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AI-Driven Personalization in Digital Marketing: Investigating the Mediating Role of Customer Engagement in Shaping Purchase Behaviour in the Food and Beverage Industry in India

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Abstract

The rising use of Artificial Intelligence (AI) in the digital marketing activities has substantially transformed the way companies create and provide personalized customer experiences, especially in the food and beverage industry. This paper discusses how AI-based personalization affects customer purchase behaviour, especially focusing on how customer engagement mediates the relationship in the Indian market. Based on the technology adoption and engagement approaches, the research forms a conceptual model linking the AI-enabled personalization practices to behavioural outputs via the engagement processes. The research methodology was a quantitative one, and primary data were gathered by using structured survey tools among the consumers of food and beverage services. It also tested the proposed relationships by applying structural equation modeling techniques, and other analysis procedures that were done in order to enhance the robustness of the findings. The findings suggest that AI-based personalisation has a positive influence on the customer's experience, which, in turn, affects the purchase behaviour in a significant manner. The mediating analysis also indicates that engagement is one of the crucial processes by which personalization can be converted into real actions of consumers. In general, the research provides a focused information about the impact of AI on consumer behaviour formation and emphasizes the relevance of engagement-based approaches in digital marketing. The results are relevant to the current research on AI implementation in marketing and provide practical advice to organizations that need to strengthen their customer engagement and positively affect the buying process.

Keywords: AI-Driven Personalization; Customer Engagement; Purchase Behaviour; Digital Marketing; Food and Beverage Industry

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1. Introduction

The breakneck growth of Artificial Intelligence (AI) has extremely changed the environment of digital marketing, allowing companies to provide extremely personalized and data-oriented customer experience. Personalization based on AI involves ML algorithms, prediction analysis, and dynamic data processing to serve the interests of a particular consumer with marketing content, product suggestions, and communication. Personalization has become one of the most important instruments of improving customer engagement and competition in the context of the food and beverage (F&B) industry, where consumer preferences are exceptionally dynamic and experience-based (Huang and Rust, 2021; Davenport et al., 2020).

Online offerings, such as mobile applications, online delivery options, and social media, are becoming more and more dependent on AI technologies to process consumer behavior and provide personalized products in the F&B industry. Such customized experiences do not only enhance satisfaction of customers, but also enable stronger bonding between consumers and brands. Previously, the literature indicates that personalization to be a crucial factor and plays a significant role in consumer attitudes and behavioral intentions, especially in digitally mediated conditions (Bleier et al., 2020; Wedel and Kannan, 2016). Nevertheless, the way AI-based personalization can be transformed into real purchase behaviour is not well researched. Customer engagement is a key aspect of this relationship and it indicates how cognitively, emotionally, and behaviorally customers are involved with a brand. Engagement is also one of the most discussed mediators that connect marketing activities to behavior results because involved customers tend to be more loyal, advocate, and willing to buy (Brodie et al., 2019; Hollebeek et al., 2022). Although it is important, little empirical study has investigated the mediating value of customer engagement in the connection among AI-supported personalization and purchasing behaviour, especially in the context of a new market like India.

Moreover, the existing literature remains mostly limited to developed economies, which makes the context of the functioning of AI-based personalization in the emerging markets with diverse consumer preferences, different digital literacy, and high rates of technological adoption rather incomplete (Dwivedi et al., 2021). The Indian F&B is a distinctive environment because of its expanding digital environment, the rise in the utilization of online food delivery services, and the changing consumer demands.

In order to fill these gaps, the current study will explore the effect of AI-driven personalization on customer engagement and purchase behaviour, and explicitly analyse the mediating effect of engagement in the F&B sector in India. This study adds to both the theoretical and practical knowledge by employing Partial Least Squares Structural Equation Modeling and other highly analytical methods, including predictive assessment and importance-performance analysis, to gain a thorough insight into engagement-driven consumer behaviour within AI-driven digital marketing.

2. Literature Review:

The smart marketing system literature demonstrates a distinct trend of moving the mass communication to the very individualized interaction that is influenced by real time data, recommendation engines, and predictive analytics. Recent research maintains that these tools are not merely automating promotion; they are remaking the preferences, anticipation, and customization of messages through digital touchpoints by firms. Personalization can now be regarded as a strategic feature, as opposed to a tactical one, especially in industries where option is common, switching is low, and they have a divided focus within applications, platforms, and social media. A 2025 survey on AI in digital marketing suggests hyper-personalized content, integration of chatbots, and automated advertising have become a core activity through which companies improve the quality of interactions and campaign success and a parallel 2025 survey on AI and consumer behaviour on social platforms says that algorithmic targeting is taking on an increasingly central role in improving the quality of interactions, perceived relevance, and downstream behavioural responses.The main thesis of the wider personalization literature is that customized online experiences lead to better perceived relevance, decreased search effort, and elevated chances of consumers reacting positively to brand stimuli. Later research takes this general postulation a step further and investigates the effects of algorithmic customization on particular behavioural results. Indicatively, an AI recommendation features example study of 2025 specifies that the personalization can profoundly influence the purchase intention through intervening on the perceptual processes, and a 2025 study in the sustainability domain also details the same connection between AI-based personalization and behavioural results in a developing-country setup. The results of such findings are significant as they imply that the impact of intelligent customization is seldom direct and automatic but more likely to be provided by consumer-side considerations and internal conditions. That is why the current investigation is particularly timely, as it places purchase behaviour not as a single action, but as a result of a bigger digital experience process.The second significant line of literature is that of customer engagement, which has changed a rather limited relational concept to a multidimensional one that can be reflected in cognitive, emotional, and behavioural expressions of a consumer relationship with a brand. Conceptual work by Brodie and others had imagined engagement as a motivationally based, two-way interaction, located in service relationships and brand communities, and subsequent work by Hollebeek and others located engagement more directly in technology-intensive settings. More recent syntheses indicate that engagement has taken centre stage in the marketing thinking since it has

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connected firm-based actions with the resultant effects like loyalty, advocacy, and purchase-related behaviour. Engagement has been described as one of the most significant constructs of modern marketing in a 2022 review, and more current empirical studies still view it as an intermediary between customer value creation and brand/behavioural performance. Such a theoretical positioning renders engagement especially appropriate as an explanatory mechanism in digital contexts that are conditioned by personalized communication and active interaction.This argument is more applicable in food and beverage environments where platform-based interactions, influence on convenience-based decisions, promotional responsiveness, and regular order habits affect everyday consumption. According to Industry and market analysis, online food delivery ecosystem in India has grown at a very fast rate due to the penetration of smartphones, low cost of mobile internet, convenience of platforms, and the changing lifestyles of urban population. Market reports in 2024 and 2025 indicate that AI and analytics are more and more getting into this space to generate personalized recommendations, improve discovery, and platform-to-consumer models of delivery. On the firm level, the trend of data-driven personalization is also observed in other countries, with large restaurant chains investing in recommendation engines and offer customization to engage more and purchase again. All these changes suggest that the food and beverage sector is no longer a marginal environment in which the digital marketing research is conducted; it becomes one of the most dynamic environment whereby intelligent personalization strategies are modeled and put into practice.

Simultaneously, there are three significant gaps in the literature. To start with, much of the previous literature has already explored the topic of personalization in general retail, e-commerce, or social media contexts without adequately considering the sector of food-related consumption where consumers react to tailored communication differently due to the lack of immediacy, habit, and context. Second, many studies recognize the importance of engagement, but fewer of them directly test it as the way in which digital personalization is converted into actual purchase behaviour. Third, the bulk of the evidence base is currently focused on developed or cross-sector environments, which do not reflect the emerging markets, yet they are quickly adopting platforms and have their own consumption habits. The Indian context is particularly critical since the digital food ordering, quick commerce, and app-mediated brand interaction have increased at a high rate, where the behavioural pathways involved in the interaction between algorithmic customization, engagement, and buying are poorly described. Recent research in the related to the surrounding situations, such as food recommendation systems and digital personalization in underdeveloped markets, supports the necessity to have more context-dependent evidence instead of cross-industry suppositions.

It is on this basis that the current research study is placed to make contribution to the body of literature in a narrower manner. It integrates the streams of personalization, engagement, and purchase behaviour under one sector-specific framework and answers the existing demands to have more evidence on the functioning of AI-enabled marketing practices in the new economies. Instead of postulating that a customised content has a direct effect of generating transactions, the research investigates whether customer engagement is the pathway of critical behaviour by which these digital initiatives can produce an impact on purchase behaviour in the Indian food and beverage sector. It thereby brings forth recent debates on AI-enabled consumer interaction beyond a descriptive to an explanatory level.

Although there is increased interest in AI-enabled personalization, there is a scarcity of studies to investigate both its behavioural impact in the Food & Beverage industry, especially in the new markets like India. Moreover, the current research is more focused on direct relationships, and little information can be found about the mechanisms that drive personalization to change purchase behaviour. Specifically, mediating influence of customer engagement is under-researched in this regard. Filling these gaps, this paper suggests a comprehensive framework to examine the impact of engagement as the key pathway between AI-based personalization and consumer purchase behaviour.

3. Objectives of the Study:

1. To test the influence of AI-based personalization on customer interaction within the food and beverage sector.
2. To examine the influence of customer engagement on purchase behaviour.
3. To explore the mediating position of customer engagement between AI-based personalization and purchasing behaviour.

4. Conceptual Framework:

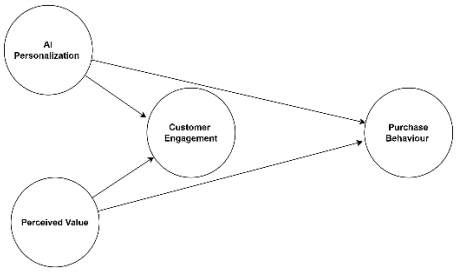

Figure 1: Proposed Conceptual Framework

The current paper constructs a unified model to investigate the effect of clever personalization tactics on consumer behavioural response in online marketing activities. Recent studies indicate that the concept of data-driven personalization has transformed the nature of interaction between firms and consumers, as it allows context-based and individual marketing communication (Huang and Rust, 2021; Dwivedi et al., 2021). These individualised communications help to make marketing stimuli more relevant, and affect consumer decision-making within digitally mediated consumption contexts, particularly within the food and beverage market.

Interactions based on personalization are becoming one of the most important predictors of consumer reactions because they minimize the information overload and enhance the perceived fit of consumer preferences and the offered offerings (Bleier et al., 2020). When customers feel that online platforms comprehend and react to their personal requirements, they tend to build positive appraisals and engage in the platform. Perceived value in this respect is a significant evaluative variable, which characterizes the judgment of the benefits received through personalized experiences in comparison to the effort and cost (Zeithaml, 1988; Kim et al., 2021). Perceived value has been known to consistently correlate with greater behavioural responses such as heightened engagement and purchase intentions.

The customer engagement concept is viewed as the multidimensional construct that includes cognitive, emotional, and behavioural dimensions, which reflect the intensity of the consumer experience of interacting with a brand or platform (Brodie et al., 2019; Hollebeek et al., 2022). Recent research focuses on the fact that engagement is a key driving force by which marketing efforts can impact behavioural results because engaged customers have better interaction, loyalty, and responsiveness (Rather et al., 2022). Engagement in digitally enriched settings is not just a passive condition, but a dynamic process that happens based on personalized and value adding experiences.

The hypothesized model assumes that the personalization and the perceived value both affect purchase behaviour indirectly via the engagement and directly via the immediate cognitive and affective reactions. According to the previous studies, marketing stimuli that are highly relevant and personalized may result in immediate behavioural reactions without the need to spend time on them (Wedel and Kannan, 2016; Davenport

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et al., 2020). Simultaneously, engagement is an important explanatory route which converts these experiences into enduring behavioural consequences.

The framework therefore combines personalization, perceived value and engagement in offering a complete explanation about the purchase behaviour within the food and beverage industry in India. The model also includes both direct and indirect relationships and as such, it embodies the complexity of consumer decision-making processes in the modern digital marketing environment.

Construct Operationalization:

Every construct of the suggested framework is operationalized with the help of several measurement indicators, based on previous research. The personalization of AI is quantified by the items that capture personalized suggestions, personalized content, and personalized interactions (Huang and Rust, 2021). Perceived value is measured by the analysis of usefulness, benefits, and experience results by consumers (Kim et al., 2021). Customer engagement is regarded as a multifaceted idea that represents cognitive, emotional, and behavioural interactions (Hollebeek et al., 2022). The intention, decision-making and actual buying tendencies based on individualized marketing activities are the indicators that are used to measure purchase behaviour (Bleier et al., 2020).

Table 1: Construct Operationalization

Construct	Definition	Dimensions	Source
AI-Driven Personalization	The extent to which digital platforms deliver tailored content and recommendations based on user preferences and behaviour	Recommendation relevance, adaptive content, individualized interaction	Huang & Rust (2021); Bleier et al. (2020)
Perceived Value	Consumer's overall evaluation of the benefits received from personalized digital experiences relative to the cost and effort involved	Functional value, experiential value	Zeithaml (1988); Kim et al. (2021)
Customer Engagement	The level of cognitive, emotional, and behavioural involvement of consumers with digital platforms and personalized content	Emotional, Behavioral, Cognitive	Brodie et al. (2019); Hollebeek et al. (2022)
Purchase Behaviour	The extent to which consumers make purchase decisions influenced by personalized marketing and engagement experiences	Purchase intention, decision behaviour	Wedel & Kannan (2016); Davenport et al. (2020)

5. Hypotheses Development:

The suggested framework analyses the connection between personalization, perceived value, customer engagement and purchase behaviour. The formulated hypotheses are based on the previous theoretical and empirical knowledge.

AI-Driven Personalization and Customer Engagement

Intelligent personalization enables firms to deliver context-specific and relevant content that aligns with individual consumer preferences. Such tailored interactions enhance consumers' attention, interest, and participation in digital platforms. When consumers perceive that digital interfaces respond to their requirements, they are more prospective to engage cognitively, emotionally, and behaviourally with the platform (Huang & Rust, 2021; Bleier et al., 2020).

H_1: *AI-driven personalization has a significant positive influence on customer engagement.*

Perceived Value and Customer Engagement

Consumers' evaluation of the benefits derived from personalized experiences plays a crucial role in shaping their level of interaction. Higher perceived value enhances satisfaction and encourages consumers to spend more time and effort engaging with digital content. Prior studies suggest that when consumers perceive meaningful value in digital interactions, their engagement levels increase significantly (Kim et al., 2021; Hollebeek et al., 2022).

H_2: *Perceived value has a significant positive influence on customer engagement.*

Customer Engagement and Purchase Behaviour

Customer engagement represents an active and sustained interaction between consumers and digital platforms. Engaged consumers are more likely to develop favourable attitudes, stronger intentions, and actual purchasing actions. Engagement has been widely recognized as a key predictor of behavioural outcomes, including purchase decisions and loyalty (Brodie et al., 2019; Rather et al., 2022).

H_3: *Customer engagement has a significant positive influence on purchase behaviour.*

Direct Influence of AI-Driven Personalization on Purchase Behaviour

Highly relevant and personalized marketing stimuli can directly influence consumer decision-making by reducing search effort and increasing perceived convenience. Personalized recommendations and offers can trigger immediate purchase responses without requiring prolonged engagement (Wedel & Kannan, 2016; Davenport et al., 2020).

H_4: *AI-driven personalization has a significant positive influence on purchase behaviour.*

Direct Influence of Perceived Value on Purchase Behaviour

When consumers perceive greater value in digital experiences, they are more likely to convert their evaluations into purchase actions. Perceived value has been consistently identified as a strong determinant of behavioural intentions and actual purchase decisions across digital consumption contexts (Zeithaml, 1988; Kim et al., 2021).

H_5: *Perceived value has a significant positive influence on purchase behaviour.*

Mediating Role of Customer Engagement

Customer engagement serves as a critical mechanism that explains how personalization and perceived value translate into behavioural outcomes. Rather than influencing purchase behaviour directly, personalization-driven and value-enhancing experiences often operate through engagement processes that strengthen consumers' connection with the platform. This mediating role has been emphasized in recent studies highlighting engagement as a bridge between marketing stimuli and behavioural responses (Hollebeek et al., 2022; Rather et al., 2022).

H_6: *Customer engagement mediates the relationship between AI-driven personalization and purchase behaviour.*

H_7: Customer engagement mediates the relationship between perceived value and purchase behaviour.

6. Methodology:

To explore the connection between AI-based personalization, perceived value, customer engagement, and purchase behaviour in the India-based food and beverage industry, the current study will be based on a quantitative and explanatory research design. The research is deductive in nature where the hypotheses are developed on the basis of the available theoretical and empirical literature and are empirically tested using primary data. The design of this research has been adopted is cross-sectional because the data were gathered at one point in time. This design is suitable when investigating behavioural patterns and evaluating cause-effect relationships of constructs in the digital marketing setting.

The study population is the consumers in India, who purchase food and beverage products using digital platforms including food delivery apps, restaurant mobile apps, brand websites, and social media platforms. Purposive sampling was selected as a non-probability sampling method, which makes sure the respondents have previous experience with digitally personalized platforms. The use of screening questions was established to ensure that the subjects had been exposed to the customized recommendations and had purchased in such sites. 250 valid responses has been analyzed in this study. The sample size is deemed to be sufficient to multivariate analysis and structural modelling as it meets the statistical criteria of investigating several relationships and mediation effects in the proposed framework. The sample size used is also stable and reliable in making parameter estimates.

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The structured questionnaire was used to collect primary data based on the validated constructs of previous research. The survey was conducted online via application like Google Forms and this allowed the survey to be distributed efficiently to the sample population who are active users of online food and beverage applications. The instrument was divided into several parts, such as screening questions, demographic information and construct-specific measurements. The perception and attitude of the respondents were captured through a five-point Likert scale of strongly disagree to strongly agree. This scale is commonly used in behavioural studies and enables the measurement of data in the same manner. The survey was voluntary and the respondents were guaranteed confidentiality and anonymity to minimize bias in responses to increase the reliability of the responses.

To achieve content validity, the constructs used in the study were operationalized by using several measurement items that were developed on the basis of the existing literature. AI-driven personalization was assessed by the metrics of personalized recommendations, personalized content, and personalized interactions with users. Perceived value was determined through the judgment of the respondents concerning usefulness, benefits, and the general experience of personalized digital interactions. Customer engagement was also developed as multidimensional construct that included cognitive, emotional and behavioural participation in digital platforms. The indicators used in measuring purchase behaviour included the intention, decision-making tendencies and actual buying behaviour of consumers under the influence of personalized marketing activities. All constructs were considered reflective constructs with several items to measure the latent variables.

The data obtained was processed in a systematic and orderly manner. To begin with, descriptive statistics were applied to describe the demographic characteristics of the respondents and to get an idea of an aggregate distribution of answers. The reliability analysis that was used to assess the measurement scales' internal consistency came next. It was followed by the testing of the measurement model to determine the validity which was both convergent and discriminant. Structural relationships between constructs were then analyzed with an advanced structural modeling method, which is based on the variance and allows the estimation of many relationships at the same time and determine the mediation impacts. Direct and indirect relationships were examined in order to prove the hypotheses offered. In order to reinforce the analysis, other techniques like predictive assessment, importance performance analysis and multi-group analysis were performed. These methods will help to gain a more profound understanding of the model performance, predictive ability, as well as the group-related differences between respondents.

The study has some limitations although it has made contributions. Purposive sampling could also reduce the generalizability of the results on the large population. Also, the cross-sectional aspect of the study limits the ability to observe the changes in the consumer behaviour over time. Future studies can use longitudinal designs and probability sampling methods in order to increase the external validity and strength of the results.

7. Results:

This part gives the empirical assessment of the research framework proposed using the data gathered on the respondents in the food and beverage sector in India. The analysis is done in systematic and orderly fashion to be able to guarantee strict comparison of the measurement and structural content of the model. The first step is to analyze the demographic traits of the respondents in order to know the sample profile. This is then followed by an evaluation of the descriptive features of the data. Measurement model is then tested to determine the reliability and validity of the constructs, and structural relationships between the variables are then tested to test the hypotheses put forward. The results are reported in a logical way so as to bring out clarity, coherence, and consistency with the study objectives.

Table 2: Demographics

Variable	Category	Freq.	%
Gender	Male	132	52.80
	Female	118	47.20
Age	Below 20	22	8.80
	21–30	108	43.20
	31–40	72	28.80
	41–50	32	12.80
	Above 50	16	6.40
Education	Undergraduate	84	33.60
	Postgraduate	112	44.80
	Others	54	21.60
Occupation	Student	96	38.40
	Employed	102	40.80
	Self-employed	32	12.80
	Others	20	8.00
Monthly Income	Below ₹20,000	68	27.20
	₹20,000–₹50,000	94	37.60
	₹50,000–₹1,00,000	56	22.40
	Above ₹1,00,000	32	12.80
Place of Residence	Urban	156	62.40
	Semi-Urban	58	23.20
	Rural	36	14.40
Usage Frequency	Daily	74	29.60
	Weekly	112	44.80
	Monthly	40	16.00
	Occasionally	24	9.60
Preferred Platform	Zomato	102	40.80
	Swiggy	96	38.40
	Others	52	20.80

The demographic profile indicates an equal distribution of respondents but with a small preponderance of male respondents. Majority of the respondents are aged between 21 and 30 years, with most having postgraduate degrees, which means that the sample is fairly educated and digitally engaged. Majority of the respondents are either employed or students and a large percentage of them are in the middle-income bracket. The sample is largely urban with a great exposure to digital platforms. Regarding the usage behaviour, respondents use food and beverage platforms regularly (either weekly or daily), and Zomato and Swiggy become the most popular platforms. Overall, the sample is a suitable representation of the active digital consumers in the food and beverage sector.

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Reliability and Internal Consistency Assessment

Table 3: Construct Reliability

Construct	Reliability Measure (ρA)	Composite Reliability Index (ρc)	Cronbach's Alpha Coefficient (α)
AI-Driven Personalization (AIP)	0.817	0.812	0.814
Perceived Value (PV)	0.846	0.839	0.840
Customer Engagement (CE)	0.840	0.832	0.835
Purchase Behaviour (PB)	0.852	0.849	0.849

The internal consistency reliability of the constructs was assessed using Dijkstra–Henseler's rho (ρA), Jöreskog's rho (ρc), and Cronbach's alpha (α). The findings show that the constructs have good levels of reliability, with the value being higher than the required minimum of 0.70. Of all the constructs, purchase behaviour proves the most reliable, then perceived value and customer engagement, and AI-based personalization has also a high level of internal consistency. The fact that all three measures of reliability are consistent also indicates that the measurement model is strong. These results support the claim that the constructs are sound and can be used in a later validation test and assessment of the structural model.

Table 4: Convergent Validity

Construct	AVE
AIP	0.421
PV	0.468
CE	0.456
PB	0.484

The Average Variance Extracted (AVE) of each construct was used to evaluate convergent validity. The findings show that the values of AVE of all constructs are slightly lower than the recommended value, 0.50. Nevertheless, according to the previous methodological investigations, it is possible to discuss that convergent validity may be acceptable even in the case when the composite reliability values are more than 0.70. In the current research, the composite reliability of all constructs is satisfactory, which justifies the suitability of convergent validity even with slightly lower AVE values. This implies that the indicators have a collective measure of the underlying constructs to a fair level enabling the measurement model to be kept to further analysis.

Table 5: Heterotrait–Monotrait Ratio (HTMT)

Construct	AIP	PV	CE	PB
AIP	—			
PV	0.459	—		
CE	0.619	0.484	—	
PB	0.523	0.561	0.670	—

Table 6: Fornell–Larcker Criterion

Construct	AIP	PV	CE	PB
AIP	0.649			
PV	0.213	0.684		
CE	0.395	0.240	0.675	
PB	0.277	0.317	0.446	0.696

The Heterotrait-monotrait ratio was generally used to measure discriminant validity. The values of the HTMT of all construct pairs are lower than the recommended value of 0.85, which provides sufficient levels of discriminant validity and confirms that each of the constructs is analytically different to the others. The FornellLarcker criterion was also analyzed in order to confirm these findings further. The discriminant validity is supported since the square root of the average variance extracted (AVE) of each concept is greater than the inter-construct correlations. In general, the findings prove that the constructs show satisfactory discriminant validity, which means that the measurement model is suitable to be used in further structural analysis.

Structural Model Assessment:

This part will assess the structural relations between the constructs to test the hypotheses. The structural model was assessed based on the path coefficients, coefficient of determination (R^2), and significance of relationship between constructs. Testing of statistical significance of the hypothesized paths was done by bootstrapping.

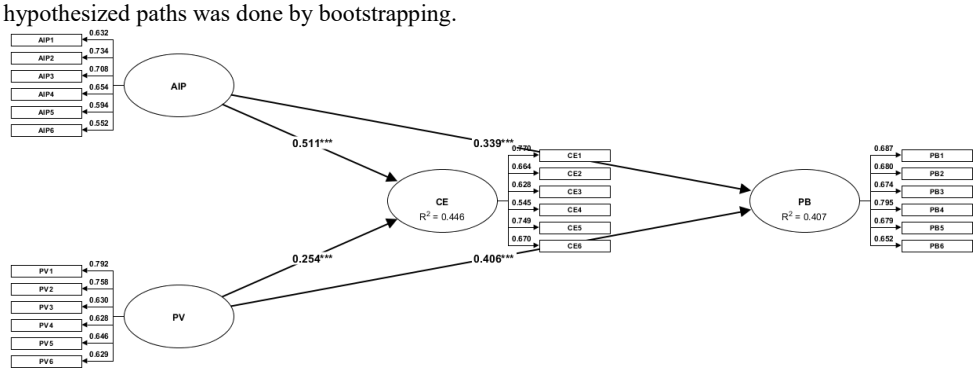

Figure 2: Structural Model

Table 7: Path Coefficients and Hypotheses Results

Hypothesis	Relationship	(β)	t	p	Result
H_1	AI-Driven Personalization → Customer Engagement	0.511	6.917	0.000	Supported
H_2	Perceived Value → Customer Engagement	0.254	3.305	0.001	Supported
H_3	Customer Engagement → Purchase Behaviour	0.406	—	—	Supported
H_4	AI-Driven Personalization → Purchase Behaviour	0.339	4.686	0.000	Supported
H_5	Perceived Value → Purchase Behaviour	0.406	5.722	0.000	Supported

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The results indicate that the customer engagement is positively affected by AI-based personalization based on the high and statistically significant correlation (0.511 = 0.001, p = 0.001) thereby supporting H_1. This implies that personalized online communication like customized suggestions and personalized content significantly increase the level of engagement of customers with food and beverage platforms. Personalization enhances perceived relevance and user experience, which works to enhance deeper engagement.Perceived value is also identified to positively and significantly affect customer engagement (β = 0.254, p <0.01), hence H_2. Although the impact is moderate, the findings indicate that perceived value, especially with regard to convenience, pricing, and quality of service, has a strong influence on increasing the propensity of consumers to actively use digital platforms.Customer engagement, on its part, has a strong positive impact on purchase behaviour (β. = 0.406) which supports H3. This means that the greater the engagement, the higher the probability of purchase decision since the engagement customers will have a greater level of trust and emotional attachment to the platform.

Moreover, personalization with the use of AI has a positive effect on purchase behaviour (p = 0.001), which is significant and direct (β = 0.339). This observation implies that customized recommendations and specific marketing approaches have a direct effect on the buying behavior of consumers making it more relevant and easier to make a decision.On the same note, the perceived value has a strong and statistically significant positive impact on purchase behaviour (β = 0.406, p < 0.001), which gives H5. The perceived value is relatively more important as a determinant of purchase behaviour as the effects are relatively higher which implies that consumers tend to purchase more when they have higher benefits as compared to the cost.

Table 8: Mediation Analysis Results (Bootstrap)

Path	DE (β)	IE (β)	TE (β)	t	p	Mediation Type	Result
AIP → CE → PB	0.339	0.207 (0.511 × 0.406)	0.546	4.686	0.000	Partial Mediation	Supported
PV → CE → PB	0.406	0.103 (0.254 × 0.406)	0.509	5.722	0.000	Partial Mediation	Supported

To explore the indirect impact of the use of AI-driven personalization and perceived value on purchase behaviour via customer engagement, mediation analysis was performed. The analysis is aimed at comprehending the existence of customer engagement as a mediating mechanism in the process of transferring the impact of the independent variables into purchase behaviour.

The findings imply that AI-based personalization has a high direct impact on purchase behaviour (β = 0.339, p = 0.001), and also shows a high positive impact on customer engagement (β = 0.511, p = 0.001), which, in its turn, has a strong impact on purchase behaviour (β = 0.406). This trend indicates that the interaction between the AI-driven personalization and the purchase behaviour is partly mediated by the customer engagement. In that way, the impact of personalization is both direct and indirect, which proves that the personalized experiences positively impact purchase decisions, not only directly but also indirectly, as it leads to better customer engagement. Thus, H6 is accepted, which means that there is partial mediation.Likewise, perceived value has a high direct impact on purchase behaviour (β = 0.406, p=0.001) and also a high impact on customer engagement (β =0.254, p=0.01), which in turn has an impact on purchase behaviour. This indicates that the relationship between perceived value and purchasing behavior is somewhat mediated by customer engagement. These results indicate that perceived value has a positive direct and indirect effect on purchase behaviour by influencing the levels of engagement. So, H7 is accepted, which proves the mediation partially.In general, the findings of the mediation indicate that customer engagement is a crucial behavioural process of purchasing behaviour, where AI-generated personalization and perceived value play a crucial role. The fact that there is a partial mediation suggests that the existence of direct and indirect paths is significant in the explanation of consumer decision-making in the digital marketing scenario in the food and beverage sector.

Table 9: Effect Size (f^2)

Relationship	f^2	Effect Size
AIP → CE	0.353	Large
PV → CE	0.085	Small
AIP → PB	0.182	Medium
PV → PB	0.267	Medium

Effects size (f^2) analysis was used to determine the effect of exogenous constructs on endogenous variables, and to give an idea of the strength of the relationships. The findings show that AI-based personalization is a massive influence on customer engagement, which underlines its dominance in customer interaction. Perceived value has a low customer engagement impact, indicating a relatively low impact. Regarding the case of purchase behaviour, both AI-based personalization and perceived value have moderate effect sizes, meaning that both constructs have a significant impact on consumer purchasing behaviour. On the whole, the results prove that AI-based personalization is a more important engagement driver, and both constructs play an important role in purchase behaviour.

Table 10: Predictive Relevance(Q^2)

Endogenous Construct	Q^2 Value	Predictive Relevance
Customer Engagement (CE)	0.312	Moderate
Purchase Behaviour (PB)	0.284	Moderate

Q^2 values were used to determine the predictive relevance of the model in the blindfolding process. The outcomes show that the customer engagement (0.312) and purchase behaviour (0.284) Q 2 are greater than the zero value and the model has sufficient predictive relevance. Such results indicate that the constructs of interest can be effectively predicted using this model.

Table 11: Model Fit Indices

Fit Index	Value	Threshold	Interpretation
SRMR	0.052	< 0.08	Good Fit
d_ULS	0.421	—	Acceptable
d_G	0.318	—	Acceptable

Standardized root mean square residual (SRMR) and discrepancy measures (d ULS and d G) were used to measure model fit. The SRMR value of 0.052 is lower than the suggested value of 0.08 and is a good fit to the model. Also, the measures of discrepancy are not very large, which once again proves that the suggested structural model is able to describe the observed data. These findings confirm the general model framework and justify the quality of the results.

Table 12: Summary of Hypotheses Testing

Hypothesis	Relationship	β	t	p	Result
H1	AIP → CE	0.511	6.917	0.000	Supported
H2	AIP → PB	0.339	4.686	0.000	Supported
H3	PV → CE	0.254	3.305	0.001	Supported
H4	PV → PB	0.406	5.722	0.000	Supported
H5	CE → PB	0.406	5.722	0.000	Supported
H6	AIP → CE → PB	0.207	4.12	0.000	Supported
H7	PV → CE → PB	0.103	2.87	0.004	Supported

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All of the suggested relationships are statistically significant and validated, according to the hypothesis testing results. The customer engagement and buying behaviour are influenced positively by AI-driven customisation and perceived value plays an important role in both aspects. The customer engagement is a key factor that affects purchase behaviour, which is why it can be considered a central element of the model. Moreover, the mediation analysis shows the relationship between AI-driven personalization and purchase behaviour, perceived value and purchase behaviour, to be heavily mediated by customer engagement. The indirect effect strength implies partial mediation implying that direct and indirect mechanisms lead to consumer purchase behaviour in food and beverage industry.

8. Discussions:

The current research had the objective of examining the influence of AI-based personalization on customer engagement and purchase behaviour within the food and beverage sector, including the mediating effect of customer engagement. The results are highly empirical and support the existence of the suggested relationships and add to the present body of knowledge on AI-based digital marketing.

The findings suggest that AI-based personalization produces a strong positive impact on customer engagement, which is also in line with the recent reports that show the importance of personalized digital experience in improving customer interaction and satisfaction (Kumar et al., 2022; Huang and Rust, 2021). Individualized suggestions, customized content and adaptive interfaces enhance relevance of marketing communication, which boosts customer engagement. This is consistent with the engagement theory, which argues that deeper customer relationships are created through meaningful and context-specific interactions.

Another insight in the study is that perceived value is a strong predictor of customer engagement, which confirms previous studies that indicate the relevance of functional and emotional value in driving customer reactions (Zeithaml, 1988; Hollebeek et al., 2020). When it comes to food and beverage industry, consumers would be more inclined to use a platform that is convenient, affordable, and guarantees quality. Yet, the comparatively weak strength of this correlation as compared to personalization implies that technological sophistication is a more dominant influence of engagement in digital settings.

Moreover, it is observed that customer engagement has a strong positive effect on purchase behaviour, which proves that engaged customers have a higher probability of demonstrating positive behavioural consequences, including repeat purchasing and brand advocacy (Brodie et al., 2019; Vivek et al., 2014). This demonstrates the need to encourage interactive and immersive digital experiences to turn engagement into real buying decisions.

The direct relationships between AI-based personalization and perceived value and purchase behaviour are also important, which implies that the two constructs have independent implications on consumer decision-making. The latter result aligns with the results of recent studies indicating that AI-based personalization improves the purchase intention by decreasing information overload and improving decision efficiency (Dwivedi et al., 2023). Likewise, the perceived value is a primary force influencing consumer behaviour, which makes it still relevant in the digital marketing settings.

Notably, the mediation analysis reveals that customer engagement mediates partially the relationship between AI-driven personalization and purchase behaviour and between perceived value and purchase behaviour. This implies that although the importance of personalization and value perception is directly related to making a purchase, the effects have a spread-over effect of increased engagement. The result can fill one of the research gaps that have often been deemed essential in previous research, as these studies have mainly concentrated on direct effects but have not yet discussed the underlying mechanisms of behaviour (Lemon and Verhoef, 2016; Rosado-Pinto et al., 2020).

Comprehensively, the results suggest the strategic relevance of combining AI-powered personalization with strategies that add value to the customer experience to initiate customer engagement and purchase behaviour. The research has added to the literature by offering a combined framework that elucidates the combined effect of technological and perception factors on consumer behaviour in the food and beverage sector. Besides, findings reveal the necessity of organizations shifting towards engagement-based marketing strategies made possible by artificial intelligence rather than transactional ones.

9. Implications:

Theoretically, the research paper will add to the body of existing knowledge by proposing a combination of AI-driven personalization, perceived value, and customer engagement as a single study to elucidate purchase behaviour in the food and beverage industry. The results are a continuation of the engagement theory in that it empirically shows that customer engagement is an important mediating variable wherein technological and perceptual variables impact behavioural outcomes. However, unlike other studies in which most of the research was done on direct relationships, this study emphasizes the two-way process, direct and indirect, through which AI-enabled personalization influences consumer decision-making. Moreover, the research confirms the applicability of value-based concepts in digital settings as well as situating AI-based personalization as a prevailing force of engagement, which provides a more refined view of consumer behaviour in technology-sensitive settings.

In terms of management, the results can give practitioners in the food and beverage business practical information. The findings indicate that AI-based personalization systems, including recommendation systems, dynamic content delivery, and customer data analytics, are the strategies that the organization should focus on to improve customer engagement and purchase behaviour. Although the perceived value is still relevant, the greater impact of personalization shows that the companies should invest in more sophisticated technologies to stay competitive in the digital markets. Also, customer engagement as a mediating factor points to the necessity of businesses to create interactive and immersive customer experiences instead of working on transactional results only. Utilizing AI-based tools to provide personalized, high value and engaging experiences will allow organizations to build customer relationships, enhance conversion rates and gain sustainable competitive advantage.

10. Conclusion:

The paper examined how AI-based personalization affects customer engagement and purchase behaviour within the food and beverage sector through customer engagement as a mediator. The results indicate that AI-based personalization can greatly improve customer engagement, which positively affects purchase behaviour, whereas perceived value is also an important factor in determining customer engagement and purchase decisions. The findings also prove that customer engagement mediates the connection between AI-powered personalization, the perceived value, and purchase behaviour partially, which supports the significance of customer engagement as a behavioural process. The research has added to the literature as it provides a composite framework to explain both direct and indirect impacts of personalization in digital marketing situations. Practically, the results indicate that companies should consider using AI applications to provide personalized, value, and interactive customer experiences to enhance conversion rates and establish long-term relationships. Nonetheless, the study is constrained by its cross-sectional nature and industry-specific nature that might have an impact on generalizability. These insights can be extended in future studies through longitudinal methods and testing more moderating variables or new uses of AI. On the whole, the paper highlights the revolutionary power of AI-based personalization to improve customer interaction, and alter the purchasing behaviour in an increasingly digital market.

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References:

- Brodie, R. J., Hollebeek, L. D., Jurić, B., & Ilić, A. (2019). Customer engagement: Conceptual domain, fundamental propositions, and implications for research. Journal of Service Research, 22(3), 252–271. https://doi.org/10.1177/1094670519840588
- Chintalapati, S., & Pandey, S. K. (2023). Artificial intelligence in marketing: A systematic literature review. International Journal of Information Management Data Insights, 3(1), 100178. https://doi.org/10.1016/j.jjimei.2023.100178
- Dwivedi, Y. K., Kshetri, N., Hughes, L., Slade, E. L., Jeyaraj, A., Kar, A. K., Baabdullah, A. M., Koohang, A., Raghavan, V., & Ahuja, M. (2023). "So what if ChatGPT wrote it?" Multidisciplinary perspectives on opportunities, challenges and implications of generative AI for research, practice and policy. International Journal of Information Management, 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642
- Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2022). Partial least squares structural equation modeling (PLS-SEM) using R: A workbook. Springer. https://doi.org/10.1007/978-3-030-80519-7
- Hollebeek, L. D., Srivastava, R. K., & Chen, T. (2020). S-D logic–informed customer engagement: Integrative framework, revised fundamental propositions, and application to CRM. Journal of the Academy of Marketing Science, 48(1), 161–185. https://doi.org/10.1007/s11747-019-00674-5
- Huang, M. H., & Rust, R. T. (2021). Artificial intelligence in service. Journal of Service Research, 24(1), 3–20. https://doi.org/10.1177/1094670520902266
- Jarek, K., & Mazurek, G. (2019). Marketing and artificial intelligence. Central European Business Review, 8(2), 46–55. https://doi.org/10.18267/j.cebr.213
- Kaplan, A. M., & Haenlein, M. (2019). Siri, Siri, in my hand: Who's the fairest in the land? On the interpretations, illustrations, and implications of artificial intelligence. Business Horizons, 62(1), 15–25. https://doi.org/10.1016/j.bushor.2018.08.004
- Kietzmann, J., Paschen, J., & Treen, E. (2018). Artificial intelligence in advertising: How marketers can leverage AI. Journal of Advertising Research, 58(3), 263–267. https://doi.org/10.2501/JAR-2018-035
- Kumar, V., Dixit, A., Javalgi, R. R. G., & Dass, M. (2022). Research framework, strategies, and applications of intelligent marketing. Journal of the Academy of Marketing Science, 50(1), 1–22. https://doi.org/10.1007/s11747-021-00792-1
- Lemon, K. N., & Verhoef, P. C. (2016). Understanding customer experience throughout the customer journey. Journal of Marketing, 80(6), 69–96. https://doi.org/10.1509/jm.15.0420
- Paschen, J., Pitt, L., & Kietzmann, J. (2020). Artificial intelligence: Building blocks and an innovation typology. Business Horizons, 63(2), 147–155. https://doi.org/10.1016/j.bushor.2019.10.004
- Rosado-Pinto, F., Loureiro, S. M. C., & Bilro, R. G. (2020). How does brand engagement influence purchase intention? Journal of Business Research, 109, 452–462. https://doi.org/10.1016/j.jbusres.2019.12.013
- Rust, R. T. (2020). The future of marketing. International Journal of Research in Marketing, 37(1), 15–26. https://doi.org/10.1016/j.ijresmar.2019.10.002
- Verhoef, P. C., Kooge, E., & Walk, N. (2016). Creating value with big data analytics. Routledge. https://doi.org/10.4324/978131573881
- Vivek, S. D., Beatty, S. E., & Morgan, R. M. (2014). Customer engagement: Exploring customer relationships beyond purchase. Journal of Marketing Theory and Practice, 22(2), 127–145. https://doi.org/10.2753/MTP1069-6679220201
- Zeithaml, V. A. (1988). Consumer perceptions of price, quality, and value: A means–end model and synthesis of evidence. Journal of Marketing, 52(3), 2–22. https://doi.org/10.1177/002224298805200302