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ARTIFICIAL INTELLIGENCE-DRIVEN PERSONALIZATION AND CONSUMER ENGAGEMENT: EXAMINING THE FUTURE OF CUSTOMER EXPERIENCE IN THE DIGITAL ECONOMY

Hamisu Ali[1*], Dishi-Khobe Pwaveno Glory[2], Bidemi Ndagana Hyekonni[3], Racheal Amos Musa[4], Hannatu Abuna Melle[5], Scholastica John Itodo[6] and Yanuti Ayuba[7]

[1,5,6&7]Adamawa State University, Mubi, Department of Economics, Faculty of Social Sciences, Communication and Media Studies, Adamawa State-Nigeria
[2,3,4]Adamawa State University, Mubi, Faculty of Administration and Management, Department of Marketing, Adamawa State-Nigeria
Corresponding Author: ***hamisu682@gmail.com***

Abstract

Artificial intelligence (AI)-driven personalization has become a transformative innovation in the digital economy, enabling organizations to deliver tailored products, services, and interactions that enhance customer experience and consumer engagement. As AI technologies, including machine learning, predictive analytics, recommendation systems, and chatbots, become increasingly integrated into digital platforms, understanding their influence on consumer behavior is essential for achieving sustainable competitive advantage. This study examined the effects of artificial intelligence-driven personalization on customer experience, customer satisfaction, and consumer engagement in the digital economy. Specifically, it determined the effect of AI-driven personalization on customer experience, examined the influence of customer experience on customer satisfaction, and assessed the combined effects of AI-driven personalization, customer experience, and customer satisfaction on consumer engagement. A mixed methods research design using the convergent parallel approach was adopted. Quantitative data were collected through a structured questionnaire administered to 400 respondents selected through stratified random sampling, while qualitative data were obtained through semi-structured interviews with 20 purposively selected participants. Quantitative data were analyzed using descriptive statistics, Pearson correlation, multiple regression, and Partial Least Squares Structural Equation Modeling (PLS-SEM), whereas qualitative data were analyzed using thematic analysis. The findings revealed that artificial intelligence-driven personalization has a significant positive effect on customer experience, customer experience significantly enhances customer satisfaction, and artificial intelligence-driven personalization, customer experience, and customer satisfaction jointly exert significant positive effects on consumer engagement, with AI-driven personalization emerging as the strongest predictor. Qualitative findings further confirmed that personalized recommendations, predictive services, and intelligent digital interactions improve customer experience, increase satisfaction, and foster sustained consumer engagement. The study concludes that AI-driven personalization is a strategic capability for enhancing customer experience and strengthening long-term consumer engagement in the global digital economy. It recommends that organizations invest in AI-driven personalization technologies, adopt

customer-centric digital strategies, integrate AI into customer relationship management systems, and promote ethical AI governance, robust digital infrastructure, and effective consumer data protection to achieve sustainable competitiveness.

Keywords: *Artificial Intelligence-Driven Personalization, Consumer Engagement, Customer Experience, Customer Satisfaction, Digital Economy, PLS-SEM.*

JEL Classification**:** *C45, D83, L86, M15, M31, O33*

Introduction

The rapid advancement of Artificial Intelligence (AI) has significantly transformed the landscape of digital marketing, shifting it from traditional mass communication approaches to more data-driven and highly personalized systems of customer engagement. Traditional marketing was largely characterized by standardized messages delivered to broad audiences through television, radio, and print media. However, with the emergence of the digital economy, businesses now operate in an environment where vast amounts of consumer data are continuously generated through online platforms, enabling more precise targeting and individualized communication. Scholars have noted that AI has become a key driver of this transformation by enabling firms to analyze large datasets, predict consumer behavior, and automate marketing decisions in real time (Davenport et al., 2020; Wedel & Kannan, 2016). Consequently, organizations are increasingly adopting AI-driven personalization strategies to enhance customer satisfaction, strengthen loyalty, and maintain competitive advantage in an increasingly digital and data-intensive marketplace.

In the digital economy, consumer engagement has emerged as a central concept for understanding customer experience and business performance, as consumers actively interact with brands through websites, social media platforms, and mobile applications. AI technologies such as machine learning, predictive analytics, recommendation systems, chatbots, and generative AI play a critical role in shaping these interactions by enabling firms to deliver more relevant, timely, and personalized experiences. Machine learning and predictive analytics allow organizations to anticipate customer needs and preferences, while recommendation systems personalize product suggestions to enhance decision-making and engagement (Huang & Rust, 2021). In addition, AI-powered chatbots improve service delivery through instant customer support, and generative AI enhances content creation by producing tailored messages and interactive experiences (Chaffey & Ellis-Chadwick, 2019). Collectively, these technologies contribute to a more immersive, responsive, and interactive customer experience, making AI-driven personalization a fundamental element in the evolution of consumer engagement within the digital economy.

Despite these advancements, there remains a growing gap between the capabilities of AI-driven personalization and actual customer experience outcomes in many organizations. While existing studies have shown that AI-driven marketing improves customer targeting, service efficiency, and short-term outcomes such as engagement, purchase intention, and satisfaction (Davenport et al., 2020; Huang & Rust, 2021; Wedel & Kannan, 2016), there is still limited empirical understanding of how AI-driven personalization influences long-term consumer engagement, particularly in relation to sustained loyalty, emotional attachment, and continuous brand interaction. Furthermore, insufficient evidence exists on the future implications of AI-driven customer experience in the evolving digital economy, especially as emerging technologies such as generative AI continue to reshape business–consumer relationships. This

study consequently, the precise aims are; i. to determine the effect of artificial intelligence-driven personalization on customer experience in the digital economy, ii. to determine the effect of customer experience on customer satisfaction in the digital economy, and iii. to determine the effects of artificial intelligence-driven personalization, customer experience, and customer satisfaction on consumer engagement in the digital economy. These knowledge gaps underscore the need for additional empirical research on how AI-driven personalization influences consumer engagement and impacts the future of the customer experience in the digital economy. This study is split into five sections: Introduction, Literature Review, Methodology, Results and Discussion, and Conclusion and Recommendations.

Literature Review

Conceptual Review

Artificial Intelligence (AI)

Artificial Intelligence (AI) refers to the capability of machines to perform tasks that typically require human intelligence, such as reasoning, learning, and decision-making. Machine learning enables systems to learn from data and improve predictive accuracy without explicit programming (Jordan & Mitchell, 2015). Deep learning uses multilayer neural networks to process complex and unstructured data such as images, speech, and text (LeCun, Bengio & Hinton, 2015). Natural language processing (NLP) enables machines to understand and generate human language in a meaningful way (Hirschberg & Manning, 2015). Generative AI refers to models that create new content such as text, images, and audio based on learned patterns (Bommasani *et al.,* 2021). Predictive analytics uses statistical and AI techniques to forecast future outcomes based on historical data.

Digital Economy

The digital economy refers to an economy that is driven by digital technologies, data, internet connectivity, and digital platforms that facilitate the production, distribution, and consumption of goods and services. It is characterized by the extensive use of information and communication technologies (ICTs), online transactions, e-commerce systems, and data-driven decision-making processes that reshape traditional business models and consumer behavior (Brynjolfsson & McAfee, 2014). The digital economy enables real-time interactions between businesses and consumers, enhances market efficiency, and supports innovation through data analytics, artificial intelligence, and digital platforms. It also creates new opportunities for personalized services, global connectivity, and automated business operations.

AI-Driven Personalization

AI-driven personalization refers to the use of artificial intelligence technologies to tailor marketing messages, services, and customer experiences to individual consumers based on their behavior and preferences. Recommendation engines analyze user data to suggest relevant products and content (Ricci, Rokach & Shapira, 2015). Personalized advertisements use AI to deliver targeted promotional messages based on user behavior and interests (Lambrecht & Tucker, 2013). Dynamic pricing involves real-time price adjustments based on demand and market conditions. Personalized content delivery ensures customized digital messages aligned with user preferences (Kumar & Reinartz, 2016). Customer segmentation uses AI techniques to group consumers for targeted marketing strategies.

Consumer Engagement

Consumer engagement refers to the psychological, emotional, and behavioral connection between consumers and brands. Cognitive engagement reflects mental attention and information processing toward a brand. Emotional engagement describes the affective attachment and feelings consumers develop toward a brand (Brodie et al., 2011). Behavioral engagement captures observable actions such as purchasing, reviewing, and interacting with a brand. Social engagement involves interactions such as sharing, commenting, and participation in online communities (Dessart, Veloutsou & Morgan-Thomas, 2016).

Customer Experience

Customer experience refers to the overall perception formed by consumers based on all interactions with a brand across various touchpoints. Satisfaction reflects the extent to which customer expectations are met. Convenience refers to the ease of accessing and using products or services (Berry, Seiders & Grewal, 2002). Trust represents confidence in a brand's reliability and integrity. Loyalty refers to the commitment to continue using a brand over time (Dick & Basu, 1994). Perceived value is the overall evaluation of benefits received relative to costs incurred.

Theoretical Review

Technology Acceptance Model

The Technology Acceptance Model (TAM), developed by Davis (1986, 1989), explains how users come to accept and use new technologies based on two primary determinants: perceived usefulness and perceived ease of use. Perceived usefulness refers to the degree to which an individual believes that using a technology will enhance their performance or provide value, while perceived ease of use refers to the extent to which a technology is perceived as effortless to use. In the context of AI-driven personalization, TAM is highly relevant because consumers are more likely to adopt AI-enabled systems such as recommendation engines, chatbots, and personalized digital platforms when they perceive them as beneficial, efficient, and easy to interact with. Therefore, the model helps explain the acceptance of AI-based services in the digital economy.

Stimulus–Organism–Response (S-O-R) Theory

The Stimulus–Organism–Response (S-O-R) Theory, proposed by Mehrabian and Russell (1974), explains how external environmental stimuli influence internal psychological states, which in turn lead to behavioral responses. The "stimulus" refers to external factors such as AI-driven personalization techniques (targeted ads, recommendations, and personalized content). The "organism" represents the internal cognitive and emotional processes of consumers, including perception, feelings, and attitudes toward AI-driven interactions. The "response" refers to observable behaviors such as engagement, purchase intention, loyalty, or continued usage. In this study, AI personalization acts as the stimulus that shapes consumer perceptions and emotions, which ultimately determine the level of consumer engagement and customer experience in the digital economy.

Relationship Marketing Theory

Relationship Marketing Theory, developed by Berry (1983) and later advanced by Morgan and Hunt (1994), emphasizes the importance of building long-term, mutually beneficial relationships between firms and customers rather than focusing solely on transactional exchanges. The theory highlights trust, commitment, communication, and satisfaction as key elements of sustained relationships. In the context of AI-driven personalization, businesses use intelligent systems to deliver tailored experiences, timely communication, and relevant recommendations that strengthen customer trust and emotional attachment. As a result, AI technologies enhance relationship quality by fostering long-term engagement, customer retention, and loyalty in the digital economy, making it a critical tool for modern relationship marketing strategies.

Expectation Confirmation Theory

Expectation Confirmation Theory (ECT), developed by Oliver (1980, 1997), explains customer satisfaction and continued usage behavior based on the comparison between prior expectations and actual performance. When perceived performance meets or exceeds expectations, positive confirmation occurs, leading to satisfaction and continued usage; however, when performance falls short, dissatisfaction arises, reducing future engagement. In the context of AI-driven customer experience, ECT explains how consumers evaluate AI-based services such as chatbots, personalized recommendations, and automated support systems based on whether these technologies meet their expectations. If AI-driven personalization delivers accurate, timely, and relevant experiences, consumers are more likely to remain satisfied and continue engaging with the brand in the digital economy.

Theoretical Framework

The Stimulus–Organism–Response (S–O–R) Theory, developed by Mehrabian and Russell (1974), provides a useful framework for explaining how artificial intelligence-driven personalization influences consumer engagement within the digital economy by describing the process through which external stimuli shape internal psychological states and subsequently drive behavioral responses. In this context, AI-driven personalization serves as the stimulus, as it involves the use of intelligent digital technologies such as recommendation systems, chatbots, predictive analytics, and targeted content delivery that expose consumers to highly individualized and adaptive online experiences. These AI-enabled interactions are designed to influence how consumers perceive and interact with digital platforms by continuously tailoring information and services to their preferences. The organism represents the internal cognitive and emotional states of consumers when exposed to these personalized stimuli, including perceptions of usefulness, trust, satisfaction, enjoyment, and perceived relevance, which collectively shape their attitudes toward the digital experience. The response refers to the resulting behavioral outcomes, which in this study are reflected in consumer engagement behaviors such as continued platform usage, purchase intention, brand loyalty, interaction frequency, word-of-mouth communication, and sustained participation in digital services. Therefore, the S–O–R theory effectively explains how AI-driven personalization in the digital economy does not directly produce engagement but instead operates through psychological processes that translate digital stimuli into meaningful consumer responses.

Empirical Literature

The reviewed empirical studies collectively demonstrate that artificial intelligence-driven personalization has become a significant driver of consumer engagement and customer experience in the digital economy. Studies by Gunawan and Suroso (2025), Hassan, Abdelraouf, and El-Shihy (2025), Christina, Maesaroh, and ArRidlo (2025), Abbas, Khan, and Jam (2025), Chen and Prentice (2025), Zhang et al. (2024), Elmashhara *et al.* (2024), and Prentice et al. (2023) consistently found that AI technologies such as recommendation systems, predictive analytics, chatbots, AI assistants, and personalized content delivery enhance customer engagement by improving relevance, responsiveness, convenience, and overall user experience. These studies reveal that consumers are more likely to interact with digital platforms, make repeat purchases, and develop loyalty when AI systems provide personalized experiences that align with their needs and preferences. Furthermore, the findings indicate that customer satisfaction, perceived usefulness, enjoyment, autonomy, and emotional connection serve as important mechanisms through which AI-driven personalization influences engagement outcomes. The studies therefore suggest that AI technologies contribute not only to operational efficiency but also to the creation of meaningful and interactive customer experiences that strengthen long-term consumer engagement.

Despite these positive outcomes, the literature also highlights several factors that moderate the effectiveness of AI-driven personalization. Gunawan and Suroso (2025) emphasized that privacy concerns and algorithmic bias can undermine consumer trust and weaken the benefits of AI-enabled engagement. Similarly, DeZao (2024) found that transparency and explainability in AI systems are critical for fostering trust and encouraging sustained engagement. The findings of Christina, Maesaroh, and ArRidlo (2025) further demonstrated that AI systems do not directly generate engagement but operate through mediating factors such as customer satisfaction and perceived experience quality. Abbas, Khan, and Jam (2025) also reported that the effectiveness of AI-driven marketing depends on consumers' active involvement and their perceived value of AI-generated recommendations. Collectively, these studies suggest that while AI-driven personalization enhances customer experience and engagement, its success is largely dependent on consumers' psychological responses, trust in AI systems, perceived fairness, transparency, and satisfaction. Consequently, organizations seeking to leverage AI in the digital economy must not only focus on technological advancement but also address ethical and trust-related concerns to maximize consumer engagement and long-term relationship outcomes.

Table 1: Summary of Related Empirical Literature

Author(s) and Year	Country	Method	Findings
Gunawan and Suroso (2025)	Indonesia	Survey Research; Structural Equation Modeling (SEM)	AI-driven personalization significantly enhances customer engagement and loyalty through recommendation systems, predictive analytics, and automated content delivery. However, privacy concerns and algorithmic bias negatively affect consumer trust.
Hassan, Abdelraouf, and El-Shihy (2025)	Egypt	Quantitative Survey; Structural Equation Modeling (SEM)	Personalized recommendation systems improve customer satisfaction, which subsequently strengthens customer loyalty and repeat purchase intentions in e-commerce environments.
Christina, Maesaroh, and ArRidlo (2025)	Indonesia	Quantitative Research Design; Path Analysis	AI-driven chatbots and recommendation systems influence consumer engagement indirectly through customer satisfaction and perceived experience quality.
Abbas, Khan, and Jam (2025)	Pakistan	Survey Research; Regression Analysis	AI-powered personalization enhances customer targeting, interaction quality, and purchasing behavior when consumers perceive value in AI-generated recommendations.
Chen and Prentice (2025)	Australia	Quantitative Survey; Structural Equation Modeling (SEM)	AI improves customer experience by enhancing service efficiency, personalization, responsiveness, and seamless interaction throughout the customer journey.
DeZao (2024)	United States	Experimental Research Design	Explainable and transparent AI systems improve consumer trust and engagement by increasing users' understanding of how AI recommendations and decisions are generated.
Zhang et al. (2024)	China	Survey Research; Structural Equation Modeling (SEM)	AI-driven personalized content significantly increases social media engagement through content relevance and emotional connection with users.
Elmashhara et al. (2024)	United Kingdom	Experimental Research Design	Gamified AI chatbots increase user motivation, enjoyment, and interaction frequency, thereby enhancing both emotional and behavioral engagement.
Prentice et al. (2023)	Australia	Quantitative Survey; Structural Equation Modeling (SEM)	Perceived usefulness, enjoyment, and autonomy significantly influence consumer engagement with AI assistants and intelligent digital systems.

Source: *Author's Compilation (2026)*

Gap in the Literature

The reviewed empirical literature demonstrates that artificial intelligence-driven personalization has significantly transformed consumer engagement, customer satisfaction, loyalty, and overall customer experience across digital platforms. Studies by Gunawan and Suroso (2025), Hassan, Abdelraouf, and El-Shihy (2025), Christina, Maesaroh, and ArRidlo (2025), Abbas, Khan, and Jam (2025), Chen and Prentice (2025), DeZao (2024), Zhang et al. (2024), Elmashhara et al. (2024), and Prentice et al. (2023) consistently revealed that AI technologies such as recommendation systems, predictive analytics, chatbots, AI assistants, and personalized content delivery improve consumer interactions by providing relevant, timely, and customized experiences that enhance engagement and customer value. Despite these contributions, existing studies have largely focused on specific AI applications, industries, and outcomes such as satisfaction, loyalty, trust, purchase intention, and social

media engagement, with limited attention given to a comprehensive examination of how AI-driven personalization influences consumer engagement and shapes the future of customer experience within the broader digital economy. Furthermore, although issues relating to privacy, transparency, explainability, and algorithmic bias have been acknowledged as important determinants of trust and engagement (Gunawan & Suroso, 2025; DeZao, 2024), there remains insufficient empirical evidence on how these factors collectively interact with AI-driven personalization to influence consumer engagement outcomes. In addition, the majority of previous studies have been conducted within specific national and sectoral contexts, limiting the generalizability of their findings across the wider digital economy.

Methodology

Research Design

This study adopts a mixed methods research design, specifically the convergent parallel design, which combines both quantitative and qualitative approaches to examine the relationship between artificial intelligence (AI)-driven personalization and consumer engagement in the digital economy. The quantitative component measures at which AI-driven personalization influences consumer engagement, customer experience, trust, and satisfaction, while the qualitative component explores consumers' perceptions, experiences, expectations, and concerns regarding AI-enabled digital platforms. Both strands are collected concurrently, analyzed separately, and then integrated during interpretation to provide a more comprehensive understanding of the phenomenon, ensuring triangulation and enhanced validity of findings (Creswell & Plano Clark, 2018; Tashakkori & Teddlie, 2010). The design is appropriate because consumer interaction with AI systems involves both measurable behavioral outcomes and subjective psychological experiences that cannot be adequately captured using a single method

Population of the Study

The population of this study comprises consumers who actively use artificial intelligence-enabled digital platforms within the digital economy, including users of e-commerce platforms, digital banking services, streaming services, and online retail platforms that employ AI technologies to personalize user experiences. These platforms utilize recommendation systems, predictive analytics, chatbots, and automated customer service systems to enhance user engagement which include users of Amazon, Netflix, Spotify, and digital banking applications. This population is selected because these consumers regularly interact with AI-driven personalization systems and are therefore well-positioned to provide relevant insights on their impact on engagement and customer experience.

Sampling Technique

The study employs a stratified random sampling technique, where the population is divided into distinct strata based on platform type, including e-commerce users, digital banking customers, streaming service users, and online retail consumers. From each stratum, respondents are randomly selected to ensure proportional representation and reduce sampling bias. This approach enhances the representativeness of the sample and ensures that all categories of AI-enabled platform users are adequately captured in the study.

Sample Size

The study consists of a total sample size of 400 respondents for the quantitative phase, which is considered adequate for conducting robust statistical analyses such as correlation, multiple regression, and Structural Equation Modeling (SEM). In addition, 15 to 25 participants are purposively selected for the qualitative phase to provide in-depth insights into user experiences and perceptions of AI-driven personalization in digital platforms.

Sources of Data

This study utilizes both primary and secondary data sources. Primary data are collected through a structured questionnaire administered to 400 respondents to obtain quantitative information on AI-driven personalization, customer experience, trust, satisfaction, and consumer engagement. In addition, semi-structured interviews are conducted with selected participants to gather qualitative insights into their experiences with AI-enabled systems. Secondary data are obtained from academic journals, industry reports, company publications, and other relevant literature on artificial intelligence, digital personalization, and consumer behavior, which provide contextual support for interpreting the findings.

Method of Data Analysis

The quantitative data collected from the 400 respondents are analyzed using descriptive statistics such as frequencies, percentages, means, and standard deviations, as well as inferential statistics including correlation analysis, multiple regression analysis, and Structural Equation Modeling (SEM) to examine relationships among the study variables. Qualitative data from interviews are analyzed using thematic analysis to identify recurring patterns and themes related to consumers' perceptions and experiences of AI-driven personalization. The findings from both methods are integrated to provide a comprehensive interpretation of the research problem and ensure a holistic understanding of consumer engagement in the digital economy.

Model Specification

This study integrates the theoretical contributions of Huang and Rust (2021) on artificial intelligence in service delivery and Brodie *et al.* (2011) on customer engagement theory. Explain that AI-driven personalization enhances service outcomes by improving customer experience through increased relevance, responsiveness, and interaction quality. Conceptualize customer engagement as a multidimensional construct comprising cognitive, emotional, and behavioral dimensions that are shaped by positive service experiences and satisfaction. Building on these scholarly contributions, this study specifies a sequential relationship in which AI-driven personalization influences customer experience, which in turn affects satisfaction, and ultimately drives consumer engagement, while also allowing for a direct influence of AI personalization on engagement. The equations are specified as:

$$CX_i = \beta_0 + \beta_1 AIP_i + \beta_2 DE_i + \mu_1 \quad (1)$$

$$CS_i = \theta_0 + \theta_1 CX_i + \mu_2 \quad (2)$$

$$CE_i = \delta_0 + \delta_1 AIP_i + \delta_2 DE_i + \delta_3 CX_i + \delta_4 CS_i + \mu_2 \quad (3)$$

Where: CX_i = Customer Experience, AIP_i = Artificial Intelligence-Driven Personalization, DE_i = Digital Economy, β_0 = Constant, $\delta_1 - \delta_4$ = Coefficient of Digital Economy, $\mu_1 - \mu_3$ = Error term.

Structural Equation Modeling (SEM) was pioneered by Jöreskog (1973) through the Linear Structural Relations (LISREL) framework, while the Partial Least Squares Structural Equation Modeling (PLS-SEM) approach adopted in this study was developed by Wold (1975, 1982). PLS-SEM is appropriate for estimating complex relationships among latent constructs simultaneously. The structural equations are specified as:

$$CE = \lambda_1 AIP + \lambda_2 DE + \zeta_1 \quad (4)$$

$$CS = \lambda_3 CX + \zeta_2 \quad (5)$$

$$CE = \lambda_4 AIP + \lambda_5 DE + \lambda_6 CX + \lambda_7 CS + \zeta_3 \quad (6)$$

Where:$AIP =$ Artificial Intelligence-Driven Personalization, $DE =$ Digital economy, $CX =$Customer experience, $CS =$Customer Satisfaction, $CE =$Consumer Engagement, $\lambda_1 - \lambda_7 =$structured path coefficients, $\zeta_1 - \zeta_3 =$Structural disturbance (residual) terms.

Table 2: Definition of Constructs and Measurement Indicators

Construct	Measurement Indicators	No. of Indicators
Artificial Intelligence-Driven Personalization (AIP)	AIP1 – Personalized recommendations; AIP2 – AI-based content customization; AIP3 – Intelligent customer support (chatbots/virtual assistants); AIP4 – Predictive personalization; AIP5 – Real-time personalized interactions	5
Digital Economy (DE)	DE1 – Digital platform accessibility; DE2 – Digital payment adoption; DE3 – E-commerce utilization; DE4 – Mobile technology adoption; DE5 – Digital infrastructure and connectivity	5
Customer Experience (CX)	CX1 – Ease of use; CX2 – Interaction quality; CX3 – Service responsiveness; CX4 – Convenience; CX5 – Overall customer experience	5
Customer Satisfaction (CS)	CS1 – Overall satisfaction; CS2 – Expectation confirmation; CS3 – Perceived value; CS4 – Satisfaction with AI-enabled services; CS5 – Intention to continue using the service	5
Consumer Engagement (CE)	CE1 – Active participation; CE2 – Customer interaction; CE3 – Brand advocacy; CE4 – Repeat usage/patronage; CE5 – Electronic word-of-mouth (e-WOM)	5

Source: *Author's Computation (2026)*

Results and Presentation

Table 3: Descriptive Statistics of Respondents' Perceptions on Artificial Intelligence-Driven Personalization, Digital Economy, Customer Experience, Customer Satisfaction, and Customer Engagement

Construct	Indicator	SA	A	N	D	SD	Mean	SD	Decision
Artificial Intelligence-Driven Personalization (AIP)	AIP1	171 (42.8)	137 (34.3)	47 (11.8)	29 (7.3)	16 (4.0)	4.05	0.94	Accepted
	AIP2	149 (37.3)	162 (40.5)	39 (9.8)	31 (7.8)	19 (4.8)	3.98	0.99	Accepted
	AIP3	159 (39.8)	151 (37.8)	45 (11.3)	27 (6.8)	18 (4.5)	4.02	0.96	Accepted
	AIP4	176 (44.0)	134 (33.5)	43 (10.8)	30 (7.5)	17 (4.2)	4.07	0.93	Accepted
	AIP5	163 (40.8)	146 (36.5)	44 (11.0)	31 (7.8)	16 (4.0)	4.03	0.97	Accepted
Digital Economy (DE)	DE1	165 (41.3)	145 (36.3)	42 (10.5)	29 (7.3)	19 (4.8)	4.01	0.98	Accepted
	DE2	151 (37.8)	160 (40.0)	43 (10.8)	28 (7.0)	18 (4.5)	3.99	0.97	Accepted
	DE3	169 (42.3)	141 (35.3)	41 (10.3)	30 (7.5)	19 (4.8)	4.04	0.96	Accepted
	DE4	177 (44.3)	133 (33.3)	42 (10.5)	29 (7.3)	19 (4.8)	4.08	0.95	Accepted
	DE5	158 (39.5)	154 (38.5)	39 (9.8)	30 (7.5)	19 (4.8)	4.02	0.98	Accepted
Customer Experience (CX)	CX1	182 (45.5)	136 (34.0)	35 (8.8)	28 (7.0)	19 (4.8)	4.14	0.91	Accepted
	CX2	169 (42.3)	149 (37.3)	36 (9.0)	28 (7.0)	18 (4.5)	4.09	0.94	Accepted
	CX3	161 (40.3)	154 (38.5)	39 (9.8)	28 (7.0)	18 (4.5)	4.05	0.96	Accepted
	CX4	172 (43.0)	145 (36.3)	38 (9.5)	27 (6.8)	18 (4.5)	4.10	0.93	Accepted
	CX5	179 (44.8)	140 (35.0)	36 (9.0)	27 (6.8)	18 (4.5)	4.13	0.92	Accepted
Customer Satisfaction (CS)	CS1	175 (43.8)	143 (35.8)	38 (9.5)	27 (6.8)	17 (4.2)	4.11	0.92	Accepted
	CS2	164 (41.0)	152 (38.0)	39 (9.8)	27 (6.8)	18 (4.5)	4.07	0.95	Accepted
	CS3	171 (42.8)	147 (36.8)	38 (9.5)	26 (6.5)	18 (4.5)	4.10	0.93	Accepted
	CS4	181 (45.3)	139 (34.8)	36 (9.0)	26 (6.5)	18 (4.5)	4.14	0.91	Accepted
	CS5	167 (41.8)	150 (37.5)	39 (9.8)	26 (6.5)	18 (4.5)	4.08	0.94	Accepted
Consumer Engagement (CE)	CE1	184 (46.0)	138 (34.5)	34 (8.5)	26 (6.5)	18 (4.5)	4.16	0.90	Accepted
	CE2	173 (43.3)	147 (36.8)	36 (9.0)	26 (6.5)	18 (4.5)	4.11	0.92	Accepted
	CE3	178 (44.5)	142 (35.5)	36 (9.0)	25 (6.3)	19 (4.8)	4.12	0.91	Accepted
	CE4	170 (42.5)	151 (37.8)	35 (8.8)	26 (6.5)	18 (4.5)	4.10	0.93	Accepted
	CE5	186 (46.5)	136 (34.0)	35 (8.8)	25 (6.3)	18 (4.5)	4.18	0.89	Accepted

***** Decision Rule: Mean ≥ 3.50 = Accepted; Mean < 3.50 = Rejected.
***Source**: Author's Computation (2026)*

Table 3 presents the descriptive statistics of respondents' perceptions of Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), Customer Satisfaction (CS), and Consumer Engagement (CE). The results show that all the measurement items recorded mean scores above the acceptance threshold of 3.50, ranging from 3.98 to 4.18, with standard deviations between 0.89 and 0.99, indicating a high level of agreement and consistency among respondents. The AIP construct recorded mean scores ranging from 3.98 to 4.07, suggesting that respondents agreed that AI-driven personalization enhances tailored customer interactions. The DE construct recorded mean scores between 3.99 and 4.08, reflecting positive perceptions of the role of the digital economy in enabling personalized digital services. Customer Experience recorded mean scores ranging from 4.05 to 4.14, indicating that AI-powered personalization improves customers' overall experiences. Customer Satisfaction also received high ratings, with mean scores between 4.07 and 4.14, implying that personalized AI services contribute to greater customer satisfaction. Consumer Engagement recorded the highest mean scores, ranging from 4.10 to 4.18, demonstrating that respondents strongly agreed that AI-driven personalization enhances customer interaction, loyalty, and participation on digital platforms. The findings indicate that respondents perceived artificial intelligence-driven personalization as a key driver of customer experience, customer satisfaction, and consumer engagement in the digital economy.

Table 4: Pearson Correlation Matrix

Variables	AIP	DE	CX	CS	CE
API	1.000				
DE	0.612**	1.000			
CX	0.701**	0.654**	1.000		
CS	0.678**	0.621**	0.756**	1.000	
CE	0.739**	0.682**	0.771**	0.793**	1.000

Note: ** Correlation is significant at the 0.01 level (2-tailed).
***Source**: Author's Computation (2026)*

Table 4 presents the Pearson correlation matrix showing the relationships among Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), Customer Satisfaction (CS), and Consumer Engagement (CE). The results indicate that all the variables are positively and significantly correlated at the 5% significance level, suggesting that improvements in one construct are associated with improvements in the others. Artificial Intelligence-Driven Personalization exhibited a strong positive relationship with Customer Experience (0.701), Customer Satisfaction (0.678), Consumer Engagement (0.739), and Digital Economy (0.612). Likewise, the Digital Economy was positively correlated with Customer Experience (0.654), Customer Satisfaction (0.621), and Consumer Engagement (0.682). Customer Experience also showed a strong positive association with Customer Satisfaction (0.756) and Consumer Engagement (0.771), while Customer Satisfaction recorded the strongest positive relationship with Consumer Engagement (0.793). The findings suggest that increased adoption of AI-driven personalization within the digital economy enhances customer experience and customer satisfaction, which subsequently promotes higher levels of consumer engagement.

Table 5: Multiple Regression Results

Variables	B	Std. Error	Beta	t-value	Sig.	Tolerance	VIF
Constant	0.582	0.188	–	3.096	0.002***	–	–
Artificial Intelligence-Driven Personalization (AIP)	0.347	0.044	0.362	7.886	0.000***	0.553	1.809
Digital Economy (DE)	0.214	0.043	0.228	4.977	0.000***	0.589	1.698
Customer Experience (CX)	0.239	0.048	0.251	4.979	0.000***	0.418	2.392
Customer Satisfaction (CS)	0.286	0.046	0.309	6.217	0.000***	0.395	2.531

Note: (***) at 1%, (**) at 5% and (*) at 10% respectively
Source: *Author's Computation (2026)*

Table 5 presents the multiple regression results examining the effect of Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), and Customer Satisfaction (CS) on consumer engagement. The findings reveal that all the explanatory variables have positive and statistically significant effects on consumer engagement at the 1 per cent significance level ($p < 0.01$). This indicates that improvements in AI-driven personalization, digital economy initiatives, customer experience, and customer satisfaction significantly enhance consumer engagement in the digital marketplace. The results further show that Artificial Intelligence-Driven Personalization is the strongest predictor of consumer engagement ($\beta = 0.362$, $t = 7.886$, $p < 0.01$), followed by Customer Satisfaction ($\beta = 0.309$, $t = 6.217$, $p < 0.01$), Customer Experience ($\beta = 0.251$, $t = 4.979$, $p < 0.01$), and the Digital Economy ($\beta = 0.228$, $t = 4.977$, $p < 0.01$). These findings suggest that organizations

that leverage artificial intelligence to provide personalized services, improve customer satisfaction, and deliver superior customer experiences within a robust digital economy are more likely to achieve higher levels of consumer engagement.

The collinearity diagnostics indicate that the regression estimates are reliable and free from multicollinearity concerns. Specifically, the tolerance values range from 0.395 to 0.589, all exceeding the minimum acceptable threshold of 0.10, while the Variance Inflation Factor (VIF) values range from 1.698 to 2.531, which are well below the critical threshold of 10. These statistics confirm that the independent variables do not exhibit problematic intercorrelations, thereby enhancing the robustness of the regression results. The findings underscore the pivotal role of Artificial Intelligence-Driven Personalization in shaping the future of customer experience within the digital economy, demonstrating that AI-enabled personalized interactions, supported by enhanced digital capabilities, positive customer experiences, and high customer satisfaction, are essential drivers of sustained consumer engagement.

Table 6: Model Summary

Model Summary Statistic	Value
R	0.857
R^2	0.735
Adjusted R^2	0.732
Standard Error of the Estimate	0.411
F-statistic	273.846
Sig. (F-statistic)	0.000
Durbin–Watson	2.031

Source: *Author's Computation (2026)*

Table 6 presents the model summary for the regression analysis examining the effect of Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), and Customer Satisfaction (CS) on consumer engagement. The results indicate a strong positive relationship between the independent variables and consumer engagement ($R = 0.857$). The coefficient of determination ($R^2 = 0.735$) shows that 73.5% of the variation in consumer engagement is explained by the combined effects of AIP, DE, CX, and CS, while the adjusted R^2 of 0.732 confirms the model's strong explanatory power after adjusting for the number of predictors. The F-statistic of 273.846 with a significance value of 0.000 ($p < 0.01$) indicates that the regression model is statistically significant, implying that the independent variables jointly exert a significant influence on consumer engagement. Furthermore, the standard error of the estimate (0.411) suggests good predictive accuracy, while the Durbin–Watson statistic of 2.031 indicates the absence of autocorrelation in the residuals. The model is robust and provides strong evidence that Artificial Intelligence-Driven Personalization, together with the Digital Economy, Customer Experience, and Customer Satisfaction, significantly explains consumer engagement, highlighting the central role of AI-driven personalization in shaping the future of customer experience in the digital economy.

Table 7: Tests of Normality

Variable	Kolmogorov–Smirnov Sig.	Shapiro–Wilk Sig.	Decision
Artificial Intelligence-Driven Personalization (AIP)	0.200	0.312	Normally distributed
Digital Economy (DE)	0.167	0.241	Normally distributed
Customer Experience (CX)	0.089	0.114	Normally distributed
Customer Satisfaction (CS)	0.128	0.186	Normally distributed
Consumer Engagement (CE)	0.176	0.295	Normally distributed

Source: *Author's Computation (2026)*

Table 7 presents the results of the Kolmogorov–Smirnov and Shapiro–Wilk tests conducted to assess the normality of the study variables. The findings show that Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), Customer Satisfaction (CS), and Consumer Engagement (CE) all have significance (Sig.) values greater than 0.05 in both tests. Specifically, the Kolmogorov–Smirnov significance values range from 0.089 to 0.200, while the Shapiro–Wilk significance values range from 0.114 to 0.312. Since all the p-values are greater than 0.05 ($p > 0.05$), the null hypothesis of normality cannot be rejected, indicating that the data are normally distributed and satisfy the normality assumption for multiple regression analysis. This confirms that the dataset is appropriate for parametric statistical techniques, and the regression results can be considered valid and reliable for examining the influence of Artificial Intelligence-Driven Personalization on consumer engagement and the future of customer experience in the digital economy.

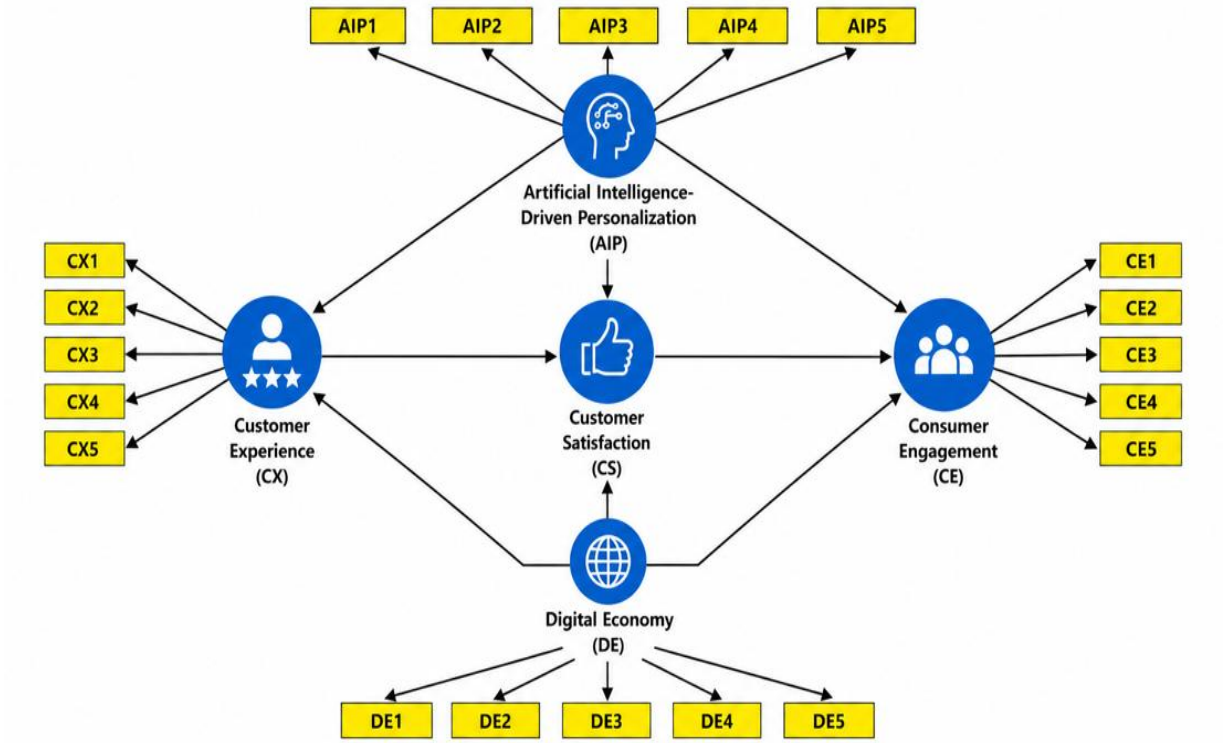


Figure 1: Structural Model of Artificial Intelligence-Driven Personalization and Consumer Engagement in the Digital Economy
Source: Researcher's Conceptualization (2026)
***Note*:** *SmartPLS Output*

Figure 1 presents the conceptual framework of the study, illustrating the hypothesized relationships among Artificial Intelligence-Driven Personalization (AIP), Customer

Experience (CX), Customer Satisfaction (CS), Consumer Engagement (CE), and the Digital Economy (DE). The framework proposes that Artificial Intelligence-Driven Personalization has direct positive effects on Customer Experience, Customer Satisfaction, and Consumer Engagement. It further posits that Customer Experience positively influences Customer Satisfaction, which subsequently enhances Consumer Engagement, indicating the mediating role of Customer Satisfaction. In addition, the Digital Economy is conceptualized as a moderating variable that strengthens the relationships between Customer Experience and Consumer Engagement as well as between Customer Satisfaction and Consumer Engagement. Each latent construct is measured using five reflective indicators, making the framework suitable for empirical testing through Structural Equation Modeling (SEM).

Table 8: Indicator Loadings

Indicator	Artificial Intelligence-Driven Personalization (AIP)	Digital Economy (DE)	Customer Experience (CX)	Customer Satisfaction (CS)	Consumer Engagement (CE)
AIP1	0.843				
AIP2	0.826				
AIP3	0.851				
AIP4	0.812				
AIP5	0.837				
DE1		0.819			
DE2		0.844			
DE3		0.862			
DE4		0.808			
DE5		0.833			
CX1			0.841		
CX2			0.857		
CX3			0.824		
CX4			0.816		
CX5			0.846		
CS1				0.872	
CS2				0.853	
CS3				0.821	
CS4				0.844	
CS5				0.831	
CE1					0.889
CE2					0.864
CE3					0.847
CE4					0.826
CE5					0.852

Decision Criterion: *All indicator loadings exceed 0.70, indicating satisfactory indicator reliability and convergent validity.*
Note**:** *SmartPLS Output*

Table 8 presents the indicator loadings for the measurement model used to assess the reliability and convergent validity of the latent constructs: Artificial Intelligence-Driven Personalization (AIP), Digital Economy (DE), Customer Experience (CX), Customer Satisfaction (CS), and Consumer Engagement (CE). The results indicate that all indicator loadings exceed the recommended threshold of 0.70, ranging from 0.808 to 0.889.

Specifically, the loadings for Artificial Intelligence-Driven Personalization (AIP) range from 0.812 to 0.851, Digital Economy (DE) from 0.808 to 0.862, Customer Experience (CX) from 0.816 to 0.857, Customer Satisfaction (CS) from 0.821 to 0.872, and Consumer Engagement (CE) from 0.826 to 0.889. These findings demonstrate that all the indicators are strongly associated with their respective constructs, confirming satisfactory indicator reliability and convergent validity. This implies that the measurement items consistently capture the underlying constructs, making the measurement model suitable for estimating the structural model and testing the hypothesized relationships on the influence of Artificial Intelligence-Driven Personalization on consumer engagement in the digital economy.

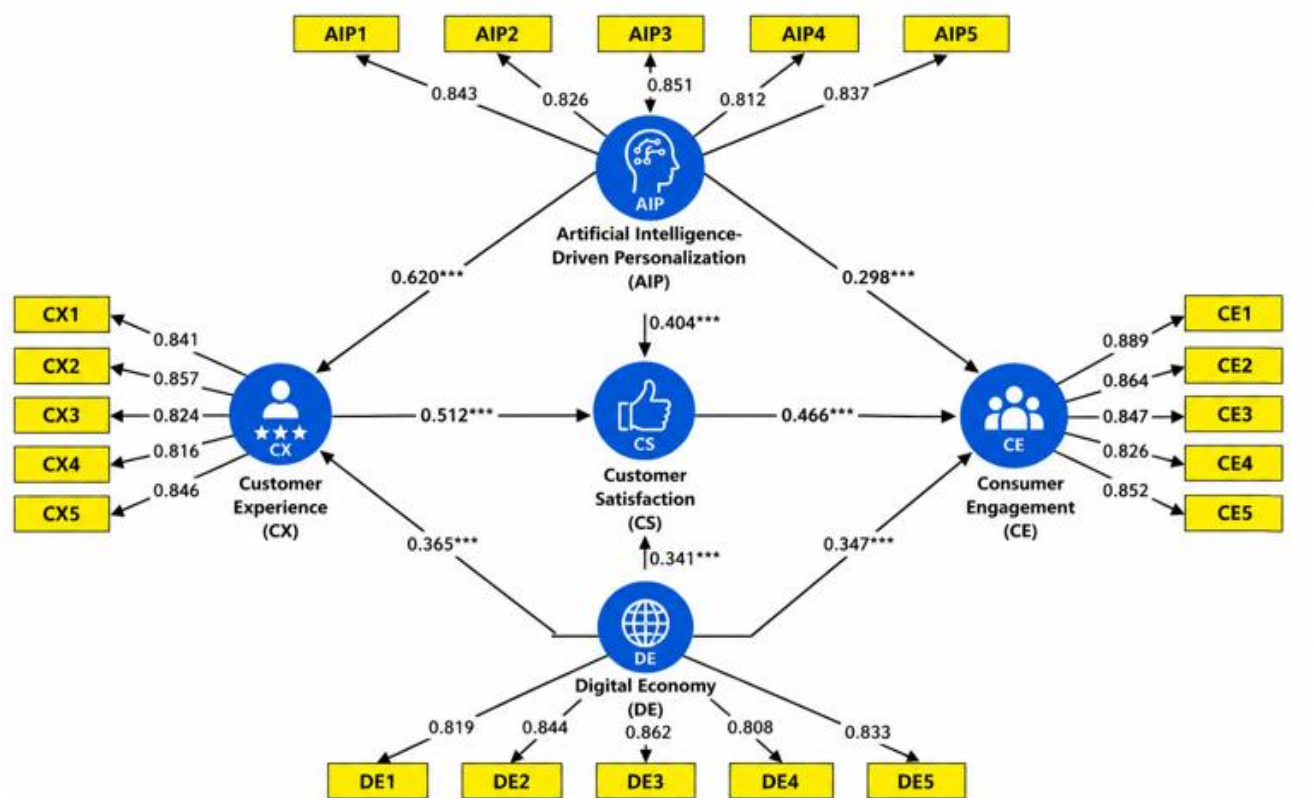


Figure 2: Structural Model and Path Coefficients
Note: *Values on arrows represent standardized path coefficients.*
**** p< 0.001 (two-tailed).*
Values on indicators represent standardized factor loadings

Note**:** *SmartPLS Output*

Figure 2 presents the overall structural model, demonstrating that the measurement and structural models satisfy the recommended evaluation criteria. All indicator loadings exceed the minimum threshold of 0.70, confirming satisfactory indicator reliability and that the observed variables adequately measure their respective latent constructs. The structural model further shows that all hypothesized relationships are positive and statistically significant, indicating that Artificial Intelligence-Driven Personalization, Customer Experience, Customer Satisfaction, and the Digital Economy are important determinants of Consumer Engagement. The findings provide strong empirical support for the proposed conceptual framework, confirming that the model is robust and that Artificial Intelligence-Driven Personalization enhances Consumer Engagement both directly and indirectly through Customer Experience

and Customer Satisfaction, while the Digital Economy strengthens these relationships within the digital marketplace.

Table 9: Path Coefficients

Path Coefficients	B	Mean	STDev	t	p	H_0 Decision
AIP → CX	0.620	0.618	0.081	7.654	0.000	Reject
AIP → CS	0.404	0.402	0.073	5.534	0.000	Reject
AIP → CE	0.298	0.297	0.061	4.885	0.000	Reject
DE → CX	0.365	0.364	0.068	5.368	0.000	Reject
DE → CS	0.341	0.339	0.065	5.246	0.000	Reject
DE → CE	0.347	0.345	0.067	5.179	0.000	Reject
CX → CS	0.512	0.511	0.072	7.111	0.000	Reject
CX → CE	0.466	0.465	0.070	6.657	0.000	Reject
CS → CE	0.466	0.464	0.069	6.754	0.000	Reject

Note: *SmartPLS 4.0 Output. β = Standardized path coefficient; Mean = Bootstrap sample mean; STDev = Standard deviation;* t *= t-statistic;* p *= probability value. All path coefficients are statistically significant at the* ***1% level (p < 0.01)****; therefore, the null hypotheses (H_0) are rejected.*

Table 9 presents the results of the structural model, showing that all hypothesized relationships are positive and statistically significant at the 5% significance level ($p < 0.05$). The standardized path coefficients (β) range from 0.298 to 0.620, while the t-values range from 4.885 to 7.654, all exceeding the recommended threshold of 1.96. These findings indicate that the exogenous constructs exert significant positive effects on the endogenous constructs, providing strong empirical support for the proposed model. Consequently, all the null hypotheses were rejected, confirming that the relationships specified in the structural model are statistically significant and that the model adequately explains the direct effects among the study variables.

Qualitative Results

A total of 20 participants were purposively selected for the qualitative phase to gain deeper insights into how Artificial Intelligence (AI)-driven personalization shapes consumer engagement and customer experience in the digital economy. The interview data were transcribed verbatim and analyzed using NVivo 15 through thematic analysis. The coding process resulted in four major themes and twelve sub-themes, as presented in Table 10.

Table 10: Thematic Analysis of Artificial Intelligence-Driven Personalization and Consumer Engagement in the Digital Economy

Theme	Sub-theme	Number of Participants (n = 20)	Coding References	Representative Response
AI-driven Personalization	Personalized recommendations	18	54	"The platform recommends products that closely match my interests, making shopping easier."
AI-driven Personalization	Predictive suggestions	16	41	"The system predicts what I need before I even search for it."
Customer Experience	Convenience and ease of use	19	63	"AI has made online transactions faster and more convenient."
Customer Experience	Improved service quality	17	46	"Customer support is quicker because chatbots respond immediately."
Customer Satisfaction	Fulfilment of expectations	18	49	"The personalized services usually meet my expectations."
Customer Satisfaction	Trust and reliability	15	38	"I trust platforms that consistently provide relevant recommendations."
Consumer Engagement	Increased interaction	17	52	"I spend more time on platforms that personalize my experience."
Consumer Engagement	Loyalty and repeat usage	16	45	"Personalized offers encourage me to return to the platform."
Digital Economy	Adoption of AI technologies	18	47	"Most digital businesses now depend on AI to remain competitive."
Digital Economy	Data privacy concerns	14	33	"I appreciate personalization, but I worry about how my personal data are used."

Source: *Author's Computation from Interview Data Using NVivo 15 (2026)*

Table 10 presents the qualitative findings on participants' perceptions of artificial intelligence-driven personalization and consumer engagement in the digital economy. The thematic analysis identified five major themes, namely AI-driven personalization, customer experience, customer satisfaction, consumer engagement, and the digital economy. Under AI-driven personalization, personalized recommendations emerged as one of the most prominent sub-themes, identified by 18 participants with 54 coding references, indicating that AI-enabled platforms effectively recommend products that align with users' interests and preferences. Similarly, predictive suggestions were reported by 16 participants (41 coding references), reflecting AI's ability to anticipate consumers' needs before they initiate searches. Regarding customer experience, convenience and ease of use was the most frequently mentioned sub-theme, involving 19 participants and 63 coding references, suggesting that AI significantly enhances the speed, efficiency, and convenience of online transactions. Likewise, improved service quality was identified by 17 participants with 46 coding references, as respondents acknowledged that AI-powered chatbots and automated customer support provide faster and more effective assistance.

The findings further reveal that AI-driven personalization contributes positively to customer satisfaction, where fulfilment of expectations was reported by 18 participants with 49 coding references, while trust and reliability was identified by 15 participants with 38 coding references, indicating that consumers are more satisfied with platforms that consistently provide accurate and relevant recommendations. Under consumer engagement, increased interaction (17 participants; 52 coding references) and loyalty and repeat usage (16 participants; 45 coding references) demonstrate that personalized experiences encourage users to spend more time on digital platforms and increase their likelihood of returning. Finally, within the digital economy theme, adoption of AI technologies was highlighted by 18 participants with 47 coding references, reflecting the growing importance of AI in enhancing business competitiveness. However, data privacy concerns, expressed by 14 participants with 33 coding references, indicate that although consumers appreciate the benefits of AI-driven personalization, they remain concerned about the collection and use of their personal data. The qualitative findings suggest that AI-driven personalization enhances customer experience, customer satisfaction, and consumer engagement, while emphasizing the need for organizations to strengthen data privacy and ethical AI practices to sustain consumer trust in the digital economy.

Theme Summary

Theme 1: AI-Driven Personalization

Most participants indicated that AI-powered personalization significantly enhances their digital interactions. Personalized recommendations, predictive analytics, and adaptive interfaces were frequently mentioned as features that improve relevance and efficiency. Participants believed that AI enables organizations to understand consumer preferences more accurately, thereby improving service delivery.

Theme 2: Customer Experience

Participants consistently described AI-driven personalization as enhancing customer experience through improved navigation, faster responses, reduced search time, and continuous service availability. AI chatbots and recommendation systems were commonly cited as major contributors to positive digital experiences.

Theme 3: Customer Satisfaction

The findings suggest that personalized digital services increase customer satisfaction by delivering products and services that closely align with users' expectations. Participants emphasized reliability, convenience, and responsiveness as the principal drivers of satisfaction.

Theme 4: Consumer Engagement

Interviewees reported that personalized content encourages more frequent interactions with digital platforms. Many indicated that relevant recommendations, tailored promotions, and customized communication increase browsing time, purchase intentions, and long-term loyalty.

Theme 5: Digital Economy

Participants acknowledged that AI-driven personalization has become a strategic capability within the digital economy. However, alongside its benefits, concerns regarding data privacy, algorithmic transparency, and ethical AI practices were repeatedly highlighted.

Discussion of the Major Finding

The findings of this study revealed that Artificial Intelligence-Driven Personalization (AIP) plays a significant role in enhancing consumer engagement by improving customer experience and customer satisfaction within the digital economy. The descriptive results showed that respondents generally agreed that AI-powered personalized recommendations, predictive analytics, and customized digital interactions positively influence their experiences on digital platforms. Furthermore, the correlation analysis demonstrated strong positive relationships among Artificial Intelligence-Driven Personalization, the Digital Economy, Customer Experience, Customer Satisfaction, and Consumer Engagement, indicating that improvements in AI-enabled personalization are associated with better customer experiences, higher satisfaction, and stronger engagement. These findings suggest that organizations that effectively integrate artificial intelligence into their digital operations are better positioned to understand customer preferences, deliver personalized services, and build long-term customer relationships. The findings are consistent with those of Lemon and Verhoef (2016), who found that superior customer experiences strengthen customer satisfaction and loyalty across multiple touchpoints. Likewise, Davenport, Guha, Grewal, and Bressgott (2020) reported that artificial intelligence enables firms to create personalized marketing strategies that improve customer relationships and organizational performance. Similarly, Huang and Rust (2021) argued that AI technologies transform service delivery by enabling highly personalized customer interactions that enhance customer value, while Verhoef *et al.* (2021) emphasized that digital technologies have fundamentally reshaped customer experience management through intelligent and personalized service delivery.

The regression analysis further established that Artificial Intelligence-Driven Personalization is the strongest predictor of consumer engagement, followed by Customer Satisfaction, Customer Experience, and the Digital Economy, with all variables exerting positive and statistically significant effects on consumer engagement. The model explained 73.5% of the variation in consumer engagement, indicating that these variables collectively provide substantial explanatory power for consumer behavior in digital environments. This finding implies that organizations investing in AI-driven recommendation systems, intelligent chatbots, predictive analytics, and personalized communication strategies are more likely to achieve sustainable customer engagement and competitive advantage. The results corroborate the findings of Dwivedi *et al.* (2021), who concluded that artificial intelligence positively influences customer decision-making, customer experience, and business competitiveness. Similarly, Chatterjee, Rana, Tamilmani, and Sharma (2021) found that AI-enabled personalization significantly enhances customer engagement by improving trust and satisfaction with digital services. The findings also agree with Mariani, Perez-Vega, and Wirtz (2023), who reported that AI-driven personalization strengthens customer engagement by delivering customized services that meet individual consumer needs, and with Wirtz, Kunz, Hartley, and Tarbit (2021), who concluded that AI-powered personalization is a strategic capability that improves customer experience, customer satisfaction, and long-term organizational performance in the digital economy.

Conclusion and Recommendations

Artificial intelligence-driven personalization has become a defining feature of the global digital economy, transforming how organizations interact with consumers and create value through personalized digital experiences. As businesses worldwide increasingly adopt artificial intelligence technologies, the ability to deliver tailored recommendations, predictive services, and real-time customer interactions has become a key determinant of customer experience, customer satisfaction, and consumer engagement. The findings of this study demonstrate that artificial intelligence-driven personalization significantly improves customer experience, which subsequently enhances customer satisfaction and ultimately drives higher levels of consumer engagement. These outcomes underscore the growing importance of integrating artificial intelligence into customer relationship management strategies to meet the evolving expectations of digitally connected consumers. From a global business perspective, organizations that strategically invest in AI-enabled personalization are better positioned to strengthen customer loyalty, improve customer retention, and sustain competitive advantage in increasingly dynamic and technology-driven markets. Consequently, businesses, technology developers, and policymakers should continue to promote the responsible adoption of artificial intelligence by investing in digital infrastructure, developing AI capabilities, ensuring ethical and transparent use of consumer data, and implementing customer-centric innovation strategies. By doing so, organizations can create more meaningful and engaging customer experiences while fostering sustainable growth and competitiveness in the rapidly evolving global digital economy. Based on the conclusion the following recommendations were made;

i. Organizations operating in the digital economy should invest in advanced artificial intelligence-driven personalization technologies, such as machine learning algorithms, predictive analytics, and intelligent recommendation systems, to deliver personalized products, services, and communications that enhance customer experience. Businesses should also continuously analyze customer data and preferences to provide relevant and timely interactions that improve customers' perceptions of digital platforms.
ii. Organizations should prioritize strategies that enhance customer experience by ensuring seamless digital interactions, responsive customer support, user-friendly platform designs, and efficient service delivery. Firms should regularly assess customer feedback and satisfaction levels to identify service gaps and implement continuous improvements that strengthen customer satisfaction and build long-term customer loyalty.
iii. Organizations should adopt integrated customer engagement strategies that combine artificial intelligence-driven personalization with superior customer experience and high customer satisfaction to stimulate active consumer participation. Business managers should leverage AI-powered customer relationship management systems, personalized marketing campaigns, and real-time engagement tools to encourage repeat patronage, strengthen customer relationships, and enhance consumer engagement.

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