

# Appendix 1 Cover Letter

## Asia Pacific Marketing Academy Annual Conference 2024

**Paper Title: Customer Perceptions and Experiences Regarding Information Retrieval on Generative AI and Search Engines: A Comparative Analysis**

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- A. Consumer Behavior
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Generative Artificial Intelligence,

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Literature databases: Springer, Elsevier, Wiley, and Google Scholar  
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# **Customer Perceptions and Experiences Regarding Information Retrieval on Generative AI and Search Engines: A Comparative Analysis**

## **Extended Abstract**

In the modern marketing domain, Generative Artificial Intelligence (GenAI) stands as a powerful ally, revolutionizing the field with its ability to deeply understand natural language and its unparalleled creative prowess (Wang and Wang 2023). It excels in customizing content for specific user demographics, automating the creation of a wide array of marketing materials—from articles and social media posts to graphic designs, logos, and even intricate product packaging designs. This automation extends GenAI's influence into creative design, enhancing branding experiences with its capability to generate realistic images and videos, thus serving both advertising and entertainment sectors with high precision (Fosso Wamba et al. 2023; Taecharungroj 2023). By leveraging GenAI, marketers can explore expansive research horizons, ensuring that content is not only personalized and engaging but also created with efficiency and scalability in mind, a critical advantage in the competitive landscape of marketing where innovation and speed are key (DataStory 2023). However, its reliance on pre-existing data can sometimes limit the freshness and accuracy of the information provided, a notable consideration in the fast-paced marketing world where current trends and data are paramount (White 2023).

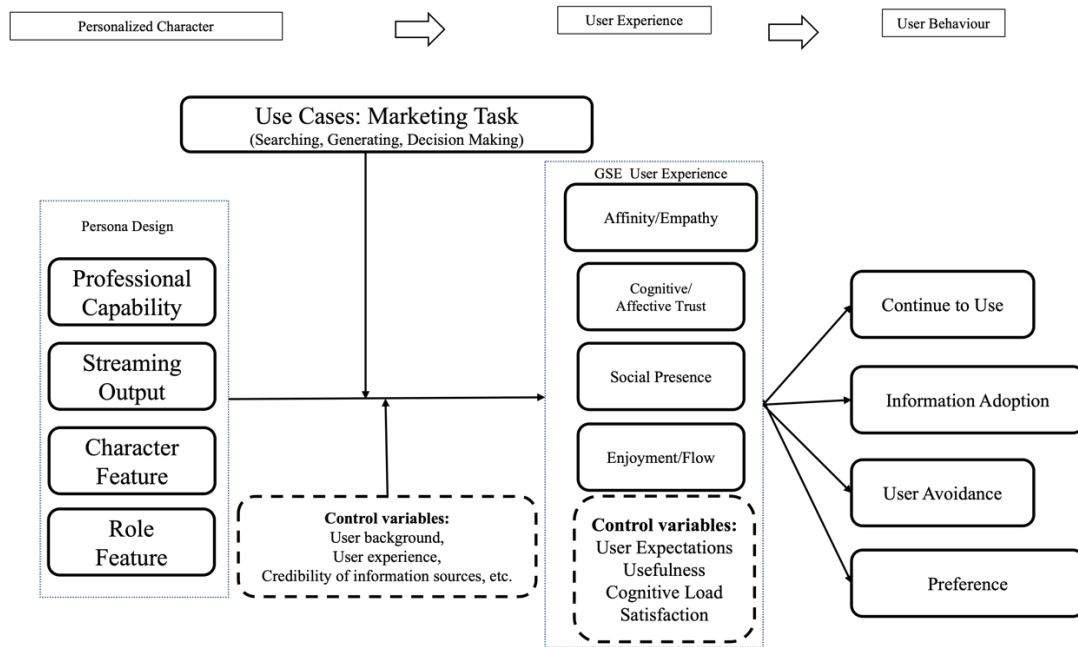
Traditional search engines (Traditional SE) excel in delivering up-to-the-minute information by indexing the web in real-time, an invaluable resource for marketing professionals seeking the latest trends, news, and competitor analyses (Brin and Page 1998). Tasks of traditional SEs can generally be categorized into informational, navigational, and transactional (Broder 2002). Research has found that over 80% of Web queries are informational, with navigational and transactional queries each accounting for approximately 10% (Jansen, Booth,

and Spink 2008). The clarity in how search results are ranked and presented aids marketers in conducting thorough, informed research, ensuring strategies are based on the most current and relevant data. Despite their accuracy and reliability, traditional search engines may lack the depth and contextual understanding that GenAI offers, sometimes leading to a more time-consuming process to sift through and interpret the vast amounts of raw data for actionable marketing insights (Cai, Wang, and De Rijke 2017).

The evolution of search engines powered by GenAI has transformed the landscape of internet information dissemination, propelling the capabilities of traditional search mechanisms towards more intelligent problem-solving methodologies. Generative search engine (GSE) combines the extensive real-time information retrieval capabilities of traditional search engines with the deep language understanding and content generation capabilities of GenAI. This integration enhances the quality of search results, enabling multimodal data inputs and outputs, thereby significantly improving the search engine's ability to accurately understand user intent based on context and multi-layered, multimodal information (White 2023). Such advancements have not only increased the relevance, accuracy, and timeliness of search results but also facilitated the generation of multimodal, more in-depth, professional, and creative responses, catering to the personalized needs of users (Bahrini et al. 2023). GSEs empower marketers with the ability to quickly access tailored insights, trend analyses, and creative content ideas, streamlining the process of developing and implementing effective marketing strategies. This integration of real-time data accuracy with creative and contextual intelligence presents a potent tool for marketers aiming to stay at the forefront of industry trends and consumer engagement.

This research will delve into the comparative analysis of customer perceptions and experiences with information retrieval on GenAI and traditional search engines. It examines how to boost marketing research efficiency through advanced information search, content generation, and decision support tasks. Through a combination of lab experiments and field studies, this study further explores the distinctive role of personal assistant persona design in generative search engines, focusing on professional abilities, personality traits, character features, and humanized flow output in text conversations. Specifically, it investigates the impact of such designs on user experience in the marketing applications.

The research will further explores design considerations in information retrieval utilities, i.e. professional capabilities, stream output, agreeableness in personality traits, and character features. Given that the exploration of task-specific differences in generative search engines across various domains is still in the preliminary stage, this study does not propose any related hypotheses at this time. The theoretical model, as shown in Figure 1, emphasizes the modulating role of generative search engines in typical tasks within vertical domains.



**Figure 1: Theoretical Framework**

The screenshot shows a web browser interface for selecting a search engine. The interface includes the following sections:

- Select A Capability:**
  - Generative AI
  - Search Engine Only** (Selected)
  - Generative Search Engine
- Select A Role:**
  - N/A** (Selected)
  - Academia
  - Marketer
  - CEO
- Select A Conversation Style:**
  - More Creative
  - More Balanced** (Selected)
  - More Precise
- Select An Output Style:**
  - Normal
  - Streaming** (Selected)

At the bottom, there is a search bar with the text "Search with the Selected Engine" and a blue arrow button. Below the search bar, a disclaimer states: "I am ChatGPT based on the GPT-3.5 architecture, and my training data is as of September 2021. This means that I have extensive knowledge of information and events prior to this date. Please note that I am unable to provide real-time information on events occurring after September 2021."

**Figure 2: Experiment Interface**

**Table 1: Experiment Strategy Design**

GSE Content	Character			
	Character 1		Character 2	
	Personality1	Personality2	Personality1	Personality2
Control Group	Group 1	Group 2	Group 5	Group 6
Streaming Output Group	Group 3	Group 4	Group 7	Group 8

As shown in Figure 2 and Table 1, the exploratory experiment targeting the marketing domain, constructs the roles of a Designer (Character 1) and an Analyst (Character 2), each paired with agreeable and cold personality traits. The objective is to explore how different personality characteristics affect user experience in search, content generation, and analysis tasks. The experiment employs a group comparison approach, with Groups 1 to 8 demonstrating the modulating effects of stream output functionality under the conditions of different character personalities being involved.

Findings from this research are expected to contribute significantly to understanding the nuanced impacts of generative AI technologies on user experiences, particularly in how personalized and humanized design elements in generative search engines can enhance user satisfaction, efficiency, and emotional engagement. By investigating the interplay between generative AI features and user perceptions, this study aims to provide actionable insights into designing more effective and user-centric search engine technologies. In conclusion, through meticulous experimental investigation, this study endeavors to unfold the complexities of user perceptions and experiences in the context of marketing, offering a comprehensive analysis that bridges the gap between technological advancements and customer expectations in the digital age.

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