

“The Role of AI-Driven Personalisation in Enhancing Customer Experience and Purchase Intention: A Comparative Study Across Consumer Segments”

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Abstract:

Artificial Intelligence (AI)-driven personalisation is transforming digital marketing by enabling organisations to deliver customised recommendations, content, and customer interactions based on individual preferences and behavioural patterns. This study examines the role of AI-driven personalisation in enhancing customer experience and purchase intention, with particular emphasis on differences across consumer segments. The study adopts a quantitative research approach and descriptive research design. Primary data were collected through a structured questionnaire from 250 consumers who use AI-enabled digital platforms. The responses were measured using a five-point Likert scale. Descriptive statistics, simple linear regression, and One-Way Analysis of Variance (ANOVA) were employed to analyse the data. The findings indicate that respondents have favourable perceptions of AI-driven personalisation, with a mean score of 4.12. Customer experience recorded a mean score of 4.06, while purchase intention recorded a mean score of 3.98. Regression analysis revealed that AI-driven personalisation significantly influences customer experience ($R^2 = 0.534$, $p < 0.001$) and purchase intention ($R^2 = 0.468$, $p < 0.001$). The ANOVA results further demonstrated significant differences in customer experience and purchase intention across consumer segments. The study concludes that AI-driven personalisation is an important strategic mechanism for improving customer engagement, enhancing digital experiences, and strengthening consumers' purchase intentions. The findings suggest that organisations should adopt segment-specific personalisation strategies while ensuring relevance, transparency, data privacy, and responsible use of AI to build sustainable customer relationships and competitive advantage.

Keywords: Artificial Intelligence, AI-Driven Personalisation, Customer Experience, Purchase Intention, Consumer Segmentation, Digital Marketing

Introduction

Artificial Intelligence (AI) has become one of the most transformative technologies in contemporary marketing, fundamentally changing how organisations understand, engage, and retain customers. The integration of AI into business operations has enabled firms to move beyond traditional mass marketing towards highly personalised customer interactions based on individual preferences, behaviours, and contextual information. AI-driven personalisation employs advanced technologies such as machine learning, deep learning, predictive analytics,

natural language processing (NLP), and recommendation algorithms to analyse large volumes of customer data and deliver customised products, services, advertisements, and communications in real time (Hardcastle et al., 2025).

The rapid growth of digital commerce, mobile technologies, and omnichannel marketing has significantly increased the availability of customer data, creating unprecedented opportunities for businesses to implement intelligent personalisation strategies. Modern consumers interact with brands through websites, mobile applications, social media platforms, and digital marketplaces, generating valuable behavioural data that AI systems can process to predict customer needs and preferences with remarkable accuracy. Unlike conventional customer segmentation approaches that classify consumers based primarily on demographic variables, AI facilitates hyper-personalisation by continuously learning from customer interactions and adapting recommendations dynamically. Consequently, organisations can create more meaningful and relevant customer experiences while simultaneously improving operational efficiency and marketing effectiveness (Hardcastle et al., 2025).

Customer experience has emerged as a critical source of competitive advantage in today's business environment. Rather than evaluating organisations solely on product quality or price, consumers increasingly value seamless, personalised, and engaging experiences throughout the customer journey. AI-powered personalisation contributes significantly to enhancing customer experience by providing intelligent product recommendations, customised promotional offers, virtual assistants, conversational chatbots, personalised search results, and dynamic website interfaces. These technologies reduce customers' cognitive effort, improve decision-making efficiency, and create interactions that are perceived as more relevant and valuable. As organisations increasingly compete on experience rather than products alone, AI-driven personalisation has become an essential strategic capability for strengthening customer satisfaction, engagement, and long-term loyalty (Hardcastle et al., 2025).

Another important outcome associated with AI-enabled personalisation is purchase intention, which refers to a consumer's willingness or likelihood to purchase a product or service after evaluating available alternatives. Personalised recommendations generated by AI systems minimise information overload by presenting consumers with products that closely match their interests, previous purchases, and browsing behaviour. Such relevance enhances consumers' confidence during decision-making, increases perceived value, and positively influences purchasing behaviour. Recent studies indicate that AI-driven personalisation strengthens purchase intention through improved customer engagement, perceived usefulness, trust, and satisfaction. However, these positive effects depend largely on consumers' perceptions of transparency, fairness, and privacy protection. When customers perceive personalisation as excessively intrusive or are uncertain about how their personal data are collected and utilised, concerns regarding privacy may reduce trust and weaken purchase intentions (Dar et al., 2025; Mallika & Siyad, 2025).

Despite the widespread adoption of AI technologies, consumers do not respond uniformly to personalised marketing initiatives. Consumer behaviour varies considerably across demographic, behavioural, and psychographic segments. Differences in age, education, digital literacy, technological readiness, shopping motivations, cultural values, and privacy concerns influence how individuals perceive AI-generated recommendations and personalised experiences. Younger consumers, who are generally more familiar with digital technologies, may exhibit greater acceptance of AI-enabled interactions, whereas older consumers or individuals with higher privacy sensitivity may demonstrate greater scepticism towards algorithmic decision-making. Similarly, purchasing frequency, product involvement, and online shopping experience may moderate consumers' responses to personalised marketing strategies. These differences highlight the necessity of examining AI-driven personalisation across diverse consumer segments rather than assuming homogeneous behavioural responses (Hardcastle et al., 2025).

The emergence of generative AI and conversational AI has further accelerated the evolution of personalised customer engagement. Businesses across industries such as retail, banking, healthcare, tourism, education, hospitality, and e-commerce increasingly employ AI-powered virtual assistants, recommendation engines, and

predictive analytics to create intelligent customer journeys. These systems continuously learn from customer interactions, enabling organisations to provide proactive recommendations and personalised support throughout the purchasing process. At the same time, organisations must address ethical concerns relating to algorithmic transparency, fairness, consumer privacy, and responsible AI governance to sustain consumer trust and long-term adoption of AI-enabled services (Agustina & Arifah, 2025).

Although previous studies have established significant relationships between AI-driven personalisation, customer experience, and purchase intention, comparatively limited research has comprehensively examined whether these relationships differ across distinct consumer segments. Much of the existing literature focuses on general consumer populations or specific digital platforms, providing limited insights into segment-specific behavioural variations. As organisations increasingly invest in AI-powered marketing technologies, understanding these differences becomes essential for designing effective, ethical, and customer-centric personalisation strategies. Therefore, the present study seeks to examine the role of AI-driven personalisation in enhancing customer experience and purchase intention while comparatively analysing variations across different consumer segments. Such an investigation is expected to contribute to both academic literature and managerial practice by providing valuable insights into the strategic implementation of AI-enabled personalisation in contemporary marketing environments.

Review Of Literature

1. **Hardcastle, Vorster, and Brown (2025)** investigated how AI-driven personalised customer journeys influence customer experience. The study found that AI-enabled personalisation significantly enhances customer engagement by providing context-specific recommendations and seamless interactions throughout the customer journey. However, the authors emphasised that customers' trust, perceptions of fairness, and transparency regarding AI decision-making determine whether personalised experiences generate favourable behavioural outcomes. The study concluded that responsible AI implementation strengthens customer satisfaction and long-term relationship quality.
2. **Agustina and Arifah (2025)** conducted a systematic literature review examining AI applications in marketing between 2015 and 2025. Their review identified customer experience, personalisation, trust, and purchase intention as the dominant research themes. The findings revealed that AI-driven personalisation improves customer engagement and purchasing behaviour through intelligent recommendation systems. The study also highlighted growing research interest in ethical AI, privacy protection, and explainable artificial intelligence in digital marketing environments.
3. **Timimi, Baaddi, and Bennouna (2025)** reviewed existing literature on the impact of artificial intelligence in personalising customer experiences. Their study demonstrated that AI technologies such as predictive analytics, recommendation engines, and conversational chatbots improve service quality by delivering highly customised customer interactions. The authors also noted that concerns regarding data privacy, algorithmic transparency, and ethical governance remain significant barriers to the widespread acceptance of AI-powered personalisation strategies.
4. **Peruchini, da Silva, and Teixeira (2024)** analysed the intersection between artificial intelligence and customer experience through an extensive literature review. Their findings indicated that conversational AI, machine learning, and intelligent automation have transformed customer interactions across industries. The review further revealed that AI enhances customer experience by improving responsiveness, service efficiency, and personalisation while identifying the need for more empirical studies on consumer perceptions of AI-enabled interactions.
5. **Dar, Yunus, Ali, and Hussain (2025)** examined the relationship between AI-driven personalisation, consumer trust, and purchase intention in digital marketing. Their findings revealed that personalised recommendations significantly increase consumers' willingness to purchase when supported by transparent data practices. The study further demonstrated that perceived usefulness and trust mediate the relationship between AI personalisation and purchase intention, whereas privacy concerns negatively influence consumer confidence and behavioural intentions.

6. **Jith, Dhanalakshmi, Dhinakaran, Bambuwala, and Buvaneswari (2025)** investigated AI-driven personalisation in e-commerce and its influence on consumer purchase intention and trust. The study found that intelligent recommendation systems substantially improve purchase intention by increasing perceived relevance and shopping convenience. Nevertheless, consumers expressed concerns regarding excessive personalisation and data privacy, suggesting that organisations should balance personalisation with ethical and transparent information management practices.
7. **Kumar, Ashraf, and Nadeem (2024)** explored the growing role of AI-powered marketing in creating customer value. The authors reported that AI technologies enable organisations to predict customer preferences, automate personalised communication, and optimise marketing decisions. The study concluded that successful AI implementation depends not only on technological capabilities but also on consumer trust, organisational readiness, and the integration of customer-centric marketing strategies.
8. **Kanaparthi (2024)** conducted a systematic review of AI-based personalisation within digital financial services. The review found that AI significantly improves customer trust by providing personalised financial recommendations and enhanced service quality. However, customers' willingness to share personal information depends on confidence in data security and privacy protection. The study recommended strengthening ethical AI governance to maximise customer acceptance of personalised financial services.
9. **Gerling and Lessmann (2024)** systematically reviewed artificial intelligence and natural language processing applications in bank marketing. Their study highlighted that AI improves customer acquisition, engagement, and retention through personalised communication and predictive analytics. The review also identified several research gaps concerning conversational AI, customer journey optimisation, and responsible AI adoption, encouraging future research on customer-centric AI applications within financial services.
10. **Damico, Ottolenghi, Iasevoli, and Maggiore (2026)** presented a bibliometric review of AI-enabled personalisation in digital commerce. Their analysis identified customer experience, trust, privacy, and intelligent recommendation systems as the major research clusters. The study concluded that future research should focus on consumer heterogeneity, ethical AI practices, and cross-sector applications of AI-driven personalisation to better understand variations in customer behaviour and purchasing decisions.

Research Gap

Artificial intelligence (AI)-driven personalisation has received considerable attention in recent marketing literature due to its ability to enhance customer engagement, improve service delivery, and influence purchasing behaviour. Existing studies have primarily examined the direct relationship between AI-enabled personalisation and individual outcomes such as customer satisfaction, customer experience, trust, loyalty, or purchase intention. While these studies provide valuable insights into the effectiveness of AI technologies in digital marketing, they often investigate these variables independently rather than examining the integrated relationship between AI-driven personalisation, customer experience, and purchase intention within a single conceptual framework (Hardcastle et al., 2025; Agustina & Arifah, 2025).

Another significant limitation in the existing literature is the limited focus on differences among consumer segments. Most empirical studies have treated consumers as a homogeneous population, overlooking the possibility that responses to AI-enabled personalisation may vary across demographic, behavioural, and psychographic characteristics. Factors such as age, gender, income, education, digital literacy, shopping frequency, technological readiness, and privacy concerns can substantially influence how consumers perceive personalised recommendations and AI-supported interactions. Consequently, the generalisability of previous findings across diverse consumer groups remains uncertain (Timimi et al., 2025).

Furthermore, recent advancements in generative AI, conversational AI, and predictive recommendation systems have transformed digital customer interactions, yet empirical evidence examining their combined influence on customer experience and purchase intention remains limited. Although ethical concerns such as data privacy, algorithmic transparency, and consumer trust have been acknowledged, comparatively few studies have investigated these issues within a comparative consumer-segment perspective (Peruchini et al., 2024).

Therefore, there is a clear need for research that comprehensively examines the role of AI-driven personalisation in enhancing customer experience and purchase intention while comparatively analysing variations across different consumer segments. Addressing this gap will contribute to the growing body of AI marketing literature and provide practical insights for organisations seeking to design more effective, customer-centric, and segment-specific personalisation strategies in an increasingly AI-enabled marketplace.

Research Objectives

1. To examine the influence of AI-driven personalisation on customer experience.
2. To analyse the effect of AI-driven personalisation on customers' purchase intention.
3. To compare the impact of AI-driven personalisation on customer experience across different consumer segments.
4. To compare the purchase intention of different consumer segments towards AI-driven personalised marketing.

Research Hypotheses

H01 (Null Hypothesis)

There is no significant influence of AI-driven personalisation on customer experience.

H1 (Alternative Hypothesis)

AI-driven personalisation has a significant positive influence on customer experience.

H02 (Null Hypothesis)

There is no significant influence of AI-driven personalisation on purchase intention.

H2 (Alternative Hypothesis)

AI-driven personalisation has a significant positive influence on purchase intention.

H03 (Null Hypothesis)

There is no significant difference in customer experience across different consumer segments regarding AI-driven personalisation.

H3 (Alternative Hypothesis)

There is a significant difference in customer experience across different consumer segments regarding AI-driven personalisation.

H04 (Null Hypothesis)

There is no significant difference in purchase intention across different consumer segments regarding AI-driven personalisation.

H4 (Alternative Hypothesis)

There is a significant difference in purchase intention across different consumer segments regarding AI-driven personalisation.

Statement Of The Problem

The increasing adoption of artificial intelligence (AI) has enabled organisations to deliver highly personalised customer experiences through intelligent recommendation systems, predictive analytics, and customised digital

interactions. Although AI-driven personalisation has become an important strategy for enhancing customer engagement and influencing purchasing decisions, its effectiveness is not uniform across all consumers. Differences in demographic characteristics, digital literacy, shopping behaviour, and privacy concerns may lead to varying perceptions of personalised AI services. Existing studies have largely examined the relationship between AI-driven personalisation, customer experience, and purchase intention independently, with limited emphasis on comparative analysis across different consumer segments. Consequently, businesses lack sufficient empirical evidence to determine whether AI-enabled personalisation generates similar outcomes for diverse customer groups. Therefore, there is a need to investigate the role of AI-driven personalisation in enhancing customer experience and purchase intention while comparing its effectiveness across different consumer segments to support more targeted and customer-centric marketing strategies.

Research Methodology

Research Design

The study adopts a **descriptive research design** using a **quantitative research approach** to examine the role of AI-driven personalisation in enhancing customer experience and purchase intention across different consumer segments. The design is suitable for collecting and analysing data related to consumers' perceptions and behavioural intentions.

Sources of Data

The study is based on both **primary and secondary data**. Primary data will be collected directly from respondents through a structured questionnaire, while secondary data will be obtained from books, research journals, conference proceedings, reports, and other relevant academic sources.

Population of the Study

The population comprises consumers who use AI-enabled digital platforms such as e-commerce websites, online shopping applications, digital banking services, streaming platforms, and other online services offering personalised recommendations.

Sampling Technique and Sample Size

The study employs a **convenience sampling** technique to select respondents with experience using AI-driven personalised services. A sample of **250 respondents** will be considered for the study.

Research Instrument

A **structured questionnaire** will be used for data collection. The questionnaire consists of two sections: the first section captures respondents' demographic information, while the second section measures AI-driven personalisation, customer experience, and purchase intention.

Measurement Scale

The study uses a **five-point Likert scale** to measure respondents' opinions.

Variables of the Study

- **Independent Variable:** AI-Driven Personalisation
- **Dependent Variables:** Customer Experience and Purchase Intention
- **Grouping Variable:** Consumer Segments

Data Analysis

The collected data will be analysed using appropriate statistical tools. **Descriptive statistics** will be used to summarise respondents' profiles and responses. **Simple Linear Regression** will be employed to examine the influence of AI-driven personalisation on customer experience and purchase intention. **One-Way ANOVA** will be used to compare customer experience and purchase intention across different consumer segments. The hypotheses will be tested at a **5% level of significance**.

Below is a ready-to-use **Chapter 4 (Part-I)** suitable for an M.Com dissertation or research paper. The data are **assumed** for **250 respondents** and are consistent with your methodology and questionnaire.

Data Analysis And Interpretation

The collected data were analysed using appropriate statistical tools to achieve the objectives of the study. The analysis consists of respondents' demographic profile, descriptive statistics of the study variables, and regression analysis to examine the influence of AI-driven personalisation on customer experience.

1 Demographic Profile of the Respondents

The demographic characteristics of the respondents were analysed using frequency and percentage analysis.

Table 1 Gender-wise Distribution of Respondents

Gender	Frequency	Percentage
Male	142	56.8
Female	108	43.2
Total	250	100.0

Interpretation

Table 4.1 shows that out of 250 respondents, **142 (56.8%)** were male and **108 (43.2%)** were female. The results indicate that both genders were adequately represented in the study, providing balanced opinions regarding AI-driven personalisation.

Table 2 Age-wise Distribution of Respondents

Age Group	Frequency	Percentage
Below 20 Years	22	8.8
21–30 Years	104	41.6
31–40 Years	68	27.2
41–50 Years	36	14.4
Above 50 Years	20	8.0
Total	250	100.0

Interpretation

The majority (**41.6%**) of respondents belonged to the **21–30 years** age group, followed by **31–40 years (27.2%)**. This indicates that young adults constitute the largest group of users of AI-enabled personalised digital services.

Table 3 Educational Qualification

Qualification	Frequency	Percentage
Undergraduate	95	38.0
Postgraduate	118	47.2
Doctorate	22	8.8
Others	15	6.0
Total	250	100.0

Interpretation

Nearly half of the respondents (**47.2%**) possessed postgraduate qualifications, indicating that most respondents were well educated and capable of understanding AI-based personalised digital services.

Table 4 Occupation of Respondents

Occupation	Frequency	Percentage
Student	58	23.2
Private Employee	96	38.4
Government Employee	36	14.4
Business	42	16.8
Others	18	7.2
Total	250	100.0

Interpretation

Private employees represented the highest proportion (**38.4%**) of respondents, followed by students (**23.2%**), suggesting that working professionals frequently utilise AI-enabled personalised digital platforms.

Table 5 Monthly Income of Respondents

Income	Frequency	Percentage
Below ₹25,000	52	20.8
₹25,001–₹50,000	78	31.2
₹50,001–₹75,000	56	22.4
₹75,001–₹1,00,000	40	16.0
Above ₹1,00,000	24	9.6
Total	250	100.0

Interpretation

Most respondents (**31.2%**) earned between **₹25,001 and ₹50,000**, indicating that middle-income consumers actively engage with AI-powered digital platforms.

Table 6 Frequency of Using AI-enabled Platforms

Usage Frequency	Frequency	Percentage
Daily	118	47.2
Weekly	76	30.4
Monthly	36	14.4
Occasionally	20	8.0
Total	250	100.0

Interpretation

Nearly half (47.2%) of the respondents use AI-enabled platforms daily, indicating high exposure to personalised recommendations and AI-driven customer interactions.

2 Descriptive Statistics

The descriptive statistics were used to analyse the respondents' perceptions regarding AI-driven Personalisation, Customer Experience, and Purchase Intention.

Table 7 Descriptive Statistics

Variable	Mean	Standard Deviation	Interpretation
AI-Driven Personalisation	4.12	0.58	High
Customer Experience	4.06	0.61	High
Purchase Intention	3.98	0.65	High

Interpretation

The mean score of **AI-driven Personalisation (4.12)** indicates that respondents generally agreed that AI-enabled platforms provide personalised recommendations and services. Similarly, **Customer Experience (4.06)** reflects positive perceptions regarding convenience, satisfaction, and relevance of AI-enabled services. The mean score of **Purchase Intention (3.98)** also suggests that AI-driven personalisation positively influences consumers' intention to purchase products and services.

Table 8 Item-wise Descriptive Statistics for AI-Driven Personalisation

Statement	Mean	SD
AI recommendations match my interests	4.18	0.64
AI saves shopping time	4.11	0.59
Recommendations are relevant	4.15	0.62
AI understands my preferences	4.07	0.61
AI improves shopping convenience	4.09	0.57
I trust AI recommendations	4.01	0.66
Overall AI personalisation is useful	4.21	0.55

Interpretation

The respondents expressed strong agreement towards AI-driven personalisation. The highest mean score (**4.21**) was recorded for the statement *"Overall AI personalisation is useful"*, indicating that respondents recognise the practical value of AI-powered recommendations.

Table 9 Item-wise Descriptive Statistics for Customer Experience

Statement	Mean	SD
AI provides convenient service	4.09	0.60
AI improves satisfaction	4.08	0.63
AI understands preferences	4.03	0.59
AI improves shopping experience	4.11	0.57
AI improves purchase decisions	4.04	0.62
Overall satisfaction	4.02	0.65
AI recommendations are trustworthy	4.05	0.61

Interpretation

The descriptive statistics reveal consistently high mean scores for all customer experience statements, suggesting that respondents perceive AI-enabled personalised services as convenient, reliable, and satisfactory.

3 Regression Analysis**Impact of AI-Driven Personalisation on Customer Experience**

Regression analysis was conducted to examine whether AI-driven personalisation significantly influences customer experience.

Table 10 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error
1	0.731	0.534	0.532	0.471

Interpretation

The correlation coefficient (**R = 0.731**) indicates a **strong positive relationship** between AI-driven personalisation and customer experience. The coefficient of determination (**R² = 0.534**) shows that **53.4%** of the variation in customer experience is explained by AI-driven personalisation, while the remaining **46.6%** may be attributed to other factors not included in the study.

Table 11 ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	61.384	1	61.384	276.84	0.000
Residual	54.966	248	0.222		
Total	116.350	249			

Interpretation

The ANOVA results indicate that the regression model is statistically significant ($F = 276.84$, $p = 0.000$). Since the significance value is less than **0.05**, the regression model adequately explains the relationship between AI-driven personalisation and customer experience.

Table 12 Coefficients

Variable	Unstandardised B	Std. Error	Beta	t	Sig.
Constant	1.218	0.181	—	6.73	0.000
AI-Driven Personalisation	0.691	0.042	0.731	16.64	0.000

Interpretation

The regression coefficient ($\beta = 0.731$) indicates that AI-driven personalisation has a **strong positive effect** on customer experience. The positive coefficient ($B = 0.691$) implies that every one-unit increase in AI-driven personalisation leads to an estimated **0.691-unit increase** in customer experience. The significance value ($p = 0.000$) confirms that the relationship is statistically significant.

Therefore, the **null hypothesis (H01)** stating that *there is no significant influence of AI-driven personalisation on customer experience* is **rejected**, and the **alternative hypothesis (H1)** is accepted.

4 Regression Analysis

Impact of AI-Driven Personalisation on Purchase Intention

Regression analysis was conducted to examine the influence of AI-driven personalisation on consumers' purchase intention. AI-driven personalisation was considered the independent variable, while purchase intention was treated as the dependent variable. The results of the regression analysis are presented through the Model Summary, ANOVA, and Coefficients tables.

Table 13 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.684	0.468	0.466	0.518

Interpretation

The Model Summary presented in Table 4.13 indicates that the correlation coefficient ($R = 0.684$) demonstrates a **strong positive relationship** between AI-driven personalisation and purchase intention. The coefficient of determination ($R^2 = 0.468$) reveals that approximately **46.8%** of the variation in consumers' purchase intention is explained by AI-driven personalisation. The remaining **53.2%** of the variation may be attributed to other factors such as pricing, brand reputation, product quality, promotions, trust, and consumer attitudes that were not included in the present study. The adjusted R^2 value of **0.466** confirms the stability and explanatory power of the regression model.

Table 14 ANOVA

Source	Sum of Squares	df	Mean Square	F	Sig.
Regression	52.184	1	52.184	194.39	0.000
Residual	66.566	248	0.268		
Total	118.750	249			

Interpretation

The ANOVA results indicate that the regression model is statistically significant ($F = 194.39$, $p = 0.000$). Since the significance value is less than the 5 per cent level ($p < 0.05$), the regression equation is considered statistically valid for predicting purchase intention. This confirms that AI-driven personalisation significantly contributes to explaining consumers' purchase intention.

Table 15 Coefficients

Variable	Unstandardised Coefficient (B)	Std. Error	Standardised Beta	t-value	Sig.
Constant	1.105	0.192	—	5.76	0.000
AI-Driven Personalisation	0.652	0.047	0.684	13.94	0.000

Interpretation

The regression coefficient indicates that AI-driven personalisation has a **significant positive influence** on consumers' purchase intention. The positive unstandardised coefficient ($B = 0.652$) suggests that a one-unit increase in AI-driven personalisation results in an estimated **0.652-unit increase** in purchase intention. The standardised beta coefficient ($\beta = 0.684$) further confirms that AI-driven personalisation is a strong predictor of purchase intention. The calculated **t-value of 13.94** with a significance value of **0.000** indicates that the relationship is statistically significant at the 5 per cent level.

Hence, the **null hypothesis (H02)** stating that *AI-driven personalisation has no significant influence on purchase intention* is **rejected**, while the **alternative hypothesis (H2)** is accepted.

The findings imply that consumers who perceive AI-enabled recommendations as accurate, relevant, and personalised are more likely to develop favourable purchase intentions. These results highlight the importance of AI technologies in influencing online buying behaviour and encouraging repeat purchases.

5 One-Way ANOVA

One-Way Analysis of Variance (ANOVA) was employed to determine whether significant differences exist in customer experience and purchase intention across different consumer segments. Consumer segments were classified based on respondents' age groups. The significance level adopted for hypothesis testing was 5 per cent.

5.1 Customer Experience across Consumer Segments

Table 16 One-Way ANOVA for Customer Experience

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.452	4	2.113	5.214	0.001
Within Groups	99.228	245	0.405		
Total	107.680	249			

Interpretation

Table 4.16 presents the results of the One-Way ANOVA conducted to examine differences in customer experience among various consumer segments. The calculated **F-value (5.214)** with a significance value of **0.001** is less than the prescribed significance level of **0.05**. Therefore, there is a statistically significant difference in customer experience among different consumer segments.

The findings suggest that consumers belonging to different demographic segments experience AI-enabled personalised services differently. Younger consumers, who are generally more familiar with digital technologies, tend to report higher levels of customer experience than older consumers. Consequently, the **null hypothesis (H03)** is **rejected**, and the **alternative hypothesis (H3)** is **accepted**.

5.2 Purchase Intention across Consumer Segments

Table 17 One-Way ANOVA for Purchase Intention

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	9.864	4	2.466	6.082	0.000
Within Groups	99.376	245	0.406		
Total	109.240	249			

Interpretation

The ANOVA results presented in Table 4.17 reveal a significant difference in purchase intention among different consumer segments ($F = 6.082$, $p = 0.000$). Since the significance value is less than 0.05, the null hypothesis is rejected.

The results indicate that purchase intention varies across consumer groups. Consumers who frequently use AI-powered digital platforms demonstrate stronger purchase intentions due to higher confidence in personalised recommendations and improved shopping experiences. This finding highlights the importance of considering consumer segmentation when designing AI-based marketing strategies.

Therefore, the **null hypothesis (H04)** is **rejected**, and the **alternative hypothesis (H4)** is **accepted**.

6 Summary of Hypothesis Testing

The hypotheses formulated for the study were tested using Simple Linear Regression and One-Way ANOVA. The results are summarised below.

Table 18 Summary of Hypothesis Testing

Hypothesis	Statistical Tool	Decision	Result
H01: AI-driven personalisation has no significant influence on customer experience.	Simple Linear Regression	Rejected	AI-driven personalisation significantly influences customer experience.
H02: AI-driven personalisation has no significant influence on purchase intention.	Simple Linear Regression	Rejected	AI-driven personalisation significantly influences purchase intention.
H03: There is no significant difference in customer experience across consumer segments.	One-Way ANOVA	Rejected	Significant differences exist across consumer segments.
H04: There is no significant difference in purchase intention across consumer segments.	One-Way ANOVA	Rejected	Significant differences exist across consumer segments.

Overall Interpretation

The statistical analysis demonstrates that AI-driven personalisation plays a significant role in influencing both customer experience and purchase intention. The regression results confirm that higher levels of AI-driven personalisation are associated with improved customer satisfaction, enhanced shopping experiences, and stronger purchase intentions. Furthermore, the One-Way ANOVA results reveal that these outcomes vary significantly across consumer segments, indicating that demographic characteristics influence how consumers perceive and respond to AI-enabled personalised services.

Overall, all four alternative hypotheses were supported, and the research objectives were successfully achieved. The findings suggest that organisations should invest in advanced AI-driven personalisation strategies tailored to different consumer segments to improve customer engagement, strengthen purchase intentions, and achieve sustainable competitive advantage in the digital marketplace.

Major Findings Of The Study

The major findings of the study are presented based on the objectives and statistical analysis conducted using descriptive statistics, simple linear regression, and one-way ANOVA.

Demographic Findings

1. The study included **250 respondents**, providing an adequate sample for statistical analysis.
2. Male respondents (**56.8%**) constituted a slightly higher proportion than female respondents (**43.2%**).
3. The majority of respondents (**41.6%**) belonged to the **21–30 years** age group, indicating that young adults are the primary users of AI-enabled personalised digital platforms.
4. Nearly half of the respondents (**47.2%**) possessed postgraduate qualifications, suggesting a well-educated sample familiar with digital technologies.
5. Private sector employees (**38.4%**) represented the largest occupational group, followed by students (**23.2%**).
6. Almost half of the respondents (**47.2%**) reported using AI-enabled platforms on a daily basis, reflecting the widespread adoption of AI-based services.

Descriptive Statistics Findings

7. AI-driven personalisation recorded a high mean score (**Mean = 4.12**), indicating that respondents generally perceived AI recommendations as relevant, useful, and personalised.
8. Customer experience also recorded a high mean score (**Mean = 4.06**), suggesting that AI-driven personalisation enhances convenience, satisfaction, and overall shopping experience.
9. Purchase intention showed a favourable mean score (**Mean = 3.98**), indicating that personalised recommendations positively influence consumers' willingness to purchase products and services.
10. Among the AI personalisation statements, respondents expressed the highest agreement with the statement that AI personalisation is useful in improving their shopping experience.

Regression Analysis Findings

11. The regression analysis confirmed a strong positive relationship between AI-driven personalisation and customer experience (**R = 0.731**).
12. AI-driven personalisation explained **53.4%** of the variation in customer experience (**R² = 0.534**).
13. The regression model for customer experience was statistically significant (**F = 276.84, p < 0.001**).

14. AI-driven personalisation significantly influenced customer experience ($\beta = 0.731$, $p < 0.001$), leading to the rejection of the null hypothesis (H01).
15. The regression analysis also established a positive relationship between AI-driven personalisation and purchase intention ($R = 0.684$).
16. AI-driven personalisation explained 46.8% of the variation in purchase intention ($R^2 = 0.468$).
17. The regression model for purchase intention was statistically significant ($F = 194.39$, $p < 0.001$).
18. AI-driven personalisation significantly influenced purchase intention ($\beta = 0.684$, $p < 0.001$), resulting in the rejection of the null hypothesis (H02).

One-Way ANOVA Findings

19. Significant differences were observed in customer experience across different consumer segments ($F = 5.214$, $p = 0.001$).
20. Significant differences were also found in purchase intention across consumer segments ($F = 6.082$, $p < 0.001$).
21. Younger consumers and frequent users of AI-enabled platforms demonstrated comparatively higher levels of customer experience and purchase intention than other consumer groups.
22. All four alternative hypotheses were accepted, confirming the positive role of AI-driven personalisation in enhancing customer experience and purchase intention.

SUGGESTIONS

Based on the findings of the study, the following suggestions are offered to organisations, marketers, digital platform providers, and researchers.

1. Enhance AI-Based Personalisation

Organisations should continue investing in advanced artificial intelligence technologies that provide highly personalised recommendations based on customers' browsing history, purchase behaviour, and preferences. Accurate personalisation enhances customer satisfaction and encourages repeat purchases.

2. Improve Data Quality

AI systems should rely on accurate, updated, and relevant customer information. Companies should regularly maintain customer databases to improve the quality and effectiveness of AI-generated recommendations.

3. Strengthen Customer Trust

Customers are more likely to accept AI recommendations when they trust the platform. Organisations should ensure transparency regarding how customer data are collected, processed, and used while strictly adhering to data privacy regulations.

4. Segment Customers Effectively

The study revealed significant differences among consumer segments. Therefore, businesses should develop separate AI personalisation strategies for different demographic groups, including age, occupation, and purchasing behaviour, rather than adopting a one-size-fits-all approach.

5. Improve Recommendation Accuracy

AI algorithms should continuously learn from customer feedback to improve recommendation accuracy. More relevant suggestions will enhance customer engagement and increase purchase intention.

6. Provide Human Support Alongside AI

Although AI enhances customer experience, organisations should combine AI-powered services with human customer support to address complex issues and improve customer confidence.

7. Focus on User Experience

Companies should design user-friendly digital interfaces that simplify navigation and improve interaction with AI-enabled services. Better usability contributes significantly to customer satisfaction.

8. Invest in Continuous AI Innovation

Businesses should regularly upgrade AI technologies to meet changing consumer expectations. Continuous innovation will help organisations remain competitive in increasingly digital markets.

9. Promote Responsible AI Practices

Organisations should minimise algorithmic bias and ensure fairness, transparency, and ethical use of AI. Responsible AI practices enhance consumer confidence and strengthen long-term relationships.

10. Future Research

Future studies may include additional variables such as customer trust, perceived usefulness, perceived risk, brand loyalty, technology acceptance, customer engagement, and perceived value. Researchers may also employ Structural Equation Modelling (SEM), Artificial Neural Networks (ANN), or longitudinal research designs to obtain deeper insights into AI-driven consumer behaviour.

Conclusion

Artificial intelligence has emerged as one of the most influential technologies transforming contemporary marketing and customer relationship management. AI-driven personalisation enables organisations to deliver customised recommendations, personalised content, and intelligent services that significantly improve customer interactions and decision-making processes. As digital commerce continues to expand, understanding the role of AI in influencing consumer behaviour has become increasingly important for both researchers and practitioners.

The present study examined the influence of AI-driven personalisation on customer experience and purchase intention among different consumer segments. Using data collected from **250 respondents**, the study employed descriptive statistics, simple linear regression, and one-way ANOVA to achieve the research objectives.

The findings revealed that respondents generally hold positive perceptions regarding AI-driven personalisation. The descriptive analysis indicated high levels of agreement that AI-enabled recommendations improve convenience, relevance, and overall shopping experiences. The regression analysis further demonstrated that AI-driven personalisation significantly enhances both customer experience and purchase intention, explaining a substantial proportion of the variation in these dependent variables. These results confirm that effective personalisation strengthens customer engagement, satisfaction, and consumers' willingness to purchase products and services.

The One-Way ANOVA results indicated significant differences in customer experience and purchase intention across consumer segments. This finding suggests that demographic characteristics and usage behaviour influence how consumers respond to AI-powered personalised services. Consequently, organisations should develop targeted personalisation strategies that address the unique needs and expectations of different customer groups.

Overall, the study concludes that AI-driven personalisation is a valuable strategic tool for improving customer experience and stimulating purchase intention in digital environments. Businesses that invest in advanced AI technologies, maintain high-quality customer data, ensure ethical AI practices, and adopt customer-centric personalisation strategies are more likely to achieve higher customer satisfaction, stronger loyalty, and sustained

competitive advantage. The study contributes to the growing body of knowledge on AI-enabled marketing and provides practical insights for organisations seeking to leverage artificial intelligence to build stronger customer relationships and improve business performance.

References:

- [1] Agustina, D. A., & Arifah, I. D. C. (2025). Unveiling the impact of AI-driven marketing on customer experience and purchase intention: A systematic literature review using Python-based bibliometric analysis. *Journal of Digital Business and Innovation Management*, 4(2). <https://doi.org/10.26740/jdbim.v4i2.70819>
- [2] Dar, T. M., Yunus, F., Ali, I., & Hussain, T. (2025). From clicks to conversions: How AI-driven personalization shapes consumer trust and purchase intent in digital marketing. *Academia International Journal for Social Sciences*, 4(4), 6925–6935. <https://doi.org/10.63056/academia.4.4.2025.1532>
- [3] Gerling, C., & Lessmann, S. (2024). *Leveraging AI and NLP for bank marketing: A systematic review and gap analysis*. arXiv. <https://doi.org/10.48550/arXiv.2411.14463>
- [4] Hardcastle, K., Vorster, L., & Brown, D. (2025). Understanding customer responses to AI-driven personalized journeys: Impacts on the customer experience. *Journal of Advertising*, 54(2), 176–195. <https://doi.org/10.1080/00913367.2025.2460985>
- [5] Jith, M., Dhanalakshmi, M., Dhinakaran, D. P., Bambuwala, S., & Buvaeswari, R. (2025). AI-driven personalization in e-commerce: Impact on consumer purchase intention and trust. *European Economic Letters*, 15(3), 3697–3710.
- [6] Kanaparthi, V. (2024). *AI-based personalization and trust in digital finance*. arXiv. <https://doi.org/10.48550/arXiv.2401.15700>
- [7] Peruchini, M., da Silva, G. M., & Teixeira, J. M. (2024). Between artificial intelligence and customer experience: A literature review on the intersection. *Discover Artificial Intelligence*, 4, Article 4. <https://doi.org/10.1007/s44163-024-00105-8>
- [8] Timimi, H., Baaddi, M., & Bennouna, A. (2025). Impact of artificial intelligence on the personalization of the customer experience: A systematic literature review. *Multidisciplinary Reviews*, 8, Article e2025224. <https://doi.org/10.31893/multirev.2025224>
- [9] Kumar, V., Ashraf, A. R., & Nadeem, W. (2024). AI-powered marketing: What, where, and how? *International Journal of Information Management*, 75, 102783.
- [10] Mallika, A., & Siyad, P. K. (2025). The impact of AI-driven personalization on consumer purchase intentions. *International Journal of Integrated Research and Practice*, 1(8), 101–109. <https://doi.org/10.65579/31075037.092>
- [11] Kazmi, S. Q., Bano, S., Malik, K., & Bibi, M. (2025). The role of AI-driven personalization in enhancing customer experience and purchase intentions: Exploring the impact of consumer data privacy concerns. *Al-Qanṭara*, 11(2).
- [12] Damico, S., Ottolenghi, C., Iasevoli, G., & Maggiore, G. (2026). *AI-enabled personalization: A bibliometric review and conceptual framework for digital customer experience*. SSRN. <https://doi.org/10.2139/ssrn.6233093>