Chapter 3
Customer Centricity Orientation in Artificial Intelligence of Things (AIoT): Uncovering Customer Engagement from Customers' Gratifications

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ABSTRACT

This study aims to investigate the usage of Artificial Internet of Things (AIoT) for the food and beverage retailing industry, and the experiences of customers in satisfying their gratifications. A conceptual framework based on the uses and gratification theory was constructed and the data was analyzed with covariance-based structured equation modeling. Three gratification dimensions were identified, hedonic gratification encompassing hedonic value, utilitarian gratifications including convenience and information quality, and social gratification comprising familiarity and social influence. In addition, the study empirically supported the role of anthropomorphism as moderator under AIoT usage. This study offers a novel perspective on AIoT adoption with a customer-centric approach, highlighting the importance of AIoT in enhancing customer satisfaction and engagement throughout the purchasing process.

DOI: 10.4018/979-8-3693-5688-5.ch003

INTRODUCTION

The implementation of cutting-edge technologies in the business world is constantly evolving, aiming to enhance customer-centered strategies and improve productivity and profitability. Retail businesses are embracing this trend by digitalizing their operations and utilizing innovative information technology tools to meet customer demands. One such technology is the Internet of Things (IoT), which automates business operations to achieve greater efficiency (Dijkman et al., 2015). In addition, Artificial Intelligence (AI) has the capability to mimic human cognitive abilities, enabling it to learn and perform tasks like a human being (Loureiro et al., 2021). The integration of IoT and AI has given rise to the concept of Artificial Intelligence Internet of Things (AIoT), which combines both technologies to effectively address customer needs. Therefore, AIoT plays a crucial role in the digital transformation of businesses, particularly in the retail sector (Sun et al., 2021).

The deployment of AIOT in business is on the rise due to its inherent business benefits (Dahiya & Sayyad, 2021). It provides retailers with enhanced ability in marketing, procurement, sales, and many other functions. For example, (Mekruksavanich, 2019) concluded that mobility and intelligence embedded in IoT driven shopping basket enhanced the customer shopping experience. With the highly demanded feature of predictive analytics, its acceptance by businesses is soaring. A list of extant literature has validated its impact of business performance and profitability (Wamba-Taguimdje et al., 2020; Xiong et al., 2020).

The extant literature of IOT applications revolves around the outcomes, consumer behavior, acceptance, features and etc (Gupta et al., 2017; Ho, 2021). The customers are enjoying the high interactivity features of AIoT. This has further improved the interaction between customers and retailers as required for improved customer engagement (Bozkurt et al., 2021). However, there is little information on how their acceptance could translate into their engagement to the retailers. The traditional IoT has proved to enhance the intimacy level between the sellers and customers (Wu et al., 2017). AI also has proven its capability to cultivate the intimacy required for building the customer relationship (Libai et al., 2020). Hence, the intelligence features embedded into new AIoT is anticipated to increase customer engagement.

AIoT is newly introduced in retail operations, and customer satisfaction and acceptance are crucial to predict consumer behavior and further development of this technology. The trend is moving from traditional online business practices to online-to-offline (O2O) model (Lee et al., 2022). Retailers adopt both online and offline platforms to complement each other. Customers could place purchase orders and collect the products in the physical store, and vice versa. Therefore, we aimed to examine the antecedents of the customer usage of AIoT based on UGT theory. The theoretical stance of this study was based on the uses and gratification theory. UGT was used in technology acceptance studies (Boudkouss & Djelassi, 2021; Joo & Sang, 2013; Weiyan, 2015). It offered the theoretical lens to uncover the antecedents derived from the gratification aspect of the customer.

AIOT devices with embedded anthropomorphic features amplified the similarities between the users and the devices themselves. The influence of anthropomorphism from AI technology is obvious in the current literature (Troshani et al., 2021; Yang et al., 2022). Fraune (2020) theorized anthropomorphism moderated the acceptance of AI devices under the usage of AI technology. Similarly, the studies on IoT also showed the anthropomorphic characteristics in providing user satisfaction. Kang and Kim (2020) examined the attribution of human-like motions from robots in enhancing the closeness of customer-retailer interaction. Hence, it is worthwhile to explore the backing of the anthropomorphism effect for AIoT. Furthermore, Zhang et al. (2023) deduced that more AI-supported automation features from AIOT enhance the level of anthropomorphism. This would make customer gratification higher and subsequently improve customer engagement with firms.