Beyond experience: how customer engagement transforms AI interactions into Generation Z loyalty

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Abstrak

Penggunaan Artificial Intelligence (AI) dalam layanan pelanggan, seperti chatbot, rekomendasi yang dipersonalisasi, dan asisten virtual, telah secara signifikan meningkatkan efisiensi layanan dan pengalaman pelanggan. Namun, bagaimana pengalaman berbasis AI tersebut dapat diterjemahkan menjadi loyalitas pelanggan jangka panjang masih belum sepenuhnya dipahami, khususnya pada Generasi Z yang mengharapkan interaksi digital yang tidak hanya efisien, tetapi juga autentik dan menarik. Penelitian sebelumnya menunjukkan bahwa keterlibatan pelanggan—yang mencerminkan keterlibatan kognitif, emosional, dan perilaku—dapat berperan sebagai mekanisme mediasi yang penting. Meskipun demikian, bukti empiris dalam konteks pasar berkembang seperti Indonesia masih terbatas. Penelitian ini bertujuan untuk mengkaji peran mediasi keterlibatan pelanggan dalam hubungan antara pengalaman berbasis AI dan loyalitas berkelanjutan pada konsumen Generasi Z di Kota Padang, Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dengan desain survei potong lintang (cross-sectional). Data dikumpulkan dari responden Generasi Z yang telah berinteraksi dengan layanan berbasis AI dalam enam bulan terakhir. Analisis data dilakukan menggunakan Partial Least Squares Structural Equation Modeling (PLS-SEM) untuk menguji hubungan langsung dan tidak langsung antarvariabel. Hasil penelitian menunjukkan bahwa pengalaman berbasis AI berpengaruh positif dan signifikan terhadap loyalitas berkelanjutan, baik secara langsung maupun tidak langsung melalui keterlibatan pelanggan. Pengalaman berbasis AI juga terbukti berpengaruh signifikan terhadap keterlibatan pelanggan, yang selanjutnya memiliki pengaruh kuat terhadap loyalitas berkelanjutan. Temuan ini menegaskan bahwa keterlibatan pelanggan berperan sebagai mediator parsial dalam hubungan tersebut. Oleh karena itu, layanan berbasis AI perlu dirancang tidak hanya untuk meningkatkan efisiensi, tetapi juga untuk mendorong interaksi aktif dan keterlibatan pelanggan guna membangun loyalitas jangka panjang pada konsumen Generasi Z.

Kata kunci: Artificial Intelligence (AI), Pengalaman Pelanggan, Keterlibatan Pelanggan, Loyalitas Berkelanjutan, Generasi Z, PLS-SEM.

Abstract

The use of Artificial Intelligence (AI) in customer service, including chatbots, personalized recommendations, and virtual assistants, has significantly improved service efficiency and customer experience. However, how these AI-enabled experiences translate into long-term customer loyalty is still not fully understood, especially among Generation Z, who expect digital interactions to be efficient, authentic, and engaging. Previous studies indicate that customer engagement—reflecting cognitive, emotional, and behavioral involvement—may play an important mediating role, yet empirical evidence in emerging market contexts such as Indonesia remains limited.

This study aims to examine the mediating role of customer engagement in the relationship between AI-enabled experience and sustainable loyalty among Generation Z consumers in Padang City, Indonesia. Using a quantitative cross-sectional survey design, data were collected from Generation Z respondents who had interacted with AI-based services in the last six months. The data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) to test both direct and indirect relationships among variables.

The results indicate that AI-enabled experience has a positive and significant effect on sustainable loyalty, both directly and indirectly through customer engagement. AI-enabled experience significantly influences customer engagement, which in turn strongly affects sustainable loyalty, confirming the partial mediating role of engagement. These findings highlight that AI-driven services should be designed not only for efficiency but also to foster active interaction and engagement in order to build long-term loyalty among Generation Z consumers.

Keywords: Artificial Intelligence (AI), Customer Experience, Customer Engagement, Sustainable Loyalty, Generation Z, PLS-SEM.

Introduction

The rapid advancement of digital technology has accelerated the integration of Artificial Intelligence (AI) into various aspects of business operations, particularly in customer service. Technologies such as chatbots, personalized recommendation systems, and virtual assistants have become integral components of interactions between companies and consumers. AI is no longer merely a tool for automation; it has evolved into a strategic instrument for creating faster, more accurate, and more relevant customer experiences. In an increasingly competitive business environment, organizations are required not only to deliver efficient services but also to establish long-term relationships with their customers.

AI-enabled customer experience has emerged as a central focus in modern marketing strategies and customer relationship management. This experience reflects customers' perceptions of system responsiveness, ease of use, personalization, and the overall quality of interaction facilitated by AI technologies. Previous studies consistently indicate that positive customer experiences contribute to higher satisfaction and loyalty. However, in today's dynamic digital landscape, customer loyalty is no longer driven solely by functional satisfaction. Contemporary consumers—particularly Generation Z—expect digital experiences that are meaningful, authentic, and engaging, rather than merely efficient.

Generation Z represents a unique and influential consumer segment, as they have grown up alongside digital technologies and are highly familiar with intelligent systems. Their high level of digital literacy makes them more critical and selective in evaluating technology-based services. For Generation Z, service quality is assessed not only in terms of speed and convenience but also in terms of emotional connection, interactivity, and perceived relevance. As a result, understanding the mechanisms through which AI-enabled experiences influence loyalty among Generation Z has become a critical issue for businesses seeking long-term sustainability in the digital era.

One concept that has gained increasing attention in marketing literature is customer engagement. Customer engagement refers to a psychological state characterized by a customer's cognitive, emotional, and behavioral involvement with a brand or service. Unlike customer satisfaction, which is evaluative and often passive, customer engagement is active, dynamic, and relational in nature. Engaged customers tend to interact more frequently with brands, participate in value co-creation, provide feedback, and demonstrate stronger long-term commitment. In AI-based service contexts, customer engagement can be stimulated through responsive interactions, personalization, and interactive features enabled by intelligent systems.

The Stimulus–Organism–Response (S-O-R) framework provides a useful theoretical lens for explaining how external stimuli influence internal psychological states and subsequent behavioral responses. Within this framework, AI-enabled experience can be conceptualized as a stimulus (S) that affects the internal psychological state of customers, namely customer engagement (O), which in turn leads to behavioral outcomes such as sustainable loyalty (R). A well-designed AI experience has the potential to evoke positive cognitive and emotional responses, fostering deeper engagement that ultimately translates into long-term loyalty. Nevertheless, empirical studies that explicitly test customer engagement as a mediating mechanism between AI experience and loyalty remain limited.

Moreover, much of the existing research has focused on developed countries or major metropolitan areas, leaving emerging market contexts underrepresented. Differences in cultural values, technological infrastructure, and consumer behavior suggest that findings from developed markets may not be fully generalizable to developing economies. Indonesia, as a rapidly growing digital economy, presents a particularly relevant context for examining AI-enabled services. Padang City, as an emerging urban area, has experienced increased adoption of digital platforms and AI-based services, especially among young consumers.

Despite this growing adoption, empirical evidence examining how AI-

enabled experiences shape customer engagement and sustainable loyalty among Generation Z in emerging cities remains scarce. Most prior studies emphasize direct relationships between AI service attributes and loyalty or focus primarily on customer satisfaction as a mediating variable. As a result, the psychological process through which AI experiences are transformed into enduring loyalty—particularly through customer engagement—has not been sufficiently explored.

Based on these research gaps, this study aims to empirically investigate the effect of AI-enabled experience on sustainable loyalty, with customer engagement serving as a mediating variable, among Generation Z consumers in Padang City, Indonesia. This study seeks to contribute theoretically by extending the application of the S-O-R framework in the context of AI-driven services and by positioning customer engagement as a key psychological mechanism rather than a mere outcome of satisfaction. Practically, the findings are expected to provide valuable insights for businesses and marketing practitioners in designing AI-based services that go beyond operational efficiency and actively foster engagement and long-term loyalty among Generation Z consumers.

Method

This study employed a quantitative research approach with a cross-sectional survey design to examine the relationships among AI-enabled experience, customer engagement, and sustainable loyalty. A quantitative design was considered appropriate because the objective of the study was to test hypothesized relationships and mediation effects among latent variables using statistical modeling. The cross-sectional design allowed data to be collected from respondents at a single point in time, providing an efficient means of capturing perceptions and behavioral intentions related to AI-based service experiences. This approach is widely used in studies on technology adoption and consumer behavior,

particularly in research employing Structural Equation Modeling (SEM).

Population and Sample

The target population of this study consisted of Generation Z consumers residing in Padang City, Indonesia. Generation Z was selected because this cohort represents digital natives who are highly familiar with AI-driven technologies and frequently interact with digital platforms. To ensure the relevance of responses, participants were required to have interacted with at least one AI-based service—such as chatbots, recommendation systems, or virtual assistants—within the past six months.

A non-probability sampling technique, specifically purposive sampling, was employed. This technique enabled the selection of respondents who met predefined criteria aligned with the objectives of the study. Screening questions were included at the beginning of the questionnaire to confirm respondents' eligibility. A total of 50 valid responses were obtained and analyzed. This sample size meets the minimum requirements for Partial Least Squares Structural Equation Modeling (PLS-SEM), which is suitable for predictive research models and performs well with relatively small sample sizes.

Data Collection Procedure

Data were collected through an online survey administered using Google Forms. The questionnaire link was distributed via social media platforms commonly used by Generation Z, such as Instagram, WhatsApp, and other online community groups. Online data collection was chosen due to its effectiveness in reaching digitally active respondents and its ability to facilitate quick and cost-efficient data gathering. Participation in the survey was voluntary, and respondents were assured of anonymity and confidentiality to encourage honest and unbiased responses. The data collection process was conducted over a period of approximately four weeks.

Measurement Instruments

The research instrument consisted of a structured questionnaire divided into two main sections. The first section collected demographic information, including age, gender, education level, occupation, and frequency of online transactions. The second section measured the main constructs of the

study using established and validated scales adapted from prior research.

AI-enabled experience was measured using items that assessed perceived efficiency, personalization, enjoyment, and overall quality of interaction with AI-based services. Customer engagement was measured as a multidimensional construct encompassing cognitive, emotional, and behavioral engagement, reflecting respondents' level of interest, enthusiasm, and active participation in interactions with AI-enabled services. Sustainable loyalty was measured through indicators such as intention to continue using the service, willingness to recommend the brand to others, and preference for the brand in the future. All items were measured using a Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree).

Data Analysis Technique

Data analysis was conducted using Partial Least Squares Structural Equation Modeling (PLS-SEM) with SmartPLS software. PLS-SEM was selected due to its suitability for exploratory and predictive research, its ability to handle complex models with mediating variables, and its minimal requirements regarding data normality. The analysis followed a two-stage procedure. First, the measurement model was evaluated to assess reliability and validity, including internal consistency reliability, convergent validity, and discriminant validity. Second, the structural model was assessed to test the hypothesized relationships and mediation effects using bootstrapping procedures.

This analytical approach enabled a comprehensive examination of both direct and indirect effects among the constructs, providing robust empirical evidence regarding the role of customer engagement as a mediating mechanism between AI-enabled experience and sustainable loyalty among Generation Z consumers.

Result and Discussion

A total of 50 valid questionnaires were collected and analyzed in this study. The respondents were all members of Generation Z residing in Padang City who had interacted with AI-based services within the previous six months. The demographic profile indicates a relatively balanced representation in terms of gender, with a slight predominance of female respondents. Most respondents were aged between 18 and 26 years, reflecting the core age range of Generation Z. The majority had attained at least a senior high school or undergraduate level of education and were students or early-career employees, which is consistent with the socio-demographic characteristics of this generation. In addition, most respondents reported frequent engagement with online platforms and digital services, confirming their relevance as appropriate subjects for examining AI-enabled experiences.

Measurement Model Evaluation

The measurement model was evaluated to assess the reliability and validity of the constructs used in this study, namely AI-enabled experience, customer engagement, and sustainable loyalty. Internal consistency reliability was examined using Cronbach's Alpha and Composite Reliability (CR). The results indicated that all constructs exceeded the recommended threshold of 0.70, demonstrating strong internal consistency.

Convergent validity was assessed through Average Variance Extracted (AVE) and outer loading values. All AVE values were above the minimum acceptable level of 0.50, indicating that each construct explained more than half of the variance of its indicators. Furthermore, all indicator loadings were above 0.70, confirming that the items were strongly associated with their respective constructs. Discriminant validity was examined using the Fornell–Larcker criterion, which showed that the square root of the AVE for each construct was greater than its correlations with other constructs. These results confirm that the measurement model was both reliable and valid, allowing further structural analysis.

Structural Model Evaluation

After establishing the adequacy of the measurement model, the structural model was evaluated to test the proposed hypotheses. The results revealed that AI-enabled experience had a positive and significant effect on sustainable loyalty, supporting the first hypothesis. This finding indicates that positive perceptions of AI-based services directly enhance customers' intention to maintain long-term relationships with brands.

AI-enabled experience was also found to have a positive and significant effect on customer engagement. This result supports the second hypothesis and suggests that AI-driven features such as personalization, responsiveness, and interactive design successfully stimulate cognitive and emotional involvement among Generation Z consumers. Moreover, customer engagement showed a positive and significant influence on sustainable loyalty, supporting the third hypothesis. This finding demonstrates that engaged customers are more likely to continue using AI-enabled services and to develop long-term loyalty toward the brand.

The explanatory power of the model was assessed using the coefficient of determination (R^2). The results showed that AI-enabled experience explained a substantial proportion of the variance in customer engagement, while AI-enabled experience and customer engagement jointly explained a meaningful proportion of the variance in sustainable loyalty. These findings indicate that the proposed model possesses satisfactory predictive capability.

Mediation Analysis

Mediation analysis was conducted using a bootstrapping procedure to test the indirect effect of AI-enabled experience on sustainable loyalty through customer engagement. The results indicated that the indirect effect was positive and statistically significant. Since both the direct effect of AI-enabled experience on sustainable loyalty and the indirect effect through customer engagement were significant, customer engagement was confirmed as a partial mediator. This result suggests that AI-enabled experience influences sustainable loyalty both directly and indirectly by fostering customer engagement.

Discussion

The findings of this study provide important insights into how AI-enabled experiences shape sustainable loyalty among Generation Z consumers through the mechanism of customer engagement. First, the significant direct relationship between AI-enabled experience and sustainable loyalty confirms that functional and experiential qualities of AI-based services play a critical role in building long-term customer commitment. For Generation Z, who are accustomed to advanced digital technologies, efficient and reliable AI services are perceived as a basic expectation rather than a competitive advantage. When these expectations are met, customers are more likely to continue using the service and remain loyal to the brand.

Second, the results demonstrate that AI-enabled experience significantly influences customer engagement. This finding highlights the role of AI as more than a productivity-enhancing tool; it functions as a catalyst for interactive and relational experiences. Features such as personalized recommendations, real-time responses, and adaptive interfaces appear to capture users' attention and stimulate emotional involvement. For Generation Z, such interactive experiences are essential in creating a sense of connection and relevance, which encourages deeper engagement with the service and the brand.

Third, the strong positive relationship between customer engagement and sustainable loyalty underscores the importance of engagement as a driver of long-term customer behavior. Engaged customers do not merely consume services passively; they develop emotional bonds, invest time and attention, and demonstrate a stronger commitment to the brand. This finding supports the view that loyalty in the digital era is increasingly relational rather than purely transactional, especially among younger consumers who value interaction and authenticity.

The mediation analysis provides the most significant theoretical contribution of this study. The confirmation of customer engagement as a partial mediator indicates that AI-enabled experiences influence loyalty through two complementary pathways. The first is a direct pathway, where efficient and high-quality AI services lead directly to loyalty by satisfying functional needs. The second is an indirect pathway, where AI-enabled experiences foster psychological engagement, which in turn strengthens sustainable loyalty. This dual-path mechanism aligns with the Stimulus–Organism–Response framework, where AI-enabled experience acts as a stimulus, customer engagement represents the internal

psychological state, and sustainable loyalty emerges as the behavioral response.

From a contextual perspective, the findings are particularly relevant for emerging urban markets such as Padang City. In such contexts, Generation Z consumers are rapidly adopting AI-based services but still seek meaningful and engaging digital interactions. The results suggest that businesses operating in similar environments should not rely solely on technological sophistication. Instead, they should focus on designing AI experiences that encourage interaction, participation, and emotional connection.

Overall, this study contributes to the growing body of literature on AI, customer engagement, and loyalty by demonstrating that engagement plays a central role in transforming AI-enabled experiences into sustainable loyalty. For practitioners, the findings emphasize that investments in AI should prioritize user-centered design and engagement-oriented features. For scholars, the study offers empirical support for the application of engagement-based models in understanding consumer behavior in AI-driven service environments, particularly among Generation Z in emerging markets.

CONCLUSION

This study was designed to provide a deeper understanding of how Artificial Intelligence (AI)-enabled experiences foster sustainable loyalty among Generation Z consumers by examining the mediating role of customer engagement. The findings comprehensively support the proposed research model, as all hypotheses were accepted. First, AI-enabled experience (AIEXP) was found to have a positive and significant direct effect on sustainable loyalty (LOY). Second, AIEXP was also shown to be a strong driver of customer engagement (ENG). Third, customer engagement demonstrated a strong positive influence on sustainable loyalty.

The most significant finding is the confirmation of the mediation hypothesis. The analysis reveals that customer engagement partially mediates the relationship between AI-enabled experience and sustainable loyalty. This indicates the presence of two pathways through which Generation Z loyalty is formed: (1) a direct pathway, where functional and efficient AI experiences directly enhance loyalty, and (2) a stronger indirect pathway, where superior AI-enabled experiences stimulate customer engagement, which in turn significantly strengthens sustainable loyalty**.**

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