

Staff paper

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Project Digital Financial Reporting

Topic Use of Al in taxonomy development

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Purpose of this session

To:

- understand your experiences regarding the use of Al
- obtain your advice on the use of AI in the work of taxonomy and its effects.



Use of AI by the taxonomy team and IFRS Foundation

The IFRS Foundation and the taxonomy team are at an early, exploratory, phase in our use of AI.

Within the taxonomy team we are looking to use AI to aid some parts of our work, in particular development of draft lists of elements from requirements for disclosure.

The wider Foundation is also investigating the use of AI in other areas of work, such as analysis of financial statements for common practice, summarising consultation responses, prototyping line-of-business tools and utilities etc.



Objectives / potential advantages

- Cost and time savings, increased capacity
- Capturing, understanding, sharing and operationalising knowledge
- Supporting digital consumption by AI / greater use of AI in the data chain



Al for modelling taxonomy elements





Introduction

- The agent¹ was developed to automate a part of the process for modelling taxonomy elements for presentation and disclosure requirements arising from new or amended IFRS Accounting Standards.²
- The purpose of developing this agent is to gain efficiency in the process of modelling taxonomy elements.

¹ An agent is a customizable Al-powered assistant designed to automate tasks, answer questions, or perform actions on a users' behalf.

² The agent is developed for 'Pattern Recognition and Simple Predictions' in David A. Wood's Al Capability Spectrum. The agent needs to be more 'deterministic' rather than creative to achieve the purpose. Hence the agent's 'temperature' has been made low.



The capabilities of the agent

- As of now, when provided with a IFRS Accounting Standard or an amendment to an IFRS Accounting Standard, the agent can identify most of the presentation and disclosure requirements and:
 - generate a summary of the presentation and disclosure requirements;
 - generate a list of taxonomy elements, element type and paragraph references;
 - identify whether new elements should be modelled/ existing elements need to be amended;
 - identify relationships between the elements (hierarchical, dimensional and calculational); and
 - identify the relevant presentation group (or suggest a new presentation group).
- The accuracy in generating taxonomy elements, element type, paragraph references and relevant presentation group has improved with testing and feedback.

[Refer Appendix A, slides 19–21 to see the output generated by the agent]



Process of developing the agent

- The platform we used to develop this agent is Credal.Ai.
- The process of developing this agent is shown below:

Identifying users' needs

Identifying the Taxonomy team's need for the agent to generate elements, paragraph references, presentation groups and relationships between the elements

Determining the output

Generating a <u>table</u> with elements, element types and paragraph references and providing the calculation relationship in a <u>paragraph</u>

Determining the tasks that agent needs to perform

For example, to generate the taxonomy elements, the agent needs to first identify the presentation and disclosure requirements

Draft examples to support the prompt

Linking each task to an example as an instruction to the agent

Drafting the prompt

Instructing the agent in a detailed manner on how to approach each subtask to generate the desired output (Refer Appendix B, slide 24)

Decide on source documents and how best to link them

Linking the policies, guidelines which agent needs to refer to when performing the tasks (Refer Appendix B, slide 23)

Testing and modifying the prompt

Testing the output of the agent through users and modifying the prompt to improve the output

Continuous improvement of the agent

Continue to improve the agent by upgrading the foundation model and filling the gaps in our policies, if any.



Challenges and Learnings

Challenges

Limited accuracy and completeness of the generated output

Refer *Identifying relationships between the elements* (hierarchical and dimensional) in Appendix A, slide 20-agent indicating an existing axis, as new.

Inconsistency in the generated output for the same input

Example—the agent is inconsistent in identifying all presentation requirements when the same IFRS Accounting Standard is provided by different users

Difficulty in determining the best way to write the prompt to generate the desired output/ train the agent

Leads to a cyclical process of testing and modifying the prompt

Learnings and ways of overcoming challenges

Use the agent as a brainstorming tool/ collaborative partner and:

- prompt the agent to generate a confidence score;
- identify gaps in the documentation of policies and update the documentation; and
- performing additional tests to verify accuracy

Currently working with the technology team to find a way of minimising the inconsistencies

Building a repository of prompts of agents which works successfully, to be used as a starting point (suggested in a previous ITCG meeting)



Future developments in using AI for modelling taxonomy elements

- Develop a separate agent for generating taxonomy elements for IFRS Sustainability Disclosure Standards.
- Continuous improvements, including:
 - updating the foundation model with the improvements in technology;
 - identifying gaps in the documentation of policies and guidelines, and updating and improving the source documents; and
 - training the agent through continuous testing and improving the prompt.





Questions for ITCG members

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Do you have any clarifying questions/ comments on the agent for modelling taxonomy elements?

Note: The ITCG members' experience, suggestions and advice on overcoming challenges will be discussed in the breakout sessions.



Breakout session





"From the errors of others, a wise man corrects his own."

Publilius Syrus, 85–43 BC

"I prefer to learn from the experience of others"

Otto von Bismarck, 1815–1898



Challenges we have seen

- Limited accuracy and completeness of the generated output
- Al models (by design) often produce inconsistent results for the same input
- 'Prompt engineering' can be tricky (non-obvious consequences, requires iterative changes, results can be brittle)
- Risk of generating outputs that are plausible but conceptually incorrect
 - Al models typically lack deep 'understanding' of (training on) financial reporting concepts and Accounting Standards
- Lack of established review mechanisms for Al-generated outputs
- LLMs often unable to process large volumes of data (inputs and outputs) due to memory limitations
- LLMs might not be the best tools for certain tasks—other approaches may be more suitable
- Embedding AI into existing processes without causing disruption is challenging



Our thoughts on areas where we could perhaps use Al

Task	Al opportunities?
Analysis of Standards and amendments	/
Taxonomy modelling	
Preparation of PTU documents	
Collation and analysis of consultation feedback	
XBRL representation implementation	?
Taxonomy element usage analysis	?
Common practice analysis	?



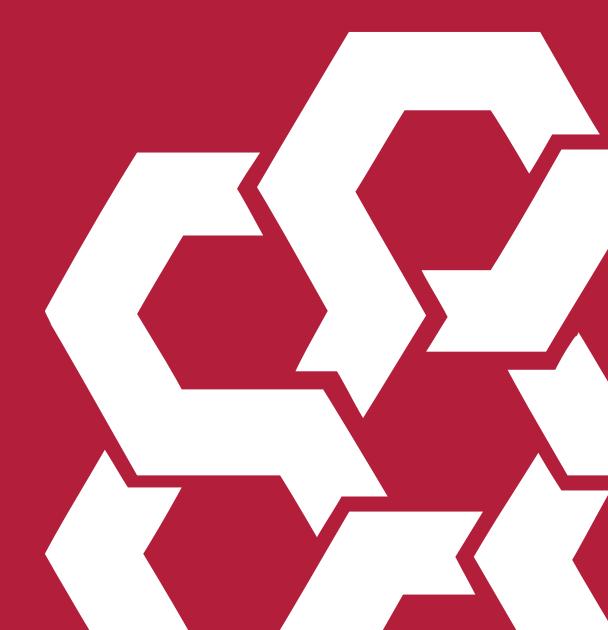
Breakout session

Please discuss:

- Your experiences with the use of AI in your organisation
- Any advice for the IFRS Foundation and taxonomy team:
 - to help us use Al for existing and planned projects and overcome challenges (see next slide)
 - areas of work we should consider automating using AI and how (see slide 11)
 - besides automation, how else should we consider using AI in our work
 - any pitfalls and risks to be aware of
- How might the taxonomy need to adapt to facilitate others' use of Al



Appendices





Appendix A—Output generated by the taxonomy modelling agent





This appendix contains the output generated by the agent when the amendment Contracts Referencing
Nature-dependent Electricity was used as the input.

A summary of the presentation and disclosure requirements

Summary of Presentation and Disclosure Requirements

The amendments introduce new disclosure requirements in IFRS 7 (paragraphs 5B-5D and 30A-30C) for contracts referencing nature-dependent electricity. These requirements aim to provide users with information about how these contracts affect the amount, timing, and uncertainty of future cash flows and financial performance.

Overall Disclosure Objective

The overall disclosure objective is for entities to disclose information that enables users of financial statements to understand the effects that contracts referencing nature-dependent electricity have on the amount, timing and uncertainty of future cash flows and financial performance (IFRS 7.30A).

A list of taxonomy elements, element type and paragraph references

Individual Taxonomy Elements

Requirement	Element Label	Element Type	IFRS Reference	Disaggregation Axis/Member
Overall disclosure objective	<u>Disclosure of contracts referencing nature- dependent electricity [text block] </u>	Text block	IFRS 7.30A	Not applicable
Contractual features disclosure	<u>Information about contractual features that expose entity to variability in underlying amount of electricity and risk of buying unusable electricity [text block]</u>	Text block	IFRS 7.30A(a)	Not applicable



Identifying whether new elements should be modelled/ existing elements need to be amended

Individual Taxonomy Elements

Requirement	Element Label	Element Type	IFRS Reference	Disaggregation Axis/Member
Overall disclosure objective	<u>Disclosure of contracts referencing nature- dependent electricity [text block] </u>	Text block	IFRS 7.30A	Not applicable
Contractual features disclosure	<u>Information about contractual features that expose entity to variability in underlying amount of electricity and risk of buying unusable electricity [text block]</u>	Text block	IFRS 7.30A(a)	Not applicable

The agent is indicating the new elements with an underline, as prompted. However, underline is indicated as an HTML tag.

Identifying relationships between the elements (hierarchical and dimensional)

→ Variability in electricity amount	<u>Information about contractual features that expose entity to variability in underlying amount of electricity [text] </u>	Text	IFRS 7.30A(a)(i)	Not applicable
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Hierarchical relationship (child element) is shown as an indentation.

electricity \/ u z	→ Estimated future cash flows	<u>Estimated future cash flows from buying electricity under contracts referencing nature- dependent electricity</u>	Monetary	IFRS 7.30A(b) (i)	<u>Maturity [axis]</u> (time bands)
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Dimensional relationship is shown in the column as a disaggregation axis. The agent has indicated the axis as new, but this is an existing axis.



Identifying relationships between the elements (calculational)

Calculation Relationships

A calculation relationship should be created for:

Total costs arising from purchases of electricity = Costs of electricity
 purchases + Costs to offset unused electricity sales

Identifying the relevant presentation groups

Presentation Group

[822390] Notes - Financial instruments



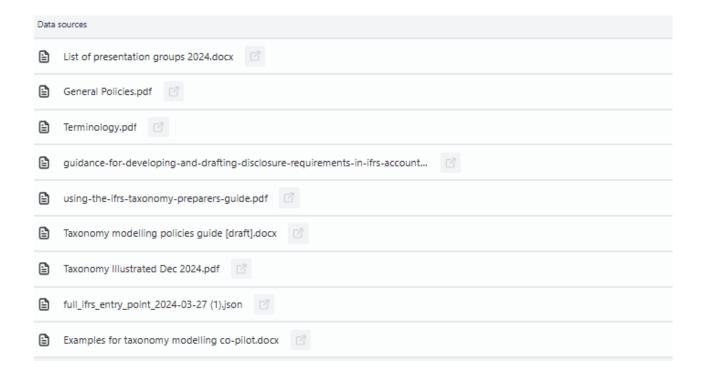
Appendix B—Process of developing the agent





- This appendix contains:
 - · list of source documents; and
 - excerpts of the prompt of the agent.

List of source documents





Excerpts of the prompt of the agent

First identify whether the user input is an amendment to an IFRS Standard or an IFRS Standard. You can identify this from the cover page of the document. If it mentions 'Amendments to....' then it would be an amendment to an existing IFRS Standard. If the cover page states IFRS [Number] and the name of the Standards, then it is a new standard. If this is not clear, ask from the user though a question- "Is the document a new IFRS Accounting Standard or and Amendment to an existing IFRS Accounting Standard?". Refer to Example 1—Identifying whether the user input is a Standard or an amendment of 'Examples for taxonomy modelling co-pilot document'.

Identifying presentation or disclosure requirements

Then identify the presentation and disclosure requirements in the document. Presentation and disclosure requirements can be identified by the words in the requirements. A presentation requirement would include the words 'An entity shall present...' and a disclosure requirement would include words 'An entity shall disclose...'. Refer to Example 2— Identifying presentation and disclosure requirements in the document of 'Examples for taxonomy modelling co-pilot document'. Make sure all the presentation and disclosure requirements are identified.

Identifying relationships between elements

Identify relationships between the identified elements by referring to the 'Relational/structural information' section in the 'Taxonomy modelling policies guide [draft]' document.

To identify hierarchical relationships, refer to paragraphs 86–88 of 'Taxonomy modelling policies guide [draft]' document. Identify the parent-child relationship between the identified elements. Refer to Example 8— Identifying hierarchical relationships in the document of 'Examples for taxonomy modelling co-pilot document'.



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