VSG AI event notes

<u>Mustard Market Research Presentation, AI in the arts & culture sector</u>

Who were our speakers?

- Anthony Shephard-Williams and Hannah Crayk presented from Mustard Market Research
- Anthony is one of the Directors of Mustard Market Research. His role at Mustard includes developing their online community offer for qualitative research and being part of the AI supergroup within Mustard, who meet monthly to discuss and test new tools, methods and solutions. Anthony co-wrote the thought leadership piece 'An Experiment in Generative AI and the Art of Qualitative Research', a summary of which can be found here https://mustard-research.com/ai-and-the-impact-on-qualitative-research/
- Hannah Crayk is an Associate Director at Mustard whose focus is on clients within the culture, heritage, leisure and charity sectors

What is AI? (slides 3-5)

- AI is anything where an algorithm or collection of algorithms are doing a task instead of humans. AIs present content back based on patterns and language.
- Early examples which we are all familiar with are things like sat nav in cars, auto-transcriptions and google translate.
- The type of AI most people will be familiar with are Large Language Models (LLM). Examples of LLMs are ChatGPT, Gemini, Anthropics and Claude.
- LLMs are designed to create new content (text, image, video, code) based on what they learn from patterns of existing data.
- LLMs can be compared to librarians. Unlike a Google search, which can represent the data held in the 'library' but not process or interact with it, LLMs can answer questions based on synthesizing information held in the library to answer questions. Unlike a real librarian, it doesn't understand what you're asking/saying, but codes the question you ask and produces the most probable answer based on those codes.

How can AI impact on visitor experience and research? (slides 6-15)

- AI can be used to tailor or personalised the visitor experience; drive AR and VR displays and tours onsite and for digital collection audiences; and translate interpretation into different languages
- AI can be used to improve operations through analysing large amounts of operational data, such as combing historic visitor numbers with factors that may have an impact on them in order to predict future visitor patterns.
- Within visitor research, AI can be used for:
    - Creating content for emails, blogs and articles

- o Summarising key findings in previous research (e.g. uploading research reports to ChatGPT4 or similar LLMs and asking it to find trends over time or about specific audiences)
  - o Translating research tools
  - o Voice surveys which allow respondents to choose to record their answer rather than write them and have been found to produce richer responses (e.g. tools are Voiceform)
  - o Suggesting questions for surveys and discussion guides, based on previous research tools (e.g. tools are ChatGPT4)
  - o Coding open-ended questions (e.g. Caplena and Themeatic are paid-for tools that can code large quantities of open-text responses. The tools highlight anything they are less sure about, to be reviewed by the researcher)
  - o Improving the quality of open-ended responses (e.g. Forsta survey technology using a chatbot to add prompts and probe responses; Inca, which asks survey takers to elaborate or explain their answer)
  - o Summarising open-ended responses (e.g. tools are Yabble, CoLoop, Otter)
  - o Linguistic comparisons to look for commonalities between different groups of people or unique words and phrases
  - o Sentiment analyses
  - o Presenting information within a SWOT / PESTLE analysis model
  - o Summarising data in word and excel files
  - o Identifying patterns and trends
  - o Creating visualisations for reporting which show themes (e.g. Caplena and Themeatic)
- We are currently somewhere between early adopters and early majority stage on technology adoption curve. Not many clients are actively requesting the use of AI, but it is important to discuss with clients if they do want it to be used and to have a viewpoint and stance about it.

What concerns related to AI do we need to consider? (slide 16-17)

- AI can produce 'Hallucinations'. As the language model is producing information based on how it is trained, it learns patterns but won't understand the information in the same way we do. It can then fill in the gaps, giving answers that sound plausible but aren't based on facts. For example, when asking for a quote from a depth interview it added extra verbatim information around the quote which the participant did not actually say.
- You need to check tools are GDPR/Data Protection Act 2018 compliant.
- You need to check that you are not putting personal or commercially sensitive data into the larger model, which is accessible to all users.
- When uploading data, it is recommended to remove any introduction information at the beginning of interviews that may contain company names and details, as well as ensuring it is not in the file name.

- Even within ChatGPT, most commonly people use ChatGPT3 but ChatGPT4 allows you to upload data completely privately and prevents any data you input being added into the larger model, rather than your own custom model.
- Make sure when signing up to tools you have spoken to the company about privacy. Some will have this information within their privacy notice or you will have the option to decide this within the settings, others will need to be emailed/contacted directly.
- Models are trained on data with social inequalities baked into them and are not sensitive enough to know about these. For examples, AI trained on museum collection systems will contain the colonial biases within them. You need to be careful about how interpret data, recognising it may be biased.

Culture Hint, AI in Visitor Experience

Introduction to Culture Hint's work with AI (slides 1-4)

- Culture Hint focuses on machine learning, which is a subset within AI.
- Machine learning is the ability of a computer system to learn from data, supervised or unsupervised. It can learn from input and data or just data.
- A subset of machine learning is deep learning, which uses neural networks to learn information e.g. for image recognition or generating text.
- There are 4 pillars of data in visitor experience, operations and audience development:
    - Using AI for data capture e.g. sensors
    - Using AI for data analysis e.g. analysis sensor, survey or ticketing data to do some clustering
    - Using AI for forecasting e.g. using machine learning to predict trend of certain KPI to say what it will look like in the future. Train on historical data and other data
    - Using AI for business intelligence, i.e. to answer your questions about what to do with the knowledge gained

Case Study 1: The Postal Museum (slide 5)

- The goal of the project was to increase revenue in shop.
- Culture Hint monitored behaviour in the shop using sensors.
- It allowed them to forecast behaviour in the shop over the next week every Monday, when they do shift assignments for front of house staff.
- This allows the front-of-house managers to decide how many staff should be in the shop during each shift, so that there is more personal interaction with visitors i.e. greeting them, asking them questions, cross-selling and up-selling.
- By redistributing the existing front-of-house staff, the Postal Museum has been able to have more staff in the shop at peak times, and increased retail revenue by 97%.

Case Study 2: National Gallery Singapore (slide 6)

- The goal was to integrate visitor data from ticketing, CRM and membership systems to better understand visitor behaviours.
- To integrate the data held in the systems, Culture Hint first had to understand what uses audiences had consented to with each system – they had to discard from the model anyone who did not give consent for third parties to use data. Culture Hint then used AI to find matching data within the three systems. For data that can't be matched exactly, e.g. if in one dataset it says name and in another it says surname, the AI was able to highlight these records and consolidate them into one field.
- Culture Hint used unsupervised machine learning to segment audiences by behaviour and demographics. They used the National Gallery Singapore's own systems and external data, such as external tourism data.
- This is one of the first segmentation models based on hard data about the actual behaviour of visitors, not their motivations. The new segmentation is the basis to now enhance engagement and create personalised communication.

Case Study 3: Spazju Kreattiv, Malta (slide 7)

- The goal was to find out how to convert non-visitors into visitors.
- Culture Hint used sensors to monitor people in spaces around the building using computer vision and machine learning.
- This allowed Culture Hint to use AI to predict when non-visitors would pass key locations.
- This forecast was used to create a schedule for onsite marketing activities.
- The new marketing approach has increased visitor numbers by 11%.