

Exploring the Potentials and Challenges of Implementing Generative Artificial Intelligence Tools in Visual Merchandising for Apparel Retailers

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Background

Visual marketing is a powerful tool, albeit merchandisers encounter a variety of challenges when using successful strategies. Understanding and responding to changing customer behaviors and preferences is critical to sustaining an inventive and attractive visual merchandising approach. The contemporary rise of digital technology, such as artificial intelligence, creates new opportunities and challenges for visual merchandising, requiring firms to deliver seamless and immersive experiences. The study demonstrated implementation of artificial intelligence in generating designs of outlets for apparel retail brands. The objective of this study is to explore the potentials and challenges of applying artificial intelligence in visual merchandising.

Literature Review

In the apparel sector, visual merchandising is the strategic instrument for fashion marketing that attracts consumers and communicates brand image to enhance the shopping experience and drive sales (Lea-Greenwood 1998). Often referred to as a 'silent salesman,' it serves as a pivotal strategy for retailers by appealing to consumers' senses (Krishnakumar 2014, Barnes and Lea-Greenwood 2010). Visual merchandising consists of several contributing elements, such as floor layout, interior design, signage, in-store promotion, and product mix that attract customers (Law, Wong, and Yip 2012, Lea-Greenwood 1998, McGoldrick 2002, Varley and Rafiq 2004, Soundhariya and Sathyan 2015). Visual merchandising has a significant influence on consumer behavior. Visually appealing store environments and window displays can attract customers in and create a positive first impression (Diamond and Diamond 2004). Successful implementation of visual merchandising elements, such as color schemes, signage, and lighting, can reinforce brand identity and create a memorable shopping experience (Jain, Sharma, and Narwal 2012). Effective product presentation, including mannequins, props, and signage, can guide customers' attention and encourage them to make purchases (Hefer and Cant 2013). Engaging visual displays can keep customers in the store longer, leading to increased browsing and impulse purchases (Rathnayake and Fernando 2017).

Artificial intelligence has pushed numerous businesses to use the revolutionary technology to boost the global economy (Goldman, Cheng 2023). It is trained to study patterns and generate projections based on existing facts. Artificial intelligence enables the automation of formerly human-performed tasks, freeing up time and resources for other operations that require human attention. It can lead to cost savings, faster delivery, and improved overall performance (Saitakhmadox Maksud 2023). Through data training, 'generative artificial intelligence' (GAI) can generate visuals, allowing designers to effectively depict their work without the need for

physical samples (Feuerriegel et al. 2024). Visual merchandising is no exception. Artificial intelligence provides visual merchandisers valuable resources to generate novel designs while conserving time and costs.

Method

The application of generative artificial intelligence tools assist merchants in producing eye-catching displays that draw clients, enhance the shopping experience, and eventually increase revenue. Figure 1 shows two generative artificial intelligence tools that are commonly used for design to assess the capabilities and innovation process of artificial intelligence in visual merchandising. Canva is an online graphic design tool that makes it simple to produce designs that seem professional even without any prior design knowledge. It provides a large selection of templates for a number of uses, such as business designs, flyers, posters, presentations, and more. For individuals, companies, and schools, Canva is an excellent resource. It's inexpensive, simple to use, and can quickly assist you in producing beautiful graphics. 'Magic Studio' is a professional image studio that streamlines hard editing jobs while unleashing creativity. It is user-friendly, built for users of all skill levels, with a simple and easy-to-use interface that allows for sophisticated edits in seconds, saving time and effort. To comprehend the creativity of designs generated by generative artificial intelligence tools, the prompt “An outlet for fashion brand” was used in both tools.

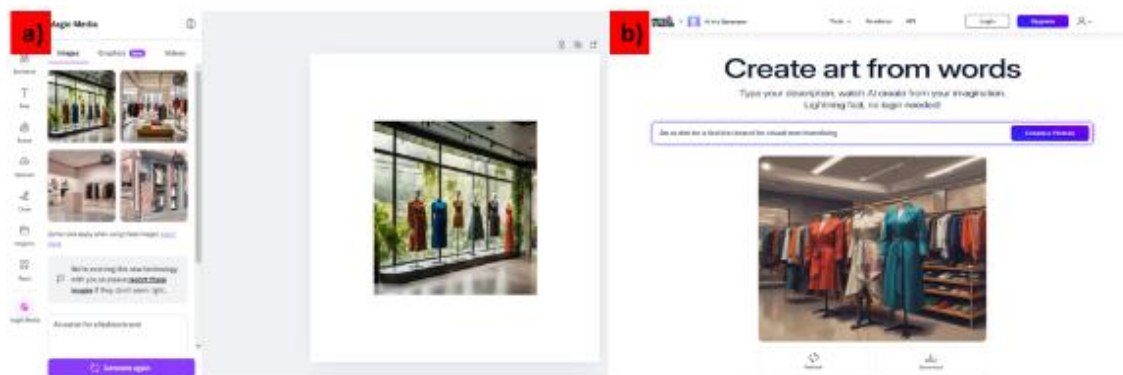


Figure 1. Generative artificial intelligence tools used for outlet design (a) Canva (b) Magic Studio.

Results and Discussions

The prompt generated an open-back window with no wall at the back for the outlets. Figure 2(a) depicts the designs of fashion outlets generated by Canva. Both external lighting and internal lighting were applied in the designs to attract customers from a distance and highlight a specific area. All designs used light-valued monochromatic hues for the outlets to give a calm and cohesive ambience. The designs applied stabilizing vertical lines to encourage the customers to inspect the merchandise in a rhythmic up-and-down motion, causing the viewers to open their eyes and observe more of the exhibition. In the upper two designs, the product presentation used asymmetry to promote off-balance presentations, known as 'informal.' Asymmetric designs prioritize visual balance above product weight, color, and texture consistency. The lower two

designs used a symmetric product layout to present a clean and clear look, making it easy to browse products in a methodical and sequential way.

Figure 2(b) visualizes the designs of fashion outlets generated by Magic Studio. It was observed that the generated designs applied internal lighting to focus on a particular area. The designs utilized light-valued monochrome tones for the outlets to create a serene and harmonious feel. The fashion brand outlets generated designs that blended vertical and horizontal lines. Vertical lines help visitors to evaluate things in a rhythmic up-and-down motion, leading to increased eye contact and viewing of the installation. Horizontal lines can be identified by the use of tables, shelves, or fixtures. These add intrigue to the shopping experience by limiting the view of the merchandise and encouraging customers to take a closer look. The designs implemented asymmetric product presentation for visual balancing.



Figure 2. Outlets for a fashion brand generated by: (a) Canva; (b) Magic Studio.

Conclusions

The generative artificial intelligence tools were found to be effective in generating designs for fashion brands from the provided prompt. It was observed that both tools generated similar results for the prompt by utilizing the key elements of visual merchandising. The success of producing outlet designs was dependent on the pattern training of the tools and the accuracy of prompt requirements. Insufficient data training for AI tools and archetypal prompts necessitates additional time to produce designs. These difficulties might sometimes prevent the generation of desirable designs. As a result, visual merchandisers must constantly evaluate the capabilities of generative artificial intelligence systems in order to create long-lasting designs.

Artificial intelligence in visual merchandising lowers labor, time, and cost requirements, but it is unable to give technical competency evaluation. Furthermore, the viability of an artificial intelligence design in a physical sample is not always guaranteed. The study recommends improving generative AI tools for faster implementation and better data analysis.

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