while not recognizing a liability prematurely. (b) At 31 December 20X1, the end of the reporting period In this situation, the entity is required by new legislation to fit smoke filters to its factories by 30 June 20X1. However, as of 31 December 20X1 (the end of the reporting period), the entity has not yet fitted the smoke filters, despite the legal requirement having passed. Here's how the entity should account for this situation: 1. Legal Obligation and Provision • Present Obligation: As of 31 December 20X1, the entity is legally required to have fitted the smoke filters, and failure to comply with this legislation could result in fines, penalties, or other legal consequences. Therefore, the entity has a present obligation as of 31 December 20X1. • Provision Required: Since the entity has not complied with the legal requirement, a provision should be recognized for the costs related to this obligation. This provision may include: • The cost of fitting the smoke filters. • Any potential fines, penalties, or legal costs that might arise due to non-compliance with the legislation. The journal entry to record the provision would be: • Debit Compliance Expense (or Environmental Expense or a similar account) in the income statement.	30 June 20X1. The obligation to fit the filters only arises when the legislation becomes effective. <i>Relevant paragraph:</i> IAS 37.14 and IAS 37.19(b) 2. Probable Outflow of Resources: While it is probable that the entity will incur costs to comply with the new legislation once it is enacted, this is not relevant as of 31 December 20X0. The obligation to incur costs is contingent upon the legislation becoming effective. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: The estimate of costs is only relevant when a present obligation exists. Since the obligation has not yet arisen, the requirement to make a reliable estimate does not apply as of 31 December 20X0. Since the criteria for recognizing a provision are not met at the reporting date, no provision should be recognized as of 31 December 20X0. b. At 31 December 20X1, the end of the reporting period To determine if a provision should be recognized for fitting smoke filters under IAS 37 at 31 December 20X1, the following criteria apply: 1. Present Obligation: By 31 December 20X1, the entity has a present obligation due to the new legislation that requires the fitting of smoke filters by 30 June 20X1. The obligation arises from the legal requirement imposed by the new legislation. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: It is probable that an outflow of resources will be required to comply with the legislation. Since the deadline for compliance (30 June 20X1) has passed, it is likely that the entity will incur costs to fit the smoke filters. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the costs to fit the smoke filters should be possible. The best estimate of the provision should reflect the expected cost of compliance. <i>Relevant paragraph:</i> IAS 37.36 Since all three criteria are met as of 31 December 20X1, a provision should be recognized for the costs associated with fitting the smoke filters.

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
• Credit Provision for Smoke Filter Installation (or a similar liability account) in the balance sheet. 2. Measurement of Provision • Best Estimate of Costs: The provision should be measured based on the best estimate of the expenditure required to settle the obligation. This includes the cost of installing the smoke filters and any other associated costs (e.g. potential fines or penalties due to non-compliance at the reporting date). • Adjust for Fines or Penalties: If fines or penalties are already applicable as of 31 December 20X1 due to the missed deadline, these should be included in the provision. If the fines are uncertain or contingent, the entity may need to disclose the nature of the potential liabilities and their estimated impact. 3. Disclosure in Financial Statements • Nature of the Obligation: The entity should disclose the nature of the obligation, including the legislation requiring the smoke filters and the fact that the entity has not yet complied with the legal requirement. • Amount of the Provision: The amount recognized as a provision for the cost of fitting the smoke filters and any potential penalties should be disclosed. • Potential Consequences of Non-Compliance: The entity should explain any potential consequences of non-compliance, such as fines, operational shutdowns, or reputational risks. 4. Subsequent Events • If the entity fits the smoke filters or settles any fines/penalties after 31 December 20X1 but before the financial statements are authorized for issue, this should be disclosed as a subsequent event. The financial statements should include information about the actions taken and the potential impact on future periods. 5. Recognition of Costs When Incurred • Cost Capitalization or Expense: When the entity eventually installs the smoke filters, the related costs will likely be capitalized as part of the factory asset, depending on the nature of the expenditure, or expensed if treated as repairs and maintenance. By recognizing the provision and providing transparent disclosures, the entity ensures its financial statements accurately reflect the legal obligation and any potential financial consequences of non-compliance with the smoke filter legislation as of 31 December 20X1.	
Example 7 Staff retraining as a result of changes in the income tax system In this scenario, the government introduces changes to the income tax system, requiring an entity in the financial services sector to retrain a large portion of its workforce to ensure compliance with financial services regulation. However, as of the end of the reporting period, no retraining has occurred. Here's how the entity should account for this situation: 1. No Present Obligation • No Provision Required: At the end of the reporting period, the entity has no present obligation to retrain its workforce, even though the tax changes create a need for future retraining. There is no legal or constructive obligation to recognize a provision for retraining costs since: • The entity has not yet undertaken any retraining. • No retraining contracts have been signed, and no staff have been informed or committed to retraining. A provision for future training costs can only be recognized if there is a present obligation due to past events, which is not the case here. The need for retraining results from future operating activities, not past obligations. 2. Expense Recognition in Future Periods • Expense When Training Occurs: The cost of retraining staff should be recognized as an expense in the period when the retraining actually occurs. Since the retraining is related to ensuring compliance with new regulations, it is	To determine if a provision should be recognized for retraining costs under IAS 37, the following criteria apply: 1. Present Obligation: At the end of the reporting period, there is no present obligation. The need to retrain staff arises from future regulatory changes, but the obligation to incur costs for retraining does not exist until the training is actually required and planned for. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: Although it is probable that costs will be incurred to retrain staff in the future, this criterion applies only when a present obligation exists. As no obligation has arisen yet (since no retraining has taken place and no formal commitment has been made), this criterion is not met at the reporting date. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the costs would only be relevant if a present obligation existed. Since there is no present obligation at the end of the reporting period, the need to estimate costs is not applicable. Since the criteria for recognizing a provision are not met (no present obligation exists), no provision should be recognized as of the end of the reporting period.

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
a future cost of the business and should be treated as an operating expense once incurred. 3. Disclosure in Financial Statements • Future Impact of Legislation: Even though no provision is required, the entity should disclose the impact of the new legislation and the expected need for retraining in the notes to the financial statements. This disclosure might include: • A description of the changes in the tax system that require retraining. • The expected timing of the retraining and the estimated costs involved, if these can be reasonably estimated. • Any potential impact on the entity's financial performance or operations if compliance is not achieved. 4. Subsequent Events • If significant retraining activities occur after the reporting period but before the financial statements are authorized for issue, this might need to be disclosed as a non-adjusting subsequent event. However, the financial statements would not need to be adjusted as the retraining obligation did not exist at the reporting period end. 5. Future Operating Costs • No Capitalization: The costs of retraining staff are operating costs, not costs that add value to an asset. Therefore, these costs should not be capitalized but rather expensed as incurred. By recognizing the retraining costs only when they occur and providing disclosures on the future impact of the new legislation, the entity ensures that its financial statements are both accurate and transparent. The retraining costs represent future operating expenses that should be reflected in the periods in which they are incurred. Example 11A Refurbishment costs – no legislative requirement In this scenario, the furnace is an asset with a lining that requires replacement every five years, and the lining has been in use for three years at the end of the reporting period. According to IAS 16 Property, Plant and Equipment, assets that have significant parts with different useful lives should be accounted for separately. Here's how this situation should be handled under IAS 16: 1. Component Approach • Separate Components: IAS 16 requires that if a part of an asset (like the furnace's lining) has a different useful life or is expected to require replacement periodically, it should be treated as a separate component. This means that the cost of the furnace's lining should be capitalized and depreciated separately from the rest of the furnace. • Depreciation of the Lining: The lining should be depreciated over its useful life, which is five years in this case. Since the lining has been in use for three years, two years of its useful life remain. 2. Depreciation Calculation • At the reporting date, the entity should have already been depreciating the lining over its five-year life. The depreciation expense for the lining should be recognized proportionately over its useful life. • For example, if the cost of the lining is \$100,000, the annual depreciation would be: Depreciation per year = $\frac{100,000}{5} = 20,000$ per year. Depreciation per year = $\frac{100,000}{5} = 20,000$ per year. After three years, the accumulated depreciation would be: Accumulated depreciation = $20,000 \times 3 = 60,000$. Depreciation = 20,000. $3 = 60,000$. Accumulated depreciation = $20,000 \times 3 = 60,000$. The carrying amount of the lining at the end of the	To determine if a provision should be recognized for the replacement of the furnace lining under IAS 37, the following criteria apply: 1. Present Obligation: At the end of the reporting period, there is no present obligation to replace the lining because it is only required every five years and the lining has been in use for only three years. The obligation to replace the lining arises when the lining reaches the end of its useful life. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: While it is probable that costs will be incurred to replace the lining in the future, this is not a criterion for recognizing a provision unless a present obligation exists. Since the lining has not yet reached the end of its useful life, this criterion does not apply at this time. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the costs for replacing the lining is only necessary if a present obligation exists. Since there is no present obligation to replace the lining as of the reporting date, the need to estimate the costs is not applicable. Given that no present obligation exists as of the end of the reporting period, no provision should be recognized for the replacement of the furnace lining.

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
reporting period would be: Carrying amount = $100,000 - 60,000 = 40,000$ Carrying amount = $100,000 - 60,000 = 40,000$ Carrying amount = $100,000 - 60,000 = 40,000$ This carrying amount represents the remaining value of the lining, which will be depreciated over the next two years. 3. Replacement of the Lining • Future Replacement Costs: When the lining is replaced after five years, the old lining should be derecognized, and the cost of the new lining should be capitalized. This new lining will be depreciated over its own useful life (another five years). • Derecognition of Old Lining: When the replacement occurs, the carrying amount of the old lining (which should be fully depreciated by then) will be derecognized from the balance sheet. Any difference between the carrying amount and any residual value, if applicable, would be recognized as a gain or loss in the income statement. 4. Disclosure • The entity should disclose the accounting policy related to the capitalization and depreciation of significant components of property, plant, and equipment. It should also provide details of the costs allocated to different components, such as the furnace's lining, and the depreciation methods used. By following the component approach under IAS 16, the entity ensures that the costs of significant parts, like the furnace lining, are appropriately allocated and recognized over their useful lives, providing a more accurate reflection of the asset's condition and future replacement obligations. Example 11B Refurbishment costs – legislative requirement In this scenario, an airline is required by law to overhaul its aircraft every three years. Under IAS 16 Property, Plant and Equipment, when major components or significant parts of an asset have different useful lives or provide economic benefits in a different pattern, they must be accounted for separately. Here's how this situation should be handled: 1. Component Approach • Overhaul as a Separate Component: The requirement to overhaul the aircraft every three years indicates that the overhaul costs represent a significant part of the overall aircraft maintenance. IAS 16 requires that when significant components (such as overhauls) have different useful lives or patterns of benefits, they should be treated as separate components and depreciated separately from the rest of the asset. • Depreciation of the Overhaul: The cost of each aircraft overhaul should be capitalized as a separate asset and depreciated over the period until the next overhaul (in this case, three years). The cost associated with the overhaul does not relate to the entire useful life of the aircraft but only to the three-year period in which it will generate benefits by allowing the aircraft to continue operating. 2. Initial Recognition of the Aircraft • When the airline acquires a new aircraft, the purchase price is allocated between the different components of the aircraft. This includes the cost of the aircraft itself, as well as the cost of future overhauls. • The aircraft's main body and components that do not require regular overhaul (e.g. fuselage, wings) are depreciated over the total useful life of the aircraft. • The initial cost of the overhaul (if included in the aircraft's purchase price) is depreciated over the three-year period until the next required overhaul. 3. Subsequent Overhaul Costs • Capitalization of Overhaul Costs: When the aircraft undergoes its required overhaul, the costs associated with the overhaul should be capitalized as a new component of the aircraft. This means the airline adds the cost of the overhaul to its property, plant, and equipment (PPE) and	To determine if a provision should be recognized for the overhaul of the aircraft under IAS 37, the following criteria apply: 1. Present Obligation: At the end of the reporting period, a present obligation exists if the overhaul is required by law. This obligation arises from the legal requirement to overhaul the aircraft every three years. However, this obligation pertains to future periods, and thus, a provision would only be recognized for the portion of the obligation related to the current reporting period. <i>Relevant paragraph:</i> IAS 37.14 2. Probable Outflow of Resources: It is probable that an outflow of resources will be required to fulfill the legal obligation to overhaul the aircraft. Since the law mandates the overhaul every three years, the cost associated with the overhaul is likely to be incurred. <i>Relevant paragraph:</i> IAS 37.23 3. Reliable Estimate: A reliable estimate of the costs associated with the overhaul can be made based on historical data or industry estimates. The costs should be allocated over the periods in which the aircraft is used, taking into account the portion of the cost attributable to the current reporting period. <i>Relevant paragraph:</i> IAS 37.36 If the overhaul is due within the current reporting period or if costs need to be recognized proportionally, a provision should be recognized to reflect the expected cost of the overhaul based on the best estimate of the expenditure required. If the overhaul is due in the future but the obligation relates to the current reporting period, a provision should be recognized to allocate the cost accordingly.

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Appendix. Continued.

ChatGPT's answers with a no-prompting strategy	ChatGPT's answers with a prompting strategy
depreciates it over the next three years (until the next overhaul is required). • Derecognition of Previous Overhaul Costs: At the same time, the carrying amount of the old overhaul (the previous overhaul component) should be derecognized from the financial statements. Any remaining value should be written off, and any difference between the carrying amount and the derecognition amount would be recognized as a gain or loss in the income statement. 4. Depreciation of Overhaul Costs • Each overhaul is depreciated over its specific useful life of three years. For example, if the cost of the overhaul is \$300,000, the airline would depreciate \$100,000 per year over the next three years: $\text{Depreciation per year} = \frac{300,000}{3} = 100,000$ • This depreciation expense should be recognized in the income statement, and it would reflect the economic benefits the overhaul brings to the aircraft's continued operation over the three-year period. 5. Disclosure in Financial Statements • Componentization Policy: The airline should disclose its accounting policy for componentization under IAS 16, explaining that significant components of the aircraft, such as overhauls, are recognized and depreciated separately. • Costs and Timing of Overhauls: The airline should provide details of the overhaul costs, including the total expenditure for the most recent overhauls and the expected timing and costs of future overhauls. 6. Routine Maintenance vs. Overhaul • Routine Maintenance: Routine maintenance and minor repairs that do not enhance the asset or extend its useful life should be expensed as incurred, as they do not meet the criteria for capitalization. • Overhaul (Major Refurbishment): In contrast, major overhauls or refurbishments, such as the three-year overhaul required by law, meet the criteria for capitalization because they provide economic benefits over a specific period and extend the useful life of the asset. By following the guidance under IAS 16 and capitalizing the overhaul costs as separate components, the airline ensures that its financial statements accurately reflect the true costs and benefits of maintaining the aircraft and comply with legal requirements.	