

Enhancing Retail Customer Engagement Through AI-powered Personalization

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Abstract:

Retailers' adoption of extreme personalization was often hindered by their inability to collect, process, and derive insights from massive volumes of historical and real-time data. Retailers employed systems and processes enabled with artificial intelligence (AI) to facilitate personalization that encourage customers to engage more with the retailers. This research focused on determining the factors mediating retailers' utilization of AI-powered personalization to enhance customer engagement. The study utilized Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical lens and employed systematic review methodology. A thematic analysis of 28 high quality empirical studies published in peer-reviewed journals was conducted to derive the key findings. In addition to the tangible benefits, intangible attributes such as favorable customer disposition towards AI technology and customers' social influence mediated the success of retailers' AI-powered personalized strategies to attract and engage more customers. The research also discusses key implications for management and academia, provided actionable recommendations for retail leadership, and make compelling suggestions on areas of future research in retailers' use of artificial intelligence and customer engagement.

Introduction and Problem Statement:

Present-day retail customers are often disengaged by the traditional customer outreach strategies of the 20th century, as they are too generalized and may not resonate with everyone's preferences. Retailers of the new millennium transitioned to data-driven personalized approaches to connect with their customers. However, most of the earlier personalization efforts relied on predefined broad customer segments and expected homogeneity within the segments. One of the biggest hurdles that impeded the hyper-personalization is the inability to concurrently collect/ access, organize, and analyze sophisticated and massive volumes of information and provide insights and recommendations to engage each customer.

Research Purpose and Research Question:

Since artificial Intelligence (AI) is one among the technological advancements that help retailers to analyze and generate meaningful insights in real-time to continuously engage every customer and enhance their loyalty towards the retailer, the purpose of this study was to determine how retailers can augment customer engagement through AI-enabled personalized retail business strategies.

The research question guiding the study was: What are the mediating factors that enable retailers' utilization of AI-powered personalization to enhance customer engagement?

Theoretical Framework:

The study utilizes the Unified Theory of Acceptance and Use of Technology (UTAUT) as the theoretical lens to determine the role of artificial intelligence (AI) in enhancing customer loyalty through extremely personalized retail business strategies because UTAUT helped to map out how various organizations and users receive a new technology and begin to use it. UTAUT identified four key factors guiding behavioral intention (i) performance expectancy, (ii) effort expectancy, (iii) social influence, and (iv) facilitating conditions. Various demographic factors moderated relationship between four components and technology adoption.

Methodology:

Qualitative evidence based research framework that employed systematic review methodology was used to collect and analyze data from the results of previous empirical research, and derive, synthesize, and evaluate findings and answer the research question. TAPUPAS technique that evaluated the quality of a study using seven attributes such as transparency, accessibility, purposivity, utility, propriety, accuracy, and specificity was used for critical appraisal of shortlisted articles as it offered a practical framework for the evaluation of evidence from each of the reviewed studies. 28 articles that scored high on the critical appraisal were used in a detailed thematic analysis using ATLAS.ti-23 software.

Six codes were generated a priori based on UTAUT and 115 codes were generated in vivo. Sixteen unique categories such as interactivity, usefulness, superior output, customer satisfaction, user-friendly, enjoyment, similitude, engagement, acceptance, infrastructure, processes, externalities, trust, motivation, attitude, and inquisitiveness were created to encompass the codes. The 16 categories were organically congregated to generate the five themes such as transaction effectiveness, ease of transaction, social influence, customer disposition, and user attributes.

Research Findings:

The study identified key determinants of retailers' use of AI-powered personalized approaches that resulted in improved customer engagement.

- ❑ Transactional effectiveness delivered by AI-powered personalization enhanced retail customer engagement.
- ❑ Favorable customer disposition towards retailers' AI-enabled personalized approaches enhanced retail customer engagement.
- ❑ Customers' social influence towards AI-driven systems enhanced retail customer engagement.
- ❑ Ease of shopping activity aided by AI enhanced retail customer engagement.

Implications:

Positive perceptions and attitudes towards AI, influenced by apparent gains and prior positive experiences prompts favorable customer attitude on AI-enabled retail systems.. Since customers' confidence in interacting with AI is significantly swayed by opinions, experiences, and behaviors of their peers and social networks, retailers must be extremely conscious about how their current customers perceive the usefulness of the AI-enabled systems and how the current customers can influence their peers and potential future customers.

Figure 1: Conceptual framework

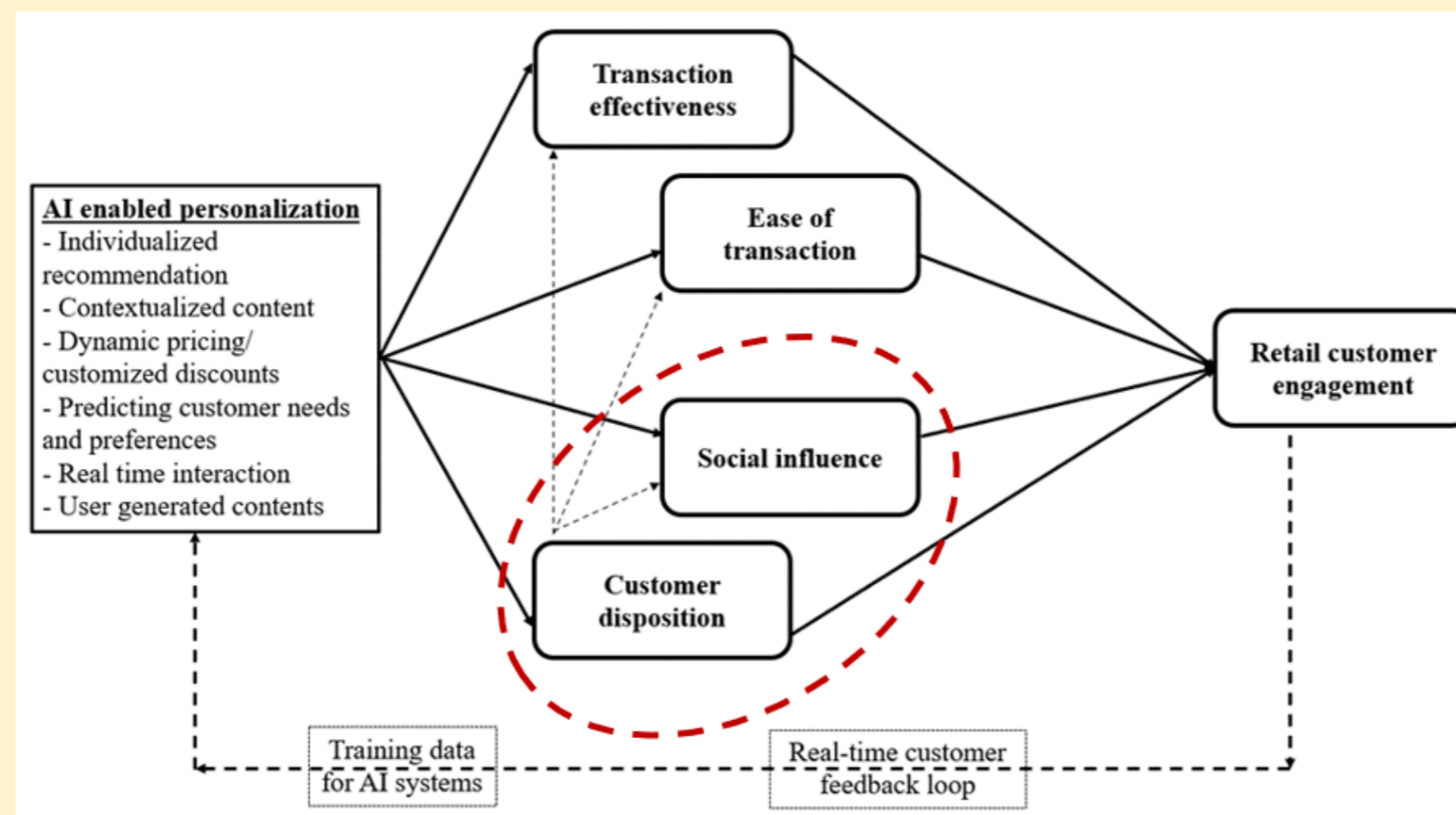


Table 1: Findings supported by selected articles

Selected articles	Does the article support the theme?			
	Transaction effectiveness	Customer disposition	Social influence	Ease of transaction
Arachchi and Samarasinghe ¹ (2023)	Yes	Yes	Yes	Yes
Bilal et al. (2023)	Yes	Yes	Yes	Yes
Chopra (2019)	Yes	Yes		Yes
Gao et al. (2023)	Yes	Yes		
Hlee et al. (2023)	Yes	Yes	Yes	Yes
Kamoonpuri and Sengar (2023)	Yes	Yes	Yes	Yes
Liang et al. (2020)	Yes	Yes		Yes
Nagy and Hajdu (2021)	Yes	Yes		
Nourallah (2023)	Yes	Yes		
Pillai et al. (2020)	Yes	Yes		Yes
Purcarea et al. (2021)	Yes	Yes		
Sharma et al. (2022)	Yes	Yes	Yes	Yes
Shumanov et al. (2022)	Yes	Yes	Yes	
Yeo et al. (2022)	Yes	Yes	Yes	
Aiolfi (2023)	Yes			Yes
Arachchi and Samarasinghe (2023)	Yes			Yes
Guido et al. (2023)	Yes		Yes	
Jiang et al. (2022)	Yes		Yes	
Nichifor et al. (2021)	Yes			
Rahman et al. (2023)	Yes			
Ruan and Mezei (2022)	Yes			
Shah et al. (2024)		Yes		Yes
Song and Kim (2022)		Yes	Yes	
Giroux (2022)		Yes	Yes	
Habib and Hamadneh (2021)		Yes		
Alghamdi (2020)				
Fu et al (2023)				
Schanke et al. (2021)			Yes	

