Publicly Available AI Tools Will Change Public Participation, Are We Prepared For It?

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Abstract

In light of the advancement of AI technology, there has been considerable discussion about applying AI tools to support Impact Assessment and public participation exercises. Meanwhile, with the rising publicity of AI-based tools, we should also prepare for the challenges that would arise from the widespread use of AI tools among the public. We demonstrated that AI tools, particularly Large Language Model (LLM) AI assistants, could assist users in analysing report findings and drafting comments. However, the intervention of AI could mask the genuine opinions of the user, and there are risks of malicious use of AI tools. Public participation practices should evolve to maintain human interactions and ensure that public participation remains focused on its objectives.

Introduction

Many new AI-based applications have been released to the market in recent years. In Impact Assessment (IA) and public participation, researchers and practitioners have been exploring the use of AI in practice (e.g. see Aung and Fischer 2025). However, it must be noted that the recent development of AI has not only advanced in terms of the capacity to utilise AI in conducting tasks. There has also been a significant increase in the availability of AI tools marketed to the general public. In particular, AI assistants like OpenAI ChatGPT and Google Gemini have become popular for everyday use. A recent news article reported that ChatGPT hit one billion users in April 2025 (Paris, 2025). It is foreseeable that the members of the public would use AI tools to assist them in participating IA. In the new era shaped by AI interventions, we cannot only focus on the professional uses of IA in public participation practice; we also need to prepare for scenarios in which stakeholders use AI to advance their agendas.

In this think piece, we demonstrate and discuss the possible public uses of LLM AI assistants, in both legitimate and malicious ways. The reason for using LLM AI assistant to demonstrate is not only that these applications are popular, but also because LLM models could be viewed as a showcase of the latest Natural Language Processing (NLP) and Natural Language Generation (NLG) capacity. NLP and NLG enable AI to read consultation documents and assist users in responding and drafting submissions, which could easily find their interventions in public participation exercises. The discussion of the potential intervention of LLMs would also be relevant to the future NLP-based AI applications.

Overview of NLP, NLG and LLMs

Natural Language Processing (NLP) is one of the major subsets of AI. It specialises in the linguistic aspects, enabling AI to understand and process human language. Natural Language Generation (NLG) is a subcategory of NLP, primarily covering the AI content generation. With the latest development of NLP and NLG, AI is able to analyse various forms of human language (i.e. voice and text), retrieve information and use the information to generate written content (for a more detailed explanation, see Belcic and Stryker, 2025).

Large Language Model (LLM) is a type of AI model that is pre-trained with an extensive database behind the scenes and employs the latest technology in NLP and NLG. They are marketed for both professional and personal uses. For personal use, they are labelled as personal assistants on app stores, highlighting their capabilities to assist users with everyday tasks, such as searching for information, summarising documents, and generating text and images. LLM AI assistant tools have seen soaring popularity in recent years. Many LLM tools are now available on the market, including ChatGPT, Gemini, Claude, Copilot and Deepseek. It is reported that ChatGPT, one of the most popular LLMs, has reached 1 billion users in April 2025 (Paris, 2025). While LLMs are designed to be beneficial to humanity (Pichai & Hassabis 2023), a recent report released by OpenAI (2025) confirmed that there are cases of disruptive and abusive use of their AI models, including social engineering, cyber espionage, deceptive employment schemes, covert influence operations and scams.

With the publicity of AI applications like LLMs, it is expected that members of the public will use AI tools in public participation practice. However, it is uncertain how AI tools would be used and for what purpose.

Demonstration case study

To facilitate discussions of the subject, we conducted a demonstration case study. We uploaded the *SA incorporating EqIA and HIA of the Submission Draft Liverpool Local Plan*[1] report to Google Gemini (2.5 pro) and prompted the AI to extract information, review and prepare submissions for us. The prompts and the overview of AI responses are summarised as follows:

> *Prompt 1:*
>
> Read the assessment report and summarise the environmental and health impacts on the residents

Overview of AI response:

Gemini concluded that the assessment suggests numerous policies intended to mitigate negative environmental impacts and promote positive health outcomes for residents, while there are potential negative effects and tensions. It summarised the key findings of the environmental and health topics described in the report, including climate change, flood risks, healthcare services, social deprivation, and others. Overall, the AI-generated summary aligns with the summary sections of the report.

Prompt 2:

Further investigate the report about the impacts on air quality, green infrastructure, and human health. Then, review whether there are sufficient measures to protect the health of the residents. Also, review whether the impacts would fulfil the international standards.

Overview of AI response:

Gemini identified the key policies and regulations that were referenced in the report. It summarised that the impacts and measures would achieve the sustainability goals and fulfil the corresponding policies and regulations despite that not all negative impacts would be mitigated. Gemini suggested that the report does not demonstrate that the outcomes would meet the stricter, non-binding international health standards like WHO AQGs or specific GI provision metrics.

The analysis provided by the AI follows the writings in the report, without analysing the data provided in the report. While it retrieved international standards, it did not explain the difference between the criteria used in the report and these international standards.

Prompt 3:

Assume you are a resident, draft a submission to the authority to urge them to address the uneven distribution of green infrastructure, and propose some further actions.

Overview of AI response:

Gemini drafted a letter that highlights the attention needed to address the uneven distribution of green infrastructure across Liverpool and its direct link to health inequalities. It also provides suggestions like targeted investment in deficient areas,

prioritising GI creation in planning approvals, enhancing connectivity, and monitoring equity.

Overall, the generated letter included some fair comments and suggestions. However, while the AI was able to put some keywords into the draft, it couldn't connect them with local context or personal experience.

Prompt 4:

Assume you are an unsatisfied resident, draft a submission and raise a complaint about the assessment report, which failed to adopt the more stringent WHO air quality targets

Overview of AI response:

Gemini drafted a complaint letter that criticised the report for failing to benchmark the Local Plan's impacts against the more stringent WHO AQO guidelines. It argued that, as the Local Plan directs long-term development, it should adopt more stringent criteria as long-term goals to safeguard human health. It also demanded a supplementary air quality assessment against the WHO guidelines, as well as additional measures and long-term monitoring.

Gemini used different wordings to give a stronger tone as compared to the draft at prompt 3. Similarly, while it contains the keywords and makes some fair suggestions, it didn't connect the subjects with the local context or personal experience.

Discussion

From the above demonstration, we could make several observations:

i. AI assistants can read and summarise the assessment reports for the user as well as highlight the concerned issues.
ii. AI can provide additional information about the subjects from the internet.
iii. AI can draft submissions on behalf of the user, including adding the reasons to support the arguments.
iv. AI drafts do not necessarily represent the users' intention or the subject they are concerned with, and they may fabricate comments and arguments in their drafts.

Through the presentations and discussions in the public participation sessions at the IAIA conference, there has been no report on the use of AI among the public in public participation exercises. However, practitioners agreed that it is very likely that the public

would start to use AI in public participations. The key question we ask here is what kind of scenarios it will create and how we could respond.

From the demonstration, we could see two major concerns. First is the AI hallucinations. AI hallucinations generally refer to the act by which AI includes factually incorrect or fabricated information in its text generation. In the context of public participation, it includes AI fabricating comments and arguments that do not reflect the users' understanding of their opinion on the subject. As shown in our demonstration, AI can generate comments and submissions with minimal user input. In the generated text, the AI tends to exaggerate the users' instructions and add sounding reasons to build up arguments. As such, the generated texts do not necessarily reflect the understanding or genuine opinions about the report findings.

The second concern is the potential AI-powered astroturfing. It refers to a more extreme scenario where AI is maliciously used by an organisation or individuals to create a false impression of widespread, spontaneous support or opposition to a subject, such as a policy or project. While there hasn't been a report regarding public participation practices, OpenAI (2025) has confirmed cases of disruptive uses of their ChatGPT tools in political campaigns. LLMs take less than five minutes to read a report and generate a page of content, and users can have the LLMs regenerate similar text with changes of assumed roles and context. There is a potential risk that individuals or organisations may abuse the AI to generate a large volume of content to engage in public participation activities, such as written submissions or social media posts. It could lead to obstruction in processing the submissions and create false impressions of concerns.

In conventional consultation formats that rely on the release of documents and public feedback submissions, AI would undoubtedly show its intervention. Currently, AI-generated content can be detected by specialised tools and personal training; however, there is no reliable tool to differentiate whether the comments were given by the user or fabricated by the AI. If AI is extensively used in drafting comments and submissions, it could mask the genuine comments and opinions of the public. Meanwhile, the generated content fabricated by AI would challenge the conventional methods for categorising and analysing public comments.

In the era of AI, there is a need for us to prepare for responding to the potential risks posed by the widespread use of AI tools. To keep public participation on track with the objectives, we need to differentiate genuine public comments from fabricated comments of AI hallucinations. We also need a strategy to address the potential risks of malicious use of AI in the arena of public participation. The key to the solution would always be maintaining communication among the human actors.

Conclusion

As powerful AI tools become widely available and popular, it is expected that members of the public will use these tools in public participation practices. We demonstrated that AI can assist users in analysing report findings and drafting submissions. However, the widespread use of AI among the public could create scenarios where the AI-generated text masks the genuine opinions of the users. Also, there are risks of disruptive, malicious use of the AI tools. Public participation practices need to evolve and be prepared for the challenges posed by the use of AI. In the era of AI, connections among the human actors remain the critical components for pubic participation.

Remarks

[1] https://liverpool.gov.uk/planning-and-building-control/plan-making-in-liverpool/the-liverpool-local-plan-2013-2033/

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