

## **Human to Advanced-AI Psychological Processing and its Impact on Consumer Search: Development of a Research Framework and Future Directions**

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Throughout human evolution, and across most religions, philosophies, and cultures, humans have traditionally regarded themselves as having unmatched cognitive abilities (Roth and Dicke 2019). Today, that perception is being challenged as rapid advancements in artificial intelligence (AI) are giving rise to increasingly sophisticated technologies that are either augmenting or completely replacing cognitive functions traditionally performed by humans (Huang and Rust, 2022; Kosmyna et al. 2025), resulting in largely unknown impacts to consumers, marketing, and brands.

One such area where this is becoming progressively evident is the rapidly evolving domain of consumer search, where human-to-AI psychological processing is transforming how people find and evaluate products and services. From voice-activated conversational AI assistants like ChatGPT that interpret spoken queries in a conversational manner, to generative AI applications such as Google's Gemini, that summarize product reviews and personalize recommendations, humans are no longer the sole agents of their own psychological processing during consumer search. Increasingly, they are transferring the burden of complex psychological processing (i.e., attention, perception, cognition, emotion) to advanced AI technologies, thereby transforming key aspects of consumer search. For example, when a consumer uses Google's Gemini for a laptop recommendation, the generative AI that supports it filters and organizes information into a concise novel summary for the consumer that is based on a range of probabilistic data that could include inferred user preferences, priorities and presumed trade-offs (Grewal et al. 2024), thereby undertaking key psychological processes (e.g., attention, cognition, perception) on behalf of the consumer. Generative AI in applications such as Open AI's ChatGPT and Anthropic's Claude offer answers to consumers' queries through use of advanced natural language processing (NLP) models that have been trained on datasets which include a variety of sources including online text, images and code (Grewal et al. 2024). It does so with human-like reasoning and the provision of contextually rich answers to consumers' queries within seconds, allowing the AI to partially or fully assume the cognitive and interpretative load typically undertaken by humans as part of the search process (Kosymna et al. 2025).

Conversational AI technologies (e.g., supporting digital human AI assistants such as Qatar Airways' Sama, or in conversational search engines such as Perplexity) convert spoken language into text, and written text into spoken words, also enabling them to converse with and like humans (Cui et al. 2024; Mariani et al. 2023). Conversational AI search engines such as PI (personal intelligence), branded as the first emotionally-intelligent AI, interprets emotional cues in language and enables consumers to engage with it on sensitive topics and ask deep and meaningful questions from new hobbies to fill one's time to where to purchase the healthiest food (Caddy, 2025). Use of

such emotionally available and supportive technologies can lead consumers to view the AI/application as non-judgmental (Skjuve et al., 2021), supportive and nurturing (Ta et al., 2020), and consistently available or 'always there' (e.g., Marriott & Pitardi, 2024). Such bonds between humans and advanced-AI technologies are therefore resulting in largely unknown impacts to the consumer search process through the affective psychological processes that are increasingly being transformed through human and AI bonding.

Computer vision, or “visual AI”, is also transforming consumer search and psychological processing by allowing consumers to scan or upload images through visual search engines (e.g., Google Lens, Pinterest Lens, and Amazon StyleSnap) to find matching or similar products (Wang et al. 2024), thereby fostering a visual and aesthetic search versus one based on keywords and text alone. Augmented reality (AR) and virtual reality (VR), through applications such as IKEA Place and Sephora Virtual Artist, provide immersive experiences that enable consumers to visualize products in their own environment (Barhorst et al. 2021), try-on virtual items (Javornik et al. 2022), and interact with computer-generated objects in a physical-world context (McLean and Wilson 2019) as a core part of their search journey. Through such interactions with visual AI, consumers are augmenting key psychological processes (e.g., perception and sensing) through the capabilities that such technologies provide (Hoyer et al. 2020; Hwang et al. 2020).

Underscoring the increasing importance of advanced AI-technologies to consumer search, an IBM survey of 20,000 consumers across 26 countries demonstrates that four out of five consumers are eager to use advanced-AI technologies to resolve issues (82%), look for reviews or recommendations (78%), obtain product information (86%), search for deals and promotions (79%) or shop for products or services (77%) (Niazi et al. 2024). Further research from industry also suggests that up to 42% of consumers are using generative AI for shopping recommendations and bypassing traditional forms of online search (Coffee 2025). Accordingly, traditional forms of consumer search (e.g., keyword-based searches via search engines, traditional word of mouth, passive and active search in-store) are increasingly being supplemented or replaced completely with advanced, intelligent, and immersive forms of advanced-AI search (Coffee 2025).

Utilization of such advanced AI technologies are not only being used by consumers at an accelerated rate but also by practitioners; a recent study reports that 81% of CMOs assess AI as a fundamental game changer to how marketing operates (IBM Institute for Business Value 2025). With transformations occurring at such a rapid pace, marketers and researchers must be supported with an understanding of the key changes to consumer search as a result of the introduction and fast-paced development of these technologies.

Thus, with this ongoing research, we seek to answer 1) what are the current and future developments in advanced-AI technologies that are influencing consumer search processes and 2) what are the psychological information processing changes associated with advanced-AI applications that warrant further research. To answer our research questions, we are developing the following: (1) a broad overview of the research to date on the psychological processes important to consumer search, (2) a summary of

burgeoning AI technologies that are transforming these psychological processes, and (3) a framework with research propositions that emphasize the psychological processes that humans are augmenting, offloading, or replacing with advanced AI technologies. Finally, we will offer future research directions including suggested methodologies based on our research propositions.

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