

DECODING THE ACTUAL IMPACT OF GENERATIVE AI ON CONSUMER DECISION- MAKING AND BRAND LOYALTY: A CROSS- NATIONAL MULTI-GROUP PLS-SEM ANALYSIS ACROSS THREE ASIAN COUNTRIES

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A B S T R A C T

The study aimed to examine how generative AI influences consumer purchasing decisions and brand loyalty through trust and value perception as intermediary factors in three Asian nations. The research study employed a descriptive-correlational methodology which involved 1200 participants who had used generative AI in Japan India and Saudi Arabia. Researchers used standardized questionnaires to gather data on generative AI trust in AI perceived value and consumer decision-making and brand loyalty. The researchers used structural equation modeling together with multi-group analysis to perform data analysis. The results demonstrated that generative AI positively impacts consumer decision-making across all three countries with India showing the strongest relationship at a coefficient of 0.38 while Saudi Arabia showed a coefficient of 0.34 and Japan showed a coefficient of 0.31. The study found that generative AI positively affected brand loyalty which showed its strongest impact in India and weakest impact in Japan. The study established that AI trust and perceived value functioned as main mediators between generative AI use and consumer decision-making while consumer decision-making served as a mediating factor in brand loyalty. The multigroup analysis detected distinct relationship patterns among the three studied countries. The research results demonstrate that AI-based marketing strategies require consideration of cultural factors during their development process. The study presents a relationship pattern which establishes a framework that helps organizations comprehend and direct consumer behavior during the AI time period while accounting for cultural differences across various countries.



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1. INTRODUCTION

The recent years have witnessed exceptional growth in generative AI technologies which allow consumers and brands to establish new forms of interaction (Davenport et al., 2020). The development of ChatGPT and Bing Chat and Gemini has created a new method for people to search for information and assess different options and make their final purchasing decisions. The technologies enable consumers to generate their own customized interactive visual and written content which creates a unique brand experience. The purchase process now relies on generative AI which serves as both a research tool and an advanced decision-making partner that combines both stages of the buying process.

The transformation process centers around a critical inquiry which seeks to identify how generative AI affects the thinking patterns of consumers (Vlačić et al., 2021; Abrardi et al., 2022). Modern purchase decision-making processes have shifted from their previous model of relying on personal encounters and word-of-mouth and brand communications to assess products because of the excessive volume of AI-generated information that now exists. People use smart assistants to examine different products and get shopping advice and experience virtual demonstrations of products (McLean et al., 2021). The fundamental change has generated fresh inquiries concerning how much customers believe machine recommendations and how reliable the information produced by this system is and what effect this will have on their future brand loyalty (Kim et al., 2021).

People, who operate between two different fields of expertise, must handle brand loyalty which presents both fresh obstacles and new potentials for organizations during the time of generative artificial intelligence. AI-based deep personalization enables brands to develop stronger emotional connections with consumers which produces a distinctive experience that competitors find impossible to match. The content creation process through algorithms produces standardized results which decreases human contact, leading to brand identity loss and emotional connection decline among consumers (Nguyen et al., 2022). The existing contradiction requires researchers to study how generative artificial intelligence affects brand loyalty through its operating mechanisms (Rana et al., 2021; Ratner et al., 2025).

Researching this topic has become more important yet scientists currently understand how generative artificial intelligence affects consumer choices and brand loyalty (Dalimeg et al., 2026). Existing research has two main approaches which either study AI without its generative abilities or focus on Western cultures, making it difficult to apply results to Asian markets. The Asian markets, which showcase diverse cultural and economic and technological elements, create a special environment to investigate these connections (Guerra-Tamez et al., 2024). The three countries of Japan and India and Saudi

Arabia demonstrate three different ways consumers use new technologies according to the research of Al-Ayed (2022), Al-Mushayt et al. (2022), and Helmi et al. (2024). The research requirement exists because researchers need to investigate this cognitive gap. Existing theoretical models of technology adoption and brand loyalty present limitations because they originated before the development of generative AI which prevents them from explaining contemporary market trends. The unique characteristics of Generative AI which enable it to create fresh content and engage in humanlike dialogue while tailoring experiences to users' needs require new theoretical models that show how these qualities affect consumer behavior. The researchers need to study the variable relationships across cultural contexts which will help them establish evidence of the causal connection that exists between various factors (Yang & Wibowo, 2022).

The researchers selected three Asian countries which possess distinct cultural and economic characteristics to investigate how existing theories apply to people from different cultural backgrounds. Japanese consumers operate in a market that features advanced digital systems and strong domestic brand loyalty which creates an experience that differs from the Indian market where technology develops rapidly and people belong to various social groups (Lee et al., 2025; Gautam & Sah, 2023). The Vision 2030 initiative in Saudi Arabia enables rapid digital transformation which results in new generative AI usage patterns that demonstrate fresh client engagement methods, and these patterns will serve as a model for other Gulf nations. (Al-Ayed, 2022; Al-Mushayt et al., 2022; Helmi et al., 2024).

The three contexts that we will compare here provide researchers with a base for solving important research questions which have yet to find solutions (Abrardi et al., 2022). The two countries show identical mechanisms which generative AI uses to shape consumer choices and brand loyalty. The three factors of cultural distinctions and economic systems together with digital readiness create different effects on the three relationships. The research will create new theoretical insights for digital marketing and help brand managers together with policymakers develop culturally relevant strategic methods (Ameen et al., 2023; Hezarkhani et al., 2023). The research demonstrates its practical value because it helps organizations attract and retain customers who stay loyal during the generative AI period. Trust in AI together with the perceived value of generated content serve as key factors that explain how technology affects brand loyalty according to marketing managers who will use this information to plan their strategies (Prentice et al., 2020; Cabiddu et al., 2022). Organizations should build consumer trust about their AI systems while demonstrating the value of AI interactions to create brand loyalty which lasts over time (Vlačić et al., 2021; Guerra-Tamez et al., 2024).

The research work uses a comparative method to examine the mediating and moderating factors which shape how generative AI affects consumer behavior in Asian markets. The study results will assist marketing researchers who want to create culturally appropriate marketing strategies and they will also help businesses learn about customer relationship management in the AI era. The research work aims to connect theoretical frameworks with the actual market behaviors which exist in various Asian consumer markets.

2. RESEARCH MODEL AND HYPOTHESES

This research establishes testable hypotheses which explain how generative AI interacts with consumer decision-making and brand loyalty according to the theoretical framework and conceptual foundation which the earlier sections introduced (Davenport et al. 2020; Vlačić et al. 2021) (Figure 1).

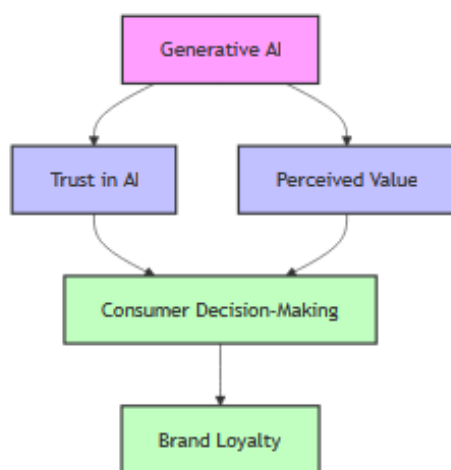


Figure 1. Conceptual Framework of the Study

H1: Generative AI has a positive and significant effect on consumer decision-making.

H2: Generative AI has a positive and significant effect on brand loyalty.

H3: Trust in AI positively mediates the relationship between generative AI and consumer decision-making.

H4: Perceived value positively mediates the relationship between generative AI and consumer decision-making.

H5: Consumer decision-making mediates the relationship between trust in AI/perceived value and brand loyalty.

H6: The pattern of relationships among generative AI, trust, perceived value, consumer decision-making, and brand loyalty significantly differs across Japan, India, and Saudi Arabia.

The proposed hypotheses combine technology acceptance theories with consumer behavior theories which show how individual beliefs and attitudes and perceptions guide people to adopt new technologies and develop brand loyalty (Kim et al. 2021; Cabiddu et al. 2022). The proposed hypotheses systemically evaluate direct and indirect impacts while assessing how mediating factors operate within three Asian countries (Rana et al. 2021; Ratner et al. 2025).

3. Research Methodology

3.1. Research Design

The study uses descriptive-correlational research methods to achieve its objectives which it develops through structural equation modeling. The research conducts a quantitative survey because its primary objective is to examine how generative artificial intelligence and trust in artificial intelligence and perceived value and consumer decision-making and brand loyalty interact with one another through a multi-stage mediation model. The quantitative approach allows researchers to measure variables exactly and test their hypotheses and extend their results to the entire statistical population. The research collects data at one specific time because it follows a cross-sectional study design. The research team chose cross-sectional study design because it matches their research questions which need to study how various variables interact under current conditions of generative artificial intelligence technology adoption in consumer markets.

3.2. Statistical Population and Sampling

The research population for this study includes all adults aged 18 and above who reside in three nations which are Japan and India and Saudi Arabia and who have used generative AI tools for their information search and purchase decision processes which include ChatGPT and Gemini and Bing Chat and other similar artificial intelligence systems. The study employs purposive sampling methods together with random selection procedures to acquire samples from different countries. Online marketing research panel platforms enable researchers to reach eligible consumers by implementing stratified sampling methods which match the demographic distribution of age and gender and geographic region for each country. The researchers will use simple random sampling methods to select participants from each stratum because this method helps to reduce selection bias. The researchers established the needed sample size for each country by applying structural equation modeling through data analysis which required the minimum sample size for each country to consist of 10 times the number of model parameters. The researchers established the final sample size at 400 participants for each country because they needed 1200 valid questionnaires to complete the final analysis.

3.3. Data Collection Tools

The researchers used a structured questionnaire that included five major sections to gather data for their comparative study which examined three different countries: Japan, India, and Saudi Arabia. The first section focuses on demographic information which includes age and gender and educational attainment and work status and financial resources. The researchers used categorical items to measure the variables which enabled them to describe the sample and perform subgroup analyses across three different national settings. The research used the standard Generative AI Acceptance Scale which Ma et al. (2024) developed because multiple studies have demonstrated its validity and reliability. The scale evaluates how consumers engage with the technology through three primary aspects which include personalized AI recommendation systems and AI-generated content used in information searching and intelligent assistant systems that handle product and service inquiries.

The standard Human-AI Trust Scale (HATS) developed and validated by Sun et al. (2025) serves as the measurement tool for assessing trust in artificial intelligence. The scale evaluates generative AI through localized characteristics which include Affective Trust and Competence Trust and Benevolence & Integrity and Perceived Risk. The validation study of this scale was conducted in China and the United States with large samples and its four-factor structure was confirmed.

The standard Customer Perceived Value Scale (CPVS) which researchers developed from earlier studies about technology acceptance serves as the tool for measuring perceived value (Hidayat & Sugiat, 2025). The scale assesses multiple value dimensions which include Utilitarian Value and Informational Value and Emotional Value and Social Value. Alshakhsi et al. (2025) demonstrated that people who perceive value through these three dimensions develop positive feelings and trust toward artificial intelligence. A standard scale exists to assess consumer decision-making which evaluates decision quality and decision-making difficulty and decision certainty. The researchers created this scale by modifying existing consumer behavior assessment instruments used in digital marketing research. The Accenture study (2025) reveals that 83% of active users who use generative AI technology depend on this tool to help them choose products and services while 30% of users prefer AI recommendations over suggestions from friends and retailers and search engines.

The standard Brand Loyalty Scale measures brand loyalty through its assessment of both customer attitudes and their actual behavior toward the brand. The assessment evaluates three dimensions which include repurchase intention and brand recommendation to others and resistance to offers from competing brands. Accenture research (2025) has shown that 34% of

consumers remain loyal to brands that offer an emotional and personalized experience with AI.

3.4. Translation and Localization of Instruments

The process of data collection requires translation and localization because researchers work in three countries which use Japanese and Hindi and Arabic as their official languages. The research employs double translation method for their work. The two translators who speak English and the target language (Japanese, Hindi/Hinglish, Arabic) will conduct the independent translation task of the questionnaires. The translations undergo analysis to create a unified translation which uses combined elements from both translations. The first two translators will create an English version of the text which they will use to compare with the original content. The research team will assess the translated questionnaires through testing with marketing experts and ordinary consumers across different countries to evaluate both fluency and cultural appropriateness. In India, people who live in urban areas and have high education levels tend to use Hinglish as their primary language because it shows their knowledge of English. The research team will use the feedback from the corrective comments to create the final questionnaire version which will be used in each country.

3.5. Validity and Reliability of Instruments

Researchers implement multiple techniques to verify that their measurement tools produce accurate results. The researchers assess the content validity of the questionnaires by gathering expert opinions from marketing professionals, consumer behavior specialists, and information technology experts while calculating the content validity ratio for each questionnaire item. The research team assessed face validity through testing their questionnaires with multiple regular customers who had previously used generative artificial intelligence since they needed to confirm that all test items remained clear and understandable.

The researchers use confirmatory factor analysis to test whether their construct validity claims are accurate. The researchers assess the measurement models for each variable through their use of relative chi-square and adaptive fit index and incremental fit index and root mean square error of approximation measurement indices. The acceptable values for these indices require measurements to stay below 3 and exceed 0.9 for both indices while root mean square error of approximation needs to stay below 0.08. The researchers assess instrument reliability through two methods which include using Cronbach's alpha coefficient and composite reliability. The measurement instruments achieve required reliability standards when both indices produce values that exceed 0.7. The researchers used Fornell-Larker criterion and kinship ratio to test diagnostic validity while confirming

that their research constructs remained distinct from one another.

3.6. Research Implementation Method

The data collection process starts after the final version of the questionnaires gets completed. The research uses digital methods to distribute questionnaires because the samples are located in different geographical areas and the research uses online platforms of established marketing research panels in each country. In Japan, Macromill serves as the main platform, while YouGov and MTurk operate in India and Saudi Arabia uses its own established platforms. The panel members receive the questionnaire link through email or SMS notifications. The questionnaire provides a complete research purpose explanation together with a definition of generative artificial intelligence which includes specific examples and instructions for answering questions. The complete follow-up process needs to be implemented because the organization needs to increase its response rate. The data collection process requires two months to finish in every country. The researcher's database receives automatic data storage from completed questionnaires, which prepares the data for upcoming analysis stages. The analysis process excludes questionnaires which show quick response times or consistent answering patterns because they represent invalid responses. The data collection process requires

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4. RESULTS

4.1. Demographic Characteristics of Respondents

The three studied countries' respondents' demographic data distribution appears in Table 1. The research sample included 1200 participants who showed 52.7% male and 47.3% female distribution. The 25-34 age group showed the most participants with 34.3% while the 18-24 age group followed with 23.3% appearance. The educational background of respondents showed that 49.3% of them possessed bachelor's degrees. The respondents reported daily use of generative AI at 29.7% and multiple times per week use at 39%, which demonstrates that this technology has become common in people's everyday activities. The daily usage rate in India reached 37% whereas Japan recorded its lowest rate at 24%, which shows how different cultures accept technology in their societies.

Table 1. Demographic Profile of Respondents by Country

Demographic Variable	Category	Japan (n=400)	India (n=400)	Saudi Arabia (n=400)	Total (N=1200)
Gender	Male	196 (49.0%)	212 (53.0%)	224 (56.0%)	632 (52.7%)
	Female	204 (51.0%)	188 (47.0%)	176 (44.0%)	568 (47.3%)
Age	18-24 years	68 (17.0%)	124 (31.0%)	88 (22.0%)	280 (23.3%)
	25-34 years	112 (28.0%)	156 (39.0%)	144 (36.0%)	412 (34.3%)
	35-44 years	108 (27.0%)	72 (18.0%)	96 (24.0%)	276 (23.0%)
	45-54 years	72 (18.0%)	32 (8.0%)	48 (12.0%)	152 (12.7%)
	55 years and above	40 (10.0%)	16 (4.0%)	24 (6.0%)	80 (6.7%)
Education Level	High school or below	84 (21.0%)	112 (28.0%)	96 (24.0%)	292 (24.3%)
	Bachelor's degree	208 (52.0%)	196 (49.0%)	188 (47.0%)	592 (49.3%)
	Master's degree	80 (20.0%)	68 (17.0%)	84 (21.0%)	232 (19.4%)
	Doctoral degree	28 (7.0%)	24 (6.0%)	32 (8.0%)	84 (7.0%)
Frequency of Gen AI Use	Daily	96 (24.0%)	148 (37.0%)	112 (28.0%)	356 (29.7%)
	Several times a week	148 (37.0%)	156 (39.0%)	164 (41.0%)	468 (39.0%)
	Several times a month	88 (22.0%)	64 (16.0%)	76 (19.0%)	228 (19.0%)
	Rarely	52 (13.0%)	28 (7.0%)	40 (10.0%)	120 (10.0%)
	Never	16 (4.0%)	4 (1.0%)	8 (2.0%)	28 (2.3%)

4.2. Descriptive Statistics and Correlations

Table 2 displays descriptive indicators and correlation matrix data which links main study variables across different countries. The highest average of generative AI belonged to India with a value of 3.98 out of 5, indicating the widespread penetration and use of this technology in the Indian market, while Japan showed the lowest level of use with an average of 3.42. India showed the highest

level of AI trust according to research results which found that Indian participants trusted AI at an average score of 3.84, whereas Japanese participants displayed the lowest trust level with their average score of 3.38. The three elements of perceived value consumer decision-making and brand loyalty demonstrated identical patterns of relationship. The correlation matrix shows that in all three countries, generative AI has a positive and significant correlation with trust, perceived value,

consumer decision-making, and brand loyalty. The strongest correlations appeared in India while Japan displayed the weakest connections, which showed how

cultural background and digital technology advancement affected the relationships between different variables.

Table 2. Descriptive Statistics and Correlation Matrix

Country	Variable	Mean	SD	1	2	3	4	5
Japan	1. GAI	3.42	0.78	1				
	2. TRU	3.38	0.72	0.41**	1			
	3. VAL	3.51	0.69	0.44**	0.52**	1		
	4. DEC	3.47	0.74	0.46**	0.53**	0.55**	1	
	5. LOY	3.32	0.81	0.38**	0.45**	0.47**	0.54**	1
India	1. GAI	3.98	0.71	1				
	2. TRU	3.84	0.68	0.48**	1			
	3. VAL	3.92	0.73	0.51**	0.58**	1		
	4. DEC	3.88	0.69	0.54**	0.61**	0.63**	1	
	5. LOY	3.71	0.77	0.46**	0.52**	0.55**	0.62**	1
Saudi Arabia	1. GAI	3.76	0.74	1				
	2. TRU	3.62	0.70	0.45**	1			
	3. VAL	3.71	0.72	0.48**	0.54**	1		
	4. DEC	3.68	0.71	0.50**	0.57**	0.59**	1	
	5. LOY	3.54	0.75	0.42**	0.49**	0.51**	0.58**	1

Note: GAI = Generative AI, TRU = Trust in AI, VAL = Perceived Value, DEC = Consumer Decision-Making, LOY = Brand Loyalty. *p < 0.01

4.3. Measurement Model Results

The evaluation results of measurement models used for the five primary research constructs across different countries appear in Table 3. The factor loadings exhibited values which reached or exceeded 0.68, thus demonstrating that the items achieved sufficient explanatory capability for their respective constructs. The measurement instruments showed strong reliability because all constructs achieved Cronbach's alpha values which exceeded 0.7 and ranged between 0.85 and 0.92. The composite reliability measurements for all constructs

exceeded 0.7 while showing a range from 0.88 to 0.94, which serves as a strict reliability assessment that produces positive outcomes. The mean variance extracted values for all constructs exceeded 0.57, which surpassed the minimum acceptable value of 0.5 to demonstrate convergent validity of the measurement models. The Indian sample produced the strongest validity and reliability measurements, while the Japanese sample displayed the weakest results, which reflects the different levels of generative AI usage and familiarity existing between these two nations.

Table 3. Measurement Model Properties

Construct	Country	Items	Factor Loadings Range	Cronbach's α	CR	AVE
Generative AI	Japan	12	0.72 - 0.86	0.89	0.91	0.61
	India	12	0.74 - 0.89	0.91	0.93	0.64
	Saudi Arabia	12	0.71 - 0.85	0.90	0.92	0.62
Trust in AI	Japan	12	0.69 - 0.84	0.88	0.90	0.58
	India	12	0.73 - 0.88	0.92	0.94	0.65
	Saudi Arabia	12	0.70 - 0.85	0.89	0.91	0.60
Perceived Value	Japan	12	0.68 - 0.83	0.87	0.89	0.57
	India	12	0.72 - 0.87	0.90	0.92	0.62
	Saudi Arabia	12	0.70 - 0.84	0.88	0.90	0.59
Consumer Decision-Making	Japan	9	0.71 - 0.85	0.86	0.89	0.60
	India	9	0.74 - 0.88	0.89	0.92	0.63
	Saudi Arabia	9	0.72 - 0.86	0.87	0.90	0.61
Brand Loyalty	Japan	9	0.70 - 0.84	0.85	0.88	0.58
	India	9	0.73 - 0.87	0.88	0.91	0.61
	Saudi Arabia	9	0.71 - 0.85	0.86	0.89	0.59

Note: CR = Composite Reliability, AVE = Average Variance Extracted

4.4. Discriminant Validity Assessment

The research study uses Table 4 to assess discriminant validity among its research constructs by applying the Fornell-Larker criterion. The criterion establishes that a

construct achieves discriminant validity when its root mean square extracted variance (shown as numbers inside the main diameter) exceeds the construct's correlation with other constructs (shown as numbers outside the diameter). The results in the table

demonstrate that all three countries show higher main diameter values than their inter-construct correlations for all constructs. The Indian sample shows that generative AI has a root AVE of 0.80 which exceeds its trust correlation of 0.48 and its perceived value correlation of 0.51 and its consumer decision-making correlation of

0.54 and its brand loyalty correlation of 0.46. The pattern occurs in every instance of research study which shows that research constructs from three countries possess positive discriminant validity because they maintain necessary separateness from each other.

Table 4. Discriminant Validity (Fornell-Larcker Criterion)

Country	Construct	GAI	TRU	VAL	DEC	LOY
Japan	GAI	0.78				
	TRU	0.41	0.76			
	VAL	0.44	0.52	0.75		
	DEC	0.46	0.53	0.55	0.77	
	LOY	0.38	0.45	0.47	0.54	0.76
India	GAI	0.80				
	TRU	0.48	0.81			
	VAL	0.51	0.58	0.79		
	DEC	0.54	0.61	0.63	0.79	
	LOY	0.46	0.52	0.55	0.62	0.78
Saudi Arabia	GAI	0.79				
	TRU	0.45	0.77			
	VAL	0.48	0.54	0.77		
	DEC	0.50	0.57	0.59	0.78	
	LOY	0.42	0.49	0.51	0.58	0.77

Note: Diagonal elements (in bold) are the square roots of AVE; off-diagonal elements are inter-construct correlations.

4.5. Structural Model and Hypothesis Testing (Direct Effects)

Table 5 displays the outcomes from testing the hypotheses concerning direct impacts between three investigated nations. The research confirms the first hypothesis (H1) which states that generative AI positively influences consumer decision-making because the results show this outcome in all three nations although its impact differs between them. The strongest effect was observed in India with a path coefficient of 0.38 and the weakest in Japan with a coefficient of 0.31. The effect size (f^2) assessment shows medium impact in

India (0.22) and Japan shows impact that approaches medium level with its (0.14) measurement. The second hypothesis (H2) is confirmed for all three nations because generative AI generates positive brand loyalty impacts which reach significant levels. The relationship strength between India and Japan shows its highest value with a coefficient of 0.31 in India and its lowest value with a coefficient of 0.24 in Japan. The f^2 values for these relationships exist within small to medium range because values above 0.02 exist within small range whereas 0.15 represents medium range and 0.35 indicates strong range according to Cohen's criterion.

Table 5. Structural Model Results (Direct Effects)

Hypothesis	Path	Country	β	t-value	p-value	f^2	Result
H1	GAI $\rightarrow$ DEC	Japan	0.31	5.84	< 0.001	0.14	Supported
		India	0.38	7.12	< 0.001	0.22	Supported
		Saudi Arabia	0.34	6.43	< 0.001	0.18	Supported
H2	GAI $\rightarrow$ LOY	Japan	0.24	4.56	< 0.001	0.09	Supported
		India	0.31	5.92	< 0.001	0.16	Supported
		Saudi Arabia	0.28	5.23	< 0.001	0.12	Supported

Note: GAI = Generative AI, DEC = Consumer Decision-Making, LOY = Brand Loyalty

4.6. Mediation Analysis Results (Indirect Effects)

Table 6 presents the results of the mediation analysis to test hypotheses three to five. The researchers applied bootstrapping with 5000 subsamples to assess the significance of indirect effects. The results show that in all three countries, the indirect effect of generative AI on consumer decision-making through trust in AI (H3) is significant, as none of the confidence intervals contain zero. India shows the highest indirect effect which has a coefficient of 0.186 while Japan shows the smallest indirect effect which has a coefficient of 0.142. The

fourth hypothesis (H4) is confirmed because perceived value acts as a mediating factor between generative AI and consumer decision-making. The effect shows greater strength in India with a value of 0.202 than in other countries. The fifth hypothesis (H5) was tested with two separate paths: trust in AI through loyalty decision-making, and perceived value through loyalty decision-making. The two paths showed significant results across all three countries, with Indian results showing the strongest impact. The model shows partial mediation across all three countries because both direct and indirect effects exist in the model (Table 5).

Table 6. Mediation Analysis (Indirect Effects)

H	Path	Country	Indirect Effect	SE	Boot LLCI	Boot ULCI	Mediation Type
H3	GAI → TRU → DEC	Japan	0.142	0.032	0.086	0.209	Partial Mediation
		India	0.186	0.038	0.118	0.264	Partial Mediation
		Saudi Arabia	0.164	0.035	0.102	0.237	Partial Mediation
H4	GAI → VAL → DEC	Japan	0.158	0.034	0.098	0.228	Partial Mediation
		India	0.202	0.041	0.129	0.287	Partial Mediation
		Saudi Arabia	0.176	0.037	0.110	0.252	Partial Mediation
H5	TRU → DEC → LOY	Japan	0.167	0.036	0.103	0.242	Partial Mediation
		India	0.219	0.044	0.141	0.311	Partial Mediation
		Saudi Arabia	0.189	0.039	0.119	0.270	Partial Mediation
	VAL → DEC → LOY	Japan	0.172	0.037	0.106	0.249	Partial Mediation
		India	0.227	0.045	0.147	0.321	Partial Mediation
		Saudi Arabia	0.195	0.040	0.123	0.278	Partial Mediation

Note: Bootstrapping based on 5000 subsamples. LLCI = Lower Limit Confidence Interval, ULCI = Upper Limit Confidence Interval

4.7. Multi-Group Analysis (Cross-Country Comparison)

The multigroup analysis results presented in Table 7 test the sixth hypothesis (H6) which studies relationship pattern differences among three countries. The results show that in the path of generative AI to consumer decision-making (H6a) the two groups show significant differences between Japan and India ($p = 0.005$) and between India and Saudi Arabia ($p = 0.048$) but the difference between Japan and Saudi Arabia does not reach significance ($p = 0.078$). The path of generative AI

to brand loyalty (H6b) shows that only Japan and India show significant differences ($p = 0.011$). The intermediary paths show a similar pattern because India shows significant differences with Japan while most cases show no significant differences between India and Saudi Arabia or Japan and Saudi Arabia. The study results show that India shows different development patterns from Japan which is an advanced market and Saudi Arabia which is an emerging market. The hypothesis H6 shows partial confirmation because it demonstrates that countries have distinct relationship patterns.

Table 7. Multi-Group Analysis Results

Hypothesis	Path	Path Coefficients			MGA Results		
	---	Japan	India	Saudi Arabia	Comparisons	t-value	p-value
H6a	GAI → DEC	0.31	0.38	---	JP vs IN	2.84	0.005
		---	0.38	0.34	IN vs SA	1.98	0.048
		0.31	---	0.34	JP vs SA	1.76	0.078
H6b	GAI → LOY	0.24	0.31	---	JP vs IN	2.56	0.011
		---	0.31	0.28	IN vs SA	1.62	0.105
		0.24	---	0.28	JP vs SA	1.94	0.053
H6c	GAI → TRU → DEC	0.142	0.186	---	JP vs IN	2.43	0.015
		---	0.186	0.164	IN vs SA	1.76	0.079
		0.142	---	0.164	JP vs SA	1.68	0.093
H6d	GAI → VAL → DEC	0.158	0.202	---	JP vs IN	2.61	0.009
		---	0.202	0.176	IN vs SA	1.89	0.059
		0.158	---	0.176	JP vs SA	1.52	0.129

Note: JP = Japan, IN = India, SA = Saudi Arabia

The structural model results, which show standardized path coefficients for the Japanese sample, appear in Figure 2. The research results demonstrate that generative AI produces significant positive effects on both trust in AI ($\beta = 0.41$) and perceived value ($\beta = 0.44$). The two variables produce positive and significant effects on consumer decision-making (trust: $\beta = 0.35$, value: $\beta = 0.38$). Generative AI produces direct effects on consumer decision-making ($\beta = 0.31$) and brand loyalty ($\beta = 0.24$). The relationship between consumer decision-making and brand loyalty shows strong and significant effects ($\beta = 0.46$). The coefficients become statistically significant at the 0.01 level.

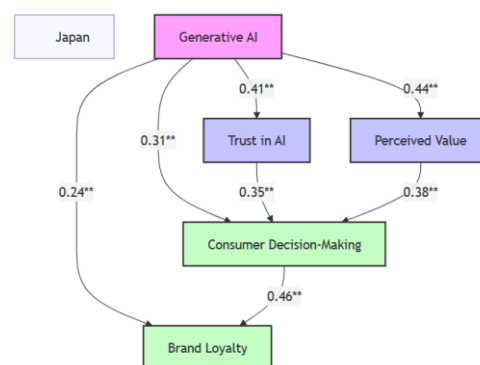


Figure 2. Structural Model Results with Standardized Path Coefficients for Japan

Note: * $p < 0.01$; All path coefficients are significant at the 0.01 level. The standardized path coefficients show the results of the structural model for the Indian sample in Figure 3. The research demonstrates that generative AI creates a significant positive impact on both trust in AI ($\beta = 0.48$) and perceived value ($\beta = 0.51$) which exceeds its impact in Japan. Consumer decision-making receives positive effects from both trust in AI and perceived value (trust: $\beta = 0.41$ value: $\beta = 0.44$). The relationship between generative AI and consumer decision-making shows a positive direct path ($\beta = 0.38$) which connects to brand loyalty ($\beta = 0.31$). The relationship between consumer decision-making and brand loyalty in India shows extremely strong power with a coefficient of ($\beta = 0.52$). The 0.01 level of significance applies to all coefficients while Indian relationships show stronger connections than those found in the other two countries.

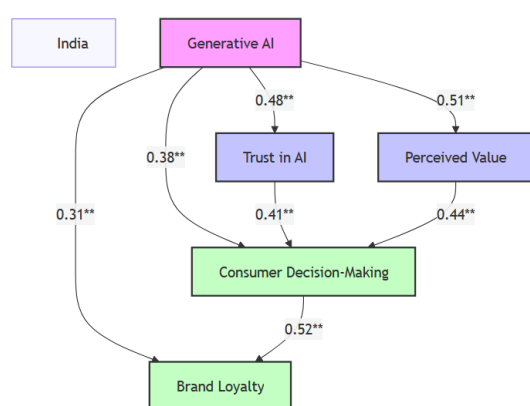


Figure 3. Structural Model Results with Standardized Path Coefficients for India

Note: * $p < 0.01$; All path coefficients are significant at the 0.01 level.

The structural model results for the Saudi Arabian sample are shown in Figure 4. The research demonstrates that generative AI creates a significant positive impact on trust in AI technology which demonstrates a trust level of 0.45 and on the perceived value which shows a value of 0.48.

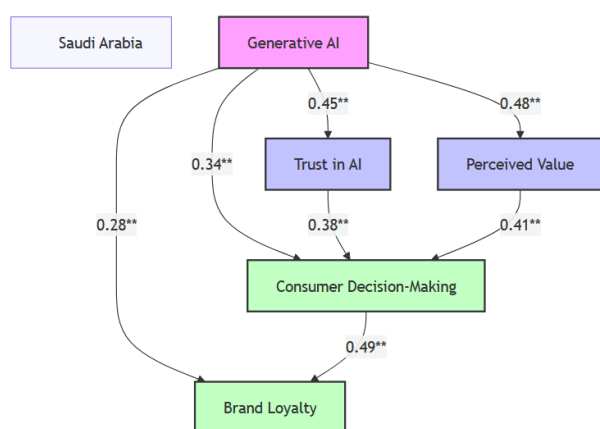


Figure 4: Structural Model Results with Standardized Path Coefficients for Saudi Arabia

Note: * $p < 0.01$; All path coefficients are significant at the 0.01 level.

Trust and perceived value also affect consumer decision-making with coefficients of 0.38 and 0.41, respectively. The direct path from generative AI to consumer decision-making ($\beta = 0.34$) and brand loyalty ($\beta = 0.28$) is also positive and significant. The effect of consumer decision-making on brand loyalty in Saudi Arabia is strong and significant with a coefficient of 0.49. The pattern of coefficients in Saudi Arabia indicates that the country is intermediate between Japan and India, which is consistent with the characteristics of the rapid digital transformation in the country.

5. DISCUSSION

The study results demonstrated that generative AI research studies affected consumer decision-making processes in all three countries examined by researchers. The current results match previous research that studied how modern technology impacts decision-making procedures (Davenport et al., 2020; Vlačić et al., 2021; Abrardi et al., 2022). The three countries show different levels of strength in their relationship but India demonstrates the strongest connection whereas Japan shows the weakest connection. The finding exists because the countries demonstrate different technology adoption patterns which lead to varying levels of generative AI understanding and consumer expectations. The decision-making process in India uses generative AI technology more because of its growing youth population and rapid technological advancement (Gautam & Sah, 2023) while Japanese consumers who show strong brand loyalty will treat AI recommendations with more caution. Path analysis results demonstrated that all three countries showed a significant and positive relationship between generative AI and brand loyalty. The evidence supports relational marketing theories while confirming previous research (Nguyen et al., 2022; Ratner et al., 2025) which shows that customers who use new technologies will develop stronger emotional ties to a brand. The relationship between the two variables showed greater strength in India because its coefficient reached 0.31 while Saudi Arabia and Japan showed lower coefficients of 0.28 and 0.24 respectively. The decreasing pattern indicates that different cultural and structural frameworks in each country will determine how artificial intelligence impacts brand loyalty according to research by Guerra-Tamez et al., (2024). The presence of high technology adoption and young citizens in various nations enables generative AI to create more effective outcomes for developing brand loyalty.

The study discovered a third main result which demonstrates that trust in AI functions as a mediator between generative AI and consumer decision-making. The finding supports previous research which demonstrated that trust functions as a critical factor for acceptance of new technologies (Kim et al., 2021). Trust in AI showed the strongest mediating effect in India with a coefficient of 0.186 and the weakest in Japan with a coefficient of 0.142. The difference in trust levels results

from cultural variations which affect how people accept new technologies based on their past product experiences. People who trust AI recommendations tend to have stronger trust when they live in societies which have experienced positive outcomes from digital technology (Cabiddu et al., 2022; Yang & Wibowo, 2022).

The fourth finding showed that perceived value acted as a mediator between generative AI technology and consumer decision-making processes. The finding was validated across all three countries, while India demonstrated the strongest mediation effect which reached a coefficient value of 0.202. The result aligns with previous studies about customer perceived value (McLean et al., 2021), which shows that consumers use AI recommendations for their decision-making process when they find the recommendations beneficial and appropriate and important to their needs. The stronger relationship in India occurred because consumers in this market need to assess many products and services through personalized recommendations, which require them to process specific information.

The fifth finding demonstrated that consumer decision-making mediates the connection between trust in AI and perceived value which then leads to brand loyalty. This finding is theoretically important because it demonstrates that cognitive trust and perceptual value bring about direct effects on brand loyalty which can be understood through their ability to enhance decision-making processes (Rana et al., 2021; Ratner et al., 2025). Trust in AI systems and the value content created by those systems brings to consumers help consumers make decisions which results in brand loyalty that develops over time (Nguyen et al., 2022; Prentice et al., 2020).

The analysis of multiple groups found that three countries showed different relationship patterns which validated the sixth research hypothesis. The research demonstrates practical significance because it proves that developed theories in one cultural setting do not apply to other countries in identical ways (Ameen et al., 2023). The most significant disparities between India and Japan demonstrated their two countries maintained a major cultural and structural distance. The youthful demographic and fast technological advancement of India together with its changing market (Gautam & Sah, 2023) create a different market environment from Japan which operates under its established consumer patterns and sophisticated infrastructure and strong brand loyalty. The Vision 2030 project has driven Saudi Arabia to achieve mid-range performance across multiple indicators which demonstrates its modern consumer market combines traditional elements with contemporary development (Al-Ayed, 2022; Al-Mushayt et al., 2022; Helmi et al., 2024).

The results of this research study can be understood through the theoretical frameworks which explain technology acceptance together with customer purchasing patterns. According to these theories, people develop their beliefs about new technologies through their personal beliefs systems and their attitudes and their perceptions which then determine their actual behavior patterns (Saphira & Sugiat, 2025). The research found that trust in AI together with the assessed worth of its generated content functioned as the primary elements which mediated the relationship between cognitive factors and perceptual factors. The discovery of consumer decision-making as a mediating factor completes the causal relationship which shows that brand loyalty requires two elements: trust together with perceived value and high-quality decision-making (Vlačić et al., 2021; Rana et al., 2021).

The study results demonstrate that generative AI exists as a worldwide technology yet generates distinct impacts on consumer behavior across various cultural groups. The finding supports earlier studies which demonstrated that cultural factors determine the strength of marketing relationships (Guerra-Tamez et al., 2024; Ameen et al., 2023). The three countries showed trust in AI together with perceived value which functioned as mediating factors but their strength of effect showed different results. AI-based marketing strategies require designers to consider each country's cultural and structural elements for their effective operation. The present study, with its comparative approach, has taken a step towards localizing digital marketing knowledge in the Asian context.

6. CONCLUSION

The current research examined how generative AI affects consumer decision-making and brand loyalty through trust and perceived value relationships in three Asian countries—Japan India and Saudi Arabia. The research demonstrated that generative AI positively influences consumer decision-making and brand loyalty while trust in AI systems and the value consumers assign to generated content establish vital links between these two factors. The second mediating variable of consumer decision-making demonstrates how trust and perceived value lead to brand loyalty. Multigroup analysis revealed significant differences in the pattern of relationships between the three countries, which indicates the moderating role of cultural context in the aforementioned relationships. The research results demonstrate how generative AI impacts consumer behavior through theoretical mechanisms while offering practical marketing recommendations to brand managers.

The research results demonstrate that organizations must enhance public trust in AI systems while delivering better content through AI systems. Organizations can gain consumer trust and increase the perceived value of interacting with technology by designing transparent

communication strategies, providing accurate and reliable information, and deeply personalizing content. The established user interface design process which includes easy-to-use interfaces and comparison options and intelligent recommendations will help customers make better choices while building their loyalty to the brand. The three countries exhibit distinct cultural and structural characteristics which require organizations to customize their strategies for execution. The Indian market needs personalized content to create information value while Japanese customers require stronger trust and authenticity from their domestic brands.

The current study presents theoretical and practical findings yet contains certain restrictions. The study's cross-sectional design prevents researchers from establishing definite causal links between variables so future research should use longitudinal methods to study

these relationships. The research results from three Asian countries which provide a useful comparison base but create challenges when attempting to apply findings to countries outside this study. The presented model can be enhanced through future research which will explore different geographic regions and study various moderating aspects including digital literacy and technology experience and demographic factors. The research fulfills its primary objective by showcasing how generative AI affects consumer behavior through trust and perceived value as intermediary factors. The study established relationship patterns which create an understanding framework for businesses to handle customer interactions during the AI era and this framework maintains its applicability across different nations through proper adaptation to local cultural and organizational elements.

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