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The Role of Artificial Intelligence in Customer Satisfaction at Raipur City Chhattisgarh

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ABSTRACT

The millennial generation was born during a period of rapid technological adoption and development. This generation has become accustomed to utilizing technology to gather information and even make purchases. It's fascinating to learn about the aspects that influence the millennial generation's purchasing decisions. This study utilized artificial intelligence and digital marketing to collect data on the purchasing habits of the millennial population. 97 individuals were chosen for the study by purposive sampling. SEM is a technique for analyzing research data. The findings indicate that artificial intelligence and digital marketing have an effect on customer purchase intention.

Keywords - Artificial Intelligence, Digital Marketing, Purchase Intention and SEM

I. INTRODUCTION

In the current era of 4.0, the development of the marketplace business in Raipur has accelerated significantly. Consumers are shopping more easily online, especially now that the COVID-19 pandemic has not ended. This can be done from anywhere and at any time. Similarly to the scope, practically everyone in rural locations can now benefit from learning how to shop through this marketplace. Raipur's present population is dominated by the millennial generation, which totals 69 million people, or 25.87 percent of the total population [1]. Millennials are a generation of young people defined by their everyday use and adaptation of technology, as well as their ideals, life experiences, goals, and general purchasing behavior. Between 1980 and 2000, this generation was born [2]. Millennials are increasingly aware of their purchasing power and prefer to spend their money in both the retail and internet industries to satisfy their needs [3].Thus, the millennial generation has developed into an impressive group to study due to their distinct behaviors in comparison to previous generations; this is why it is critical to study their behavior [4].The critical point is to comprehend the reasons that motivate customers to make a purchase.

Purchase intention is defined as the proclivity of consumers to purchase specific things under specific

circumstances [5]. The purchasing decision of a customer is a complicated process. Generally, purchase intention is linked to consumer behavior, perceptions, and attitudes. The most accurate method of forecasting a purchase decision is to use buying intention. Numerous research have been undertaken to examine how digital marketing and artificial intelligence influence consumer purchasing intentions. However, there is a lack of clarity regarding the relationship between these variables, and additional research is necessary to establish this relationship. Additionally, no prior research has been found that examines the effects of these three variables concurrently. Artificial intelligence and digital marketing enable businesses and sectors to deliver the finest service, both in terms of quantity and quality. Industries must enhance their methods of communicating with millennials; in this period, millennials are reshaping consumer thought patterns through their emotions, needs, wants, and expectations. Market researchers and businesses invest billions of dollars in consumer research in order to ascertain the essential aspects influencing customer behavior. Consumer behavior analysis is good at determining the consumer's orientation [6].

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In Raipur, the marketplace is extremely diverse, ranging from locally developed marketplaces to international marketplaces. The marketplace is aided in its competitiveness with e-commerce businesses by artificial intelligence-based technology [7]. The Tokopedia marketplace is one of the artificial intelligence or AI technologies developed by the marketplace. The Tokopedia marketplace makes use of a product suggestion system. When a consumer visits a website or browses the internet, AI provides product recommendations based on the consumer's interests [8].Tokopedia's AI-powered features and innovations include the ChatBot feature for Tokopedia Care, Intelligent Search, TokoBranch, and Fast Recommendations services, all of which are digitally marketed. This was a novel finding in this study. Thus, the purpose of this study is to ascertain the effect of Artificial Intelligence and Digital Marketing on the Purchase Interest of Millennial Generation Consumers. The purpose of this study is to generate a hypothesis based on the Technology Acceptance Model (TAM), Artificial Intelligence, and Digital Marketing, as well as customer purchasing interest.

II. LITERATURE REVIEW

IntroductionIn the 21st century artificial intelligence (AI) has become an important area of re-search in virtually all fields: engineering, science, education, medicine, business, account-ing, finance, marketing,

economics, stock market and law, among others (Halal (2003),Masnikosa (1998), Metaxiotis et al. (2003), Raynor (2000), Stefanuk and Zhozhikashvili(2002), Tay and Ho (1992) and Wongpinunwatana et al. (2000)). The field of AI hasgrown enormously to the extent that tracking proliferation of studies becomes a difficulttask (Ambite and Knoblock (2001), Balazinski et al. (2002), Cristani (1999) and Goyache(2003)). Apart from the application of AI to the fields mentioned above, studies havebeen segregated into many areas with each of these springing up as individual fields ofknowledge (Eiter et al. (2003), Finkelstein et al. (2003), Grunwald and Halpern (2003),Guestrin et al. (2003), Lin (2003), Stone et al. (2003) and Wilkins et al. (2003)).

The challenge of the AI fieldThis work grew out of the challenges that AI possesses in view of the rise and grow-ing nature of information technology worldwide that has characterised business- andnon-business organisational development (Barzilay et al. (2002), Baxter et al. (2001),Darwiche and Marquis (2002), Gao and Culberson (2002), Tennenholtz (2002) and Wiewwiora (2003).

The necessity for research in AI is being motivated by two factors that are (i) togive the new entrants into the AI field an understanding of the basic structure of theAI literature (Brooks (2001), Gamberger and Lavrac (2002), Kim (1995), Kim and Kim(1995), Patel-Schneider and Sebastiani (2003) and Zanuttini (2003)). As such, the litera-ture discussed here answers the common query, “why must I study AI?” (ii) the upsurgeof interest in AI that has prompted an increased interest and huge investments in AI facilities.

Interested researchers from all disciplines wish to be aware of the work of othersin their field, and share the knowledge gleaned over the years (Rosati (1999), Kaminkaet al. (2002), Bod (2002), Acid and De Campos (2003), Walsh and Wellman (2003),Kambhampati (2000) and Barber (2000)). By sharing AI knowledge, new techniquesand approaches can be developed so that a greater understanding of the field can begained. To these ends, this paper has also been written for researchers in AI so theycan continue in their efforts aimed at developing this area of concentration throughnewly generated ideas. Consequently, they would be able to push forward the frontier ofknowledge in AI.

In the section that follows this paper presents a brief explanation of some importantareas in Artificial Intelligence. This is to introduce the readers into the wide-rangingtopics that AI encompasses. In another section, a comprehensive review of the literaturealong the major categories of artificial intelligence is presented. The review raises someimportant questions with serious research implications for those who are interested incarrying out research artificial intelligence. These questions if well addressed will solvesome unresolved technical and non-technical issues carried over from the last decade tothe present time.1.2. An overview of the AI fieldOn a very broad account the areas of artificial intelligence are classified into sixteencategories (Becker et al. (2000), Singer et al. (2000), Chen and Van Beek (2001), Hong

i“M19N41” — 2008/11/5 — 17:14 — page 537 — #3 iiiiiA Literature Review on Artificial Intelligence 537(2001) and Stone et al. (2001)). These are: reasoning, programming, artificial life, be-lief revision, data mining, distributed AI, expert systems, genetic algorithms, systems,knowledge representation, machine learning, natural language understanding, neural net-works, theorem proving, constraint satisfaction, and theory of computation (Peng andZhang (2007), Zhou et al. (2007) and Wang et al. (2007)). Since many readers of thisarticle may require a glance view of the AI field, the author has utilised a flow diagram toillustrate the whole structure of this paper, and the relationship among the diverse fieldsof

AI, as presented in Figure 1. What follows is a brief discussion of some of the impor-tant areas of AI (Chan and Darwiche (2002), Pool and Zhang (2003), Bhattacharyya andKeerthi (2001), Chawla et al. (2002), Al-Ani and Deriche (2002) and Xu and Li (2000)

These descriptions only account for a selected number of areas.1.2.1. ReasoningThe first major area considered here is that of reasoning. Research on reasoning hasevolved from the following dimensions: case-based, non-monotonic, model, qualitative,automated, spatial, temporal and common sense.For an illustrative example, the case-based reasoning (CBR) is briefly discussed. InCBR, a set of cases stored in a case base is the primary source of knowledge. Casesrepresent specific experience in a problem-solving domain, rather than general rules.

The main activities when solving problems with cases are described in the case-basedreasoning cycle. This cycle proposes the four steps: relieve, reuse, revise and retain.First, the new problem to be solved must be formally described as a case (new case).Then, a case that is similar to the current problem is retrieved from the case base.The solution contained in this retrieved case is reused to solve the new problem witha new solution obtained and presented to the user who can verify and possibly revisethe solution. The revised case (or the experience gained during the case-based problemsolving process) is then retained for future problem solving. Detailed information on“dimensions” or how they are related could be obtained from the relevant sources listedin the references (Debruyne and Bessiere (2001), Halpern (2000), Halpern (2001), Renzand Nebel (2001), Singh et al. (2002) and Straccia (2001)

III. METHOD

The population studied in this study is the Millennial Generation in Sumbawa District, West Nusa Tenggara Province, Raipur, who are between the ages of 21 and 41 and are active social media users. This study surveyed 97 respondents. Structural Equation Modeling (SEM) with Partial Least Squares was utilized to analyze the data in this study (PLS). The following are the steps involved in the testing process [21] :

1) Designing Inner Model
2) Designing Outer Model
3) Model Evaluation
4) Hypotheses test

IV. FINDINGS AND DISCUSSION

1. Designing Inner Model

The inner model is the first step in doing structural equation modeling (SEM) analysis. Relationship between exogenous and endogenous latent infection.

2. Designing Outer Model

In this study, reflecting indicators were used. As seen in Figure 2.

3. Model Evaluation

The first step is to examine the outer model, which includes validating and assessing the dependability of the research tools employed. If the discriminant validity value is greater than 0.60 or the average variance extracted value is greater than 0.50, the model is said to be valid [22].

Table 1. Validity Test

Statement	Cross loading	AVE	Category
AI.1	0.904		Valid
AI.2	0.859		Valid
AI.3	0.848	0.733	Valid
AI.4	0.811		Valid
AI.5	0.855		Valid
DM.1	0.861		Valid
DM.2	0.860	0.691	Valid
DM.3	0.770		Valid
DM.4	0.830		Valid
PI.1	0.870		Valid
PI.2	0.826	0.683	Valid
PI.3	0.834		Valid
PI.4	0.774		Valid

Source : Researcher processed data, 2021

After testing the validity, all statements have discriminant validity and average variance extracted values that are above the standard so that it can be stated that all statement items are valid for use in research. The next step is to do reliability testing. It is declared reliable if the Cronbach alpha and composite reliability values are > 0.60[23]. Table 2 contains the findings of the reliability testing.

Table 2. Reliability Test

Contruct	Cronbach Alpha	Composite Reliability
Purchase Intention	0.888	0.931
Digital Marketing	0.924	0.952
Artificial Intelligence	0.906	0.941

Source : Researcher processed data, 2021

As shown in Table 2, the Cronbach alpha and composite reliability construct values are greater than 0.70, indicating that they are reliable. The following stage is to determine the model's practicality. The model is deemed to be good if the R-Square value is greater than 0.67, moderate if the R-Square value is greater than 0.33, and weak if the R-Square value is greater than 0.19 [21].

Table 3. Inner Model Evaluation

Construct	R-Square	Status
Purchase Intention	0.678	Good
Digital Marketing	0.567	Moderat

Source : Researcher processed data, 2021

The following analysis is used to determine how effectively the whole model predicts customer purchase intention using the relevance of the prediction (Q-square).:

$$Q2 = 1 - (1-R12)(1-R22)$$
$$= 1 - (1-0.678)(1-0.567)$$
$$= 0.8608(86.08\%)$$

Hypotheses test

The statistical t test was used to demonstrate the effect of exogenous variables on endogenous variables. Where is the test criteria? If the t statistic value is greater than 1.960, the hypothesis is accepted [20]. The following are the test results:

Table 4. Result

Konstruk	Original Sampel	T Statistik	Status (>1,960)
AI -→ PI	0.460	3.748	Signifikan
AI → DM	0.761	16.696	Signifikan
DM → PI	0.423	3.451	Signifikan

Source : Researcher processed data, 2021

As shown in Table 4, artificial intelligence variables have a direct effect on purchase intention, artificial intelligence has an effect on digital marketing, and digital marketing has an effect on purchase intention. After establishing the direct influence, the next stage is to demonstrate that the digital marketing variable acts as an intermediary in the interaction between artificial intelligence and purchase intention. The Sobel test results indicate that the digital marketing variable is an intervening variable, as the Sobel test value (3.244) is greater than 1.960.

V. CONCLUSION

This research demonstrates that the more effectively artificial intelligence and digital marketing are used within a business, the greater the influence on raising consumer purchasing interest. Artificial Intelligence Marketing (AI Marketing) is a type of marketing that makes use of artificial intelligence principles and models such as machine learning to forecast client behavior and accomplish marketing objectives. AI technology can assist businesses in determining the type and target audience for more targeted promotions. Additionally, access to broad data enables businesses to explore additional potential via keyword searches, user profiles, and other internet data. Consumers can quickly access and acquire

information about products sold on the official Tokopedia website via the website. Additionally, Tokopedia must monitor, create, and analyze the application of other digital marketing methods such as e-mail and social media in order to improve consumer purchasing interest. This can be accomplished through increased marketing efforts, most notably through websites, search engine marketing, e-mail, and social media. Additionally, Tokopedia must assess the limitations or shortcomings of email marketing. Tokopedia must also be able to manage digital marketing effectively, which includes developing unique and original marketing strategies for product information in order to make it more understandable and pique consumer attention, hence increasing consumer purchasing interest.

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