

Department of Marketing



Research Seminars Series

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Editing Generative Deep Learning Embeddings via Eye Movements to Improve Package Design

Abstract: Package design plays a critical role at the point of purchase. Prior literature does not provide a comprehensive methodology that enables managers to design packages that are easy to find, while communicating their brand identity. This research addresses this gap by introducing a novel framework that integrates generative deep learning architectures with eye-movement data. First, it shows that eye-movement data enable researchers to edit latent embeddings of existing package designs in a guided manner, such that the transformed embeddings generate improved package designs that are easier to find. For this purpose, it introduces a two-stage eye-movement model of visual search that successfully links package design embeddings to consumers' eye movements. The parameters of this model provide insights into the link between interpretable package design dimensions and attention processes. Furthermore, the model generates counterfactual scanpaths to predict the performance of newly generated package designs. Two package design applications in shampoo and yogurt categories illustrate the practical relevance of the approach. In both applications, online experiments confirm that consumers are able to find the newly designed packages faster than their original versions.