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### **AI-POWERED MARKETING EXPERIENCE:**

### TRANSFORMINGTHE ONLINE SHOPPING LANDSCAPE

#### Ragul T A S<sup>1</sup>, Dr. Rhytheema Dulloo<sup>2</sup>

<sup>1</sup>PG Scholar, <sup>2</sup>Assistant Professor (S.G)
School of Management, Hindustan Institute of Technology and Science, Chennai, India
dulloo.rhytheema@gmail.com

#### **Abstract**

Artificial intelligence (AI) by delivering individualised customer experiences, have fundamentally changed the online retail scene. This study explores the antecedents to AI marketing technology with reference to online shopping and studies its impact on customer purchase intention. This study divides the AI technology experienced by customers of online shopping platform into five dimensions namely accuracy, insight, interactivity experience, perceived utility value and hedonic value based on exploratory factor analysis. A conceptual framework for experience of AI marketing technology on customer purchase intention is framed. The results of this study will provide a reference for AI technology to promote sustainable development in the application of online consumers' purchase intention.

**Keywords:** Artificial intelligence, customer purchase intention, hedonic value, marketing, online shopping, perceived value.

#### INTRODUCTION

Every subset of AI carries its own distinct characteristics and functionalities. E-commerce existed way before the introduction of AI technology. Marketing activities such as product display, its selection by the customers and purchasing were performed even in the absence of AI. These activities were performed manually. The task of assisting buyers during shopping was also performed by human sales agents. But, with the recent advancements taking place around the globe, consumer psychographics are changing rapidly. Their choices are more technologically driven. That is why it has become a necessity of retailers to adapt the recent technology. Also when large number of products available on different channels making shopping a more complex exercise, technologies helping customer in choosing best product. AI offers the convenience of quick and efficient decision making along with cutting the information overload.

Artificial intelligence is drastically affecting the lifestyle of consumers. The way of shopping or consumer's shopping habits are altered to a great extent through the introduction of AI. By making it more autonomous AI is considered to make e-commerce smarter. Availability of high speed internet and surge in the number web users amounted to

increase high web traffic which further increases the demands. To meet such multifaceted demand effectively managing big data is essential. However, manual analysis of the massive amount of data emerging from online consumer behavior is a promising challenge and opportunity. AI enabled big data management and its analyzing capabilities may help in better execution of things. With AI capabilities this task is accomplished smoothly. Not onlydata, but even the management of goods till its transportation is performed through AI capabilities. These different tasks performed by AI contributes to the overall profitability of the firm by benefitting both the ends of the business cycle i.e., consumers and businesses.

When it comes to helping the customers, AI is used as an aid in taking their shopping decisions. AI capabilities enable the process of navigating the e- commerce website much easier for them. It helps the customers to not only to complete their purchasing on time but also saves them from information overload. The AI tools used by consumers in shopping are chat bots, voice assistants, face recognition devices and augmented reality. In order to increase consumer's shopping experience, retailers have realized the need to grab and utilizeAI. The global retailers like IKEA and Amazon also utilizes AI in their working and this has also provided inspiration to many other retailers in the segment to adopt and implement the same. Logistics and Supply Chain Management are also benefitted by the use of AI.

Due to the invent of AI- based chat bots, consumers are more open to online chat-based AI assistance than telephonic AI assistance. In fact many consumers don't mind whether the customer service agent is human or machine online as long as they receive the answer to their query. The level of influence that AI have on a consumer's choice consists of two aspects; on one hand it can contribute to consumer's well-being by providing easier choice, more practicality while making purchase, and on the other hand it can undermine consumer's sense of autonomy. Consumers are more dependent on technology based decision making rather than their own choice.

#### REVIEW OF LITERATURE

Song X et al.(2019), describes the e-commerce development situation and prospects of AI technology, analyses present situation of the application of AI technology in the field of e-commerce mainly study and discuss in detail from the aspect of assistant of AI, intelligent logistics, recommended engine and the optimal pricing application through the research of e-commerce intelligent operation instance, take away, probes into the important impact and great significance on the e-commerce development of AI.

**Y. Zhang et al. (2019),** At present, China's leading online shopping platforms such as Taobao, Jingdong, Pinduoduo, etc. used AI technology to help consumers quickly screen and recommend in massive data. When consumers input keywords, voice or pictures in the search bar, e-commerce platforms can use text analysis, voice analysis and image recognition technology to identify problems and search, find matching items and sort by priority.

Carlota LR (2016) divides consumer behavior response into internal and external states. Internal state refers to consumer emotion, cognition and satisfaction tendency, while external behavior refers to actual willingness to approach and purchase. In this paper, the

online purchase intention of consumers is defined as the internal purchase tendency, which refers to the consumption tendency after subjective evaluation of relevant factors in the consumption process in order to satisfy the actual and psychological needs.

Machine learning: trends, perspectives, and prospects, science by **M. I. Jordon et al.**: Machine learning can customize the content of the company's website to maintain the consistency of user preferences and willingness to pay, so as to connect customers in all channels and devices seamlessly and personalized. The combination of big data and AI helps e-commerce enterprises to achieve accurate positioning of consumers, accurate mining of consumer demand and accurate advertising, AI helps enterprises gain insight into the whole process of consumer shopping and provide personalized advertising push interface for consumers.

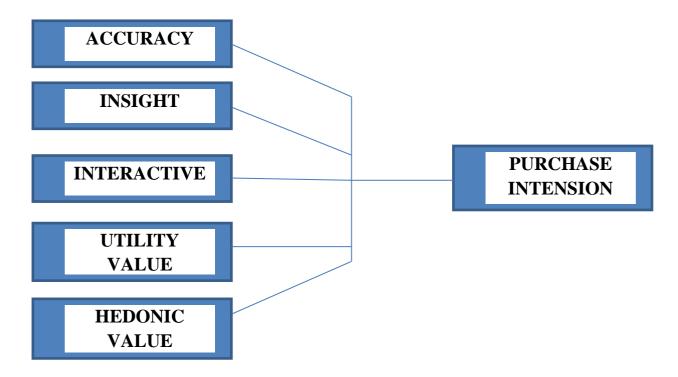
Kim and park (2004) in their study examined the relationship between salient features of online shopping and consumer buying behaviour. They find that quality of information and user interface and security concepts influences information satisfaction and relational benefit. All these factors are significantly related to each consumers commitment and actual buying behaviour.

**Z.** Cai et al.(1996), With the development of natural language interaction technology, AI customer service began to replace manual customer service, helping enterprises to carry out member marketing and sales services, recording customers' behavior and preferences to adapt to different customers. The virtual assistant of online shopping platform has begun to play the role of intelligent customer service, especially in the scene of consulting common questions such as product information, purchase suggestions, inventory, logistics and return matters. The above fully reflects the interactive functional experience that AI marketing technology brings to consumers.

Our research aims to add to the literature by expanding the scope of the study by exploring the factors influencing purchase intention in the context of online shopping platforms and the antecedents of AI marketing technology on consumers' purchase intention. This will help online shopping platforms to better understand consumer purchase intention and develop effective marketing strategies. Thus, the statement of the problem understudy has been selected as, "AI-POWERED MARKETING TECHNOLOGY: TRANSFORMING THE ONLINE SHOPPING LANDSCAPE".

#### RESEARCH FRAMEWORK

For the purpose of the study, antecedents of AI marketing technology, i.e., accuracy, insight, interactivity, perceived utility value and perceived hedonic value are taken as independent variables and intention to purchase via online shopping platform is taken as a dependent variable and the conceptual framework is presented in Fig. 1 below,



#### RESEARCH OBJECTIVES

- To study the demographic profile of the respondents.
- To frame conceptual model of AI marketing experience on consumer purchase intention with reference to online shopping.
- To explore factors influencing AI marketing experience in online shopping.
- To find the relationship of antecedents of AI marketing technology with consumer purchase intention
- To study the impact of experience of AI marketing technology on customer purchase intention.

#### RESEARCH METHODOLOGY

The purpose of the study is to investigate how customers' purchase intentions related to antecedents of AI technology in the context of online shopping platforms. Data will be gathered for the study utilizing a survey questionnaire, which is a quantitative research approach. The survey questionnaire will include two sections: the first section will collect participant demographic data, and the second section will concentrate on the perceived value of the consumers. Perceived values in this study are accuracy, insight, interactivity, hedonic value, utility value and consumers' purchase intention. Data will be collected from a sample of 300 participants who have used online shopping platforms at least once. The sample will be selected using the convenience sampling method. Data collected will be analyzed using descriptive statistics and inferential statistics, and exploratory factor analysis will be used for exploring the factors influencing purchase intention. Antecedents of AI marketing technology and Consumers' purchase intention will be measured using a Likert scale ranging from strongly disagrees to strongly agree.

#### **RESULTS AND DISCUSSION**

Data is gathered from a sample of 300 respondents from crosswise India. Responses were recorded and estimated by using nominal and Likert scales.

**Table I - Demographic profile of respondents** 

Criteria	Frequency	Percentage
	GENDER	
Male	135	45.0
Female	165	55.0
	AGE	
18-30	201	67.0
30-40	57	19.0
40-50	14	4.7
Above 50	28	9.3
E	⊔ DUCATIONAL QUALIFICATI	ONS
HSC/diploma	26	8.7
UG	179	59.7
PG	90	30.0
others	5	1.7
	OCCUPATION	
Student	81	27.0
Salaried employee	177	59.0
Professional practitioner	5	1.7
Business	21	7.0
Retired	16	5.3
	ANNUAL SALARY	
2lakhs-4lakhs	71	23.7
4lakhs-6lakhs	125	41.7
6lakhs-8lakhs	65	21.7
Above 8lakhs	39	13.0

ONLINE SHOPPING HISTORY						
less than one year	24	8.0				
1-2 years	20	6.7				
2-4 years	64	21.3				
above 4 years	192	64.0				
Oi	NLINE SHOPPING FREQUI	ENCY				
weekly	13	4.3				
monthly once	112	37.3				
once in 3months	119	39.7				
once in 6 month and above	56	18.7				
	PART OF INDIA					
southern part	290	96.7				
northern part	8	2.7				
eastern part	1	.3				
western part	1	.3				
REGION						
urban	178	59.3				
semi-urban	82	27.3				
rural	40	13.3				

Table 1 demonstrates the respondent's demographic profile considered the for study. 45% of respondents are male and 54% are female. The majority of the respondents are between 18-30 years of age i.e., 67%, 19% are between 30-40 years, 4.7% are between 40-50 years and 9.3% are above 50 years of age. The majority of the respondents are salaried employee i.e., 59%, 27% are students, 7% are businessmen and 5.3% are retired people. 59.7% of respondents have UG as their highest educational qualification, 30% PG, 8.7% HSC/Diploma, and 1.7% others. The majority of the respondents have online shopping history for more than 4 years, i.e., 64%, 21.3% from 2 to 4 years, 8% less than 1 year, and 6.7% have online shopping history 1 to 2 years. The majority of the respondents have online shopping frequency once in 3 month, i.e., 39.7%, 37.3% monthly once, 18.7% have once in 6 month and above and 4.3% have weekly.

# Exploratory Factor Analysis: Factors influencing purchase intention in the context of online shopping platforms

With a view to studying factors influencing purchase intention in the context of online shopping platoforms, the responses of the respondents have been inspected with the assistance of a factor analysis approach using a principal component technique with varimax rotation. At first, test to check the sufficiency of data for the application of factor analysis (Stewart, 1981) were led.

Table 2 KMO and Bartlett's Test

Kaiser-Meyer-Olkin M Adequ	.883	
Bartlett's Test of Sphericity	Approx. Chi-Square	4544.11
	df	
	Sig.	.000

The estimation of the Kaiser-Meyer-Okin (KMO) measure of examining sampling adequacy was observed to be 0.883, well over the prescribed 0.5 level. Further, Bartlett's test of sphericity value was found to be 4544.11, which is also significant (p < 0.001), in this way guaranteeing the suitability of factor analysis for this exploration work. The total variable explained is presented in Table 3. In the end, the number of factors to be held were chosen based on latent root criterion, i.e., variables having eigen values greater than 1, and furthermore based on the scree plot introduced in Table 4. Additionally, factors having loading greater than or equivalent to 0.50 have been considered (Dixon, 1997) this yields six interpretable factors. The most commonly utilized technique, the Varimax rotation procedure is used and results for all respondents are displayed in Table 5.

**Table 3 Total Variance Explained** 

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	
1	9.353	42.514	42.514	9.353	42.514	42.514	
2	2.086	9.483	51.997	2.086	9.483	51.997	
3	1.36	6.184	58.181	1.36	6.184	58.181	
4	1.217	5.534	63.715	1.217	5.534	63.715	
5	1.153	5.242	68.957	1.153	5.242	68.957	
6	1.05	4.771	73.728	1.05	4.771	73.728	

Table 3 illustrates five rotated factors which together explain 70.768% of the total variance. Eigen values for factors F1 to F6 42.514, 9.483, 6.184, 5.534, 5.242, and 4.771 are respectively.

Table 4 Rotated Component Matrix<sup>a</sup>

	Component							
	Purchase Intention	Accuracy	Insight	Interactivity	Utility Value	Hedonic Value		
PI_1	0.782							
PI_2	0.78							
PI_3	0.756							
PI_4	0.732							
AE_1		0.625						
AE_2		0.612						
AE_3		0.588						
IE_1			0.839					
IE_2			0.7					
IE_3			0.649					
INTER.E_1				0.834				
INTER.E_2				0.803				
INTERN.E_3				0.641				
UV_1					0.557			
UV_2					0.618			
UV_3					0.658			
UV_4					0.591			
UV_5					0.557			
HV_1						0.585		
HV_2						0.776		
HV_3						0.779		
HV_4						0.792		

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

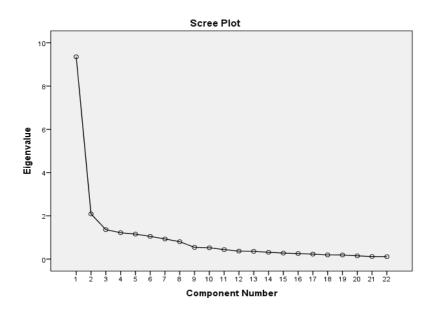
a. Rotation converged in 6 iterations.

Total variance explained show 6 variables can be extracted and rotated component matrix suggest all factor loading for 6 variables is above 0.05, the well prescribed level. Hence all statement in the 6 factors is retained. The SIX factors explored are. They are:

- 1. Purchase Intention
- 2. Accuracy

- 3. Insight
- 4. Interactivity
- 5. Perceived Utility Value
- 6. Perceived Hedonic Value

#### **Scree Plot**



#### 1. PURCHASE INTENTION

Purchase intention refers to a consumer's inclination or willingness to buy a product or service that is related to or utilizes AI technology. AI has become increasingly prevalent in various industries, and consumers are becoming more aware of its potential benefits. Purchase intention can be influenced by various factors, such as theperceived usefulness, ease of use, and trustworthiness of the AI-powered product or service. Consumers may also consider the perceived risks associated with using AI technology, such as privacy concerns and the potential for AI to replace human workers.

Marketing and advertising can also influence purchase intention by highlighting the benefits of AI-powered products and services, such as improved efficiency, accuracy, and personalization. However, it is important for marketers to be transparent about how AI is used and to address any concerns consumers may have. Overall, purchase intention in the context of AI is influenced by a range of factors, and understanding consumer attitudes and perceptions towards AI is crucial for businesses looking to leverage this technology.

#### 2. ACCURACY

Accuracy refers to the ability of AI algorithms or models to produce correct and reliable results for a given task or problem. In other words, it is a measure of how closely the output of an AI system matches the expected or desired output. The accuracy of an AI system can be affected by various factors, such as the quality and quantity of data used to train the model, the complexity of the problem, and the algorithm or technique used. In general, the more data an AI system has access to and the more sophisticated the algorithm used, the higher the accuracy is likely to be. It is important to note that while high accuracy is desirable, it is not always achievable or necessary. For example, in some cases, a high degree of accuracy may not be as important as other factors such as speed, cost, or user experience. Moreover, accuracy is not the only metric used to evaluate the performance of an AI system. Other metricssuch as precision, recall, F1 score, and area under the curve (AUC) may also be used depending on the specific task or problem being solved. Overall, accuracy is an important aspect of AI performance, and achieving high accuracy requires careful consideration of various factors, including data quality, algorithm selection, and evaluation metrics.

#### 3. INSIGHT

Insights refer to the meaningful and actionable knowledge that can be gained from analyzing data using AI techniques. Insights can help organizations understand patterns, relationships, and trends in their data, which can then be used to inform decision-making, optimize processes, or identify new opportunities. AI can help extract insights from large and complex data sets that may be difficult or impossible for humans to analyze manually. AI techniques such as machine learning, natural language processing, and computer vision can be used to identify patterns, relationships, and anomalies in data, and to make predictions and recommendations based on this analysis. To extract insights from data using AI, organizations must firstidentify the relevant data sources and ensure that the data is clean, structured, and properly formatted for analysis. They must also choose appropriate AI techniques and algorithms that are well-suited to the specific data and problem being addressed. Onceinsights are generated, they must be interpreted and translated into actionable steps. This may involve presenting the insights in a clear and understandable format, such as a dashboard or report, and involving domain experts in the interpretation and decision-making process. Overall, insights are a critical output of AI analysis, andthey can provide organizations with a competitive advantage by enabling them to make data-driven decisions and stay ahead of the curve.

#### 4. INTERACTIVIY

Interactivity refers to the ability of an AI system to engage in two-way communication or interaction with users or other systems. Interactivity is a keyfeature of many AI applications, as it enables users to ask questions, provide feedback, and receive personalized recommendations or assistance.AI systems that support interactivity typically use natural language processing (NLP) or other user

interface techniques to enable users to communicate with the system. For example, a chatbot may use NLP to understand and respond to user queries in a conversational manner, while a voice assistant may use voice recognition technology to understand and respond to spoken commands. Interactivity can also enable AI systems to adapt to user preferences and behaviors over time. For example, a recommendation system may learn from a user's past interactions and feedback to provide increasingly relevant and personalized recommendations. However, ensuring that AI systems are interactive and responsive to user needs requires careful design and development. It isimportant to consider factors such as user experience, accessibility, and the potential for bias or unintended consequences. Overall, interactivity is a key feature of many AI applications, and it can help to enhance user engagement, satisfaction, and overall effectiveness.

#### 5. PERCEIVED UTILITY VALUE

Perceived utility value refers to the perceived usefulness of AI technology to an individual user. It is a measure of how much value an individual believes they can derive from using an AI-powered product or service. Perceived utility value is influenced by various factors, including the perceived benefits and costs of using AI, the user's previous experience with AI, and their individual preferences and goals. For example, a user may perceive high utility value in an AI-powered personal assistant that can help them manage their schedule and tasks more efficiently, but may perceive lower utility value in an AI-powered entertainment app that they do not find entertaining. The perceived utility value of AI can be enhanced through effective marketing and user education. This may involve highlighting the benefits of AI, such as improved efficiency, accuracy, and personalization, and providing clear and easyto-understand instructions on how to use AI-powered products and services. However, it is important to note that perceived utility value is subjective and can vary between individuals. Therefore, understanding the needs, preferences, and goals of individual users is crucial for designing AI-powered products and services that are perceived as valuable and useful. Overall, perceived utility value is an important factor in the adoption and use of AI-powered products and services, and it requires careful consideration of various factors related to user needs and preferences.

#### 6. PERCEIVED HEDONIC VALUE

Perceived hedonic value refers to the perceived enjoyment or pleasure that an individual derives from using AI-powered products or services. It is a measure of the subjective emotional experience of using AI and is often associated with the user's sense of enjoyment, entertainment, and fun. Perceived hedonic value is influenced by various factors, including the design and user experience of the AI-powered productor service, the user's personal preferences and interests, and the novelty and uniqueness of the AI technology. For example, a user may perceive high hedonic value in an AI-powered virtual reality game that provides an immersive and engaging experience, but may

perceive lower hedonic value in an AI-powered productivity tool

that is perceived as dull or boring. The perceived hedonic value of AI can be enhanced through effective design and development that focuses on creating engaging and enjoyable user experiences. This may involve incorporating elements of game design, such as challenges, rewards, and social interaction, into AI-powered products and services. However, it is important to note that perceived hedonic value is subjective and can vary between individuals. Therefore, understanding the needs, preferences, and interests of individual users is crucial for designing AI-powered products and services that are perceived as enjoyable and entertaining. Overall, perceived hedonic value is an important factor in the adoption and use of AI-powered products and services, particularly in the context of entertainment and leisure applications. It requires careful consideration of various factors related to user enjoyment and emotional experience.

# Correlation test: To study the relationship between purchase intention and antecendents of AI technologu marketing experience.

This section deals with the analysis of the nature of the realtionship between purchase intention and antecedents of AI technology marketing experience.

### Null hypothesis: There is no significant positve relationship between purchase intention and antecedents of AI technology marketing experience.

The correlation test carried out to determine the strenght and realtionship among dependent and independent variable. As shown in the table all independent variable, i.e., antecedents of AI technology marketing experies: accuracy, insight, interactivity, utility value, and hedonic value have a strong and positive realtion with dependent variable, i.e., purchase intention.

	Table 5 Correlations analysis							
		ACCURACY	INSIGHT	INTERACTIVE	PERCEIVED UTILITY VALUE	PERCEIVED HEDONIC VALUE		
PURCHASE INTENTION	Pearson Correlation	0.630**	0.674**	0.714**	0.733**	0.686**		
PURC	Sig. (2-tailed)	0	0	0	0	0		
	N	300	300	300	300	300		

It is inferred that the value correlation coefficient between purchase intention and antecedent of AI technology marketing experience is above 0.600, and significant at a 1% level of

significance (Table-8). Thus, it may be inferred that all 5 factors have a significant positive role in the intention to purchase via online platforms, hence null hypothesis is rejected.

Regression analysis: to study the impact of various antecedents of AI technology marketing experience on purchase intention via online shopping platforms

# Null hypothesis: There is no significant impact of various antecedents of AI technology marketing experience on purchase intention via online shopping platforms.

Model summary shows the value of  $R^2$  and adjusted  $R^2$  (Table-10), here, R2 is 0.67 with a standard error of estimate equal to 0.5244. We can interpret this as 67% of the variation in purchase intention explained by five antecedents of AI technology marketing experience. The value of the coefficient of determination ( $R^2$ ) is significant and therefore the association can be considered as significant.

The R<sup>2</sup> value of the above model is 0.67, which means the dependent variable (purchase intention is influenced by all these five explanatory variable by 67%, which is a good indicator. Further, it is seen that for the table the significant value (p-value) of the F-test is 0.0000, which means that all the five explanatory variables are highly significant with respect to the explained factor, purchase intention via online shopping platforms

**Table 6 Model Summary** 

Mo	R	R	•			Change	Statis	tics	
del		Squa re	d R Square	of the Estimate	R Square Chang	F Chan ge	df 1	df 2	Sig. F Chan ge
					е				
1	.519	.670	.657	.52440	.270	21.69	5	29	.000
	a					4		4	

Table 7 ANOVA<sup>a</sup>

Model		Sum of	df	Mean	F	Sig.
		Squares		Square		
1	Regression	29.829	5	5.966	21.694	$0.000^{b}$
	Residual	80.849	294	0.275		
	Total	110.677	299			

a. Dependent Variable: PI

b. Predictors: (Constant), Hedonic Value, Accuracy, Insight, Interactive, Perceived utility Value

Table 8 Multiple Regression Coefficients<sup>a</sup>

	Model	Unstandardized Coefficients		Standardi zed Coefficien ts	t	Sig.
		В	Std. Error	Beta		
1	(Constant)	1.121	0.192		5.824	0.000
	ACCURACY	0.445	0.051	0.247	4.453	0.000
	INSIGHT	0.396	0.047	0.223	4.174	0.000
	INTERACTIVE	0.333	0.023	0.317	7.56	0.000
	UTILITY VALUE	0.392	0.044	0.368	7.129	0.000
	HEDONIC VALUE	0.277	0.081	0.274	3.416	0.001

#### a. Dependent Variable: PI

Based on multiple regression table 5, showing antecedents of AI technology marketing experience, following equation can drive,

#### **REGRESSION EQUATION**

### PI=1.121+0.445ACCURACY+0.396INSIGHT+0.333INTERACTIVE+0.392UTILIT Y VALUE+0.277HEDONIC VALUE

From the above equation it can be interpreted that the coefficient of independent variable accuracy is the highest that is 0.445 which means that it is the most influencing antecedents of AI marketing experience that influence purchase intention of online shopping and is following insight, utility value, interactive, and hedonic value. The significant value of t-test for all variables is less than 0.01 which means all independent variable are highly significant with dependent variable that is purchase intention. Thus, null hypothesis is rejected.

#### **CONCLUSION**

The present research studied the role of AI powered marketing experience in online shopping and explore the antecedents of AI marketing experience and its influences on purchase intention. A conceptual framework for experience of AI marketing technology on customer purchase intention is also framed. Six factors have been explored, accuracy, insight, interactive, perceived utility value, hedonic value. Further, relationship between independent variables and purchase intention was found to highly significant with strong correlation. Accuracy is found to be highly influencing AI marketing experience in online shopping purchase intention. The results of this study will provide a reference for AI technology to promote sustainable development in the application of online consumers' purchase intention.

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