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Unlocking Consumer Growth in Marketplaces: The Power of Artificial Intelligence Marketing and Human Resources Excellence

Nurmin Arianto, Denok Sunarsi, Hamsinah, Kasmad, Lia Asmalah

Universitas Pamulang, Tangerang Selatan, Banten, Indonesia
dosen01118@unpam.ac.id
* corresponding author

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ABSTRACT

This study aims to analyze the influence of artificial intelligence (AI)-based marketing, the quality of human resources (HR) operating it, and the effectiveness of the marketplace platform on increasing the number of consumers. In the digital era, AI is increasingly used in marketing strategies to personalize customer experiences, increase efficiency, and reach target markets more accurately. However, the role of HR operating AI technology is also crucial in determining the success of implementing this strategy. This study uses a quantitative method with an approach (SEM-PLS) to test the causal relationship between these variables. The research sample consists of business actors on marketplace platforms and online shops that use AI technology in their marketing. The results of the study indicate that AI-based online marketing does not have a significant influence on marketplace development, with a t-statistic value of 1.359 which is smaller than the t table of 1.983 and a P-value of 0.175 which is greater than 0.05. This indicates that even though AI is applied in marketing, its impact on marketplace development is still limited. On the other hand, the quality of human resources also does not have a significant effect on the marketplace, as indicated by the same t-statistic value, which is 1.359, which is smaller than the t table and the P-value exceeding the significance limit of 0.05. This indicates that the quality of human resources in marketplace organizations may need to be focused more on the technological aspect to support better development. On the other hand, the increase in consumers is proven to have a positive and significant effect on the development of the marketplace, with a t-statistic value of 3.212 which is greater than the t table of 1.983 and a P-value of 0.001 which is smaller than 0.05. This finding indicates that the increasing number of consumers can be a key factor for the success of the marketplace in Indonesia.

1. Introduction

Indonesia's e-commerce market has grown very rapidly and become one of the largest online markets in Southeast Asia. The main factors driving this development include the growth in the number of internet users, smartphone penetration, increasing purchasing power, and adaptation to digital technology.

Along with the increasing internet access, the number of internet users in Indonesia has experienced a significant spike. Based on data from the Indonesian Internet Service Providers Association (APJII), internet users in Indonesia reached more than 200 million people in 2022. The following is data on the number of internet users from year to year:

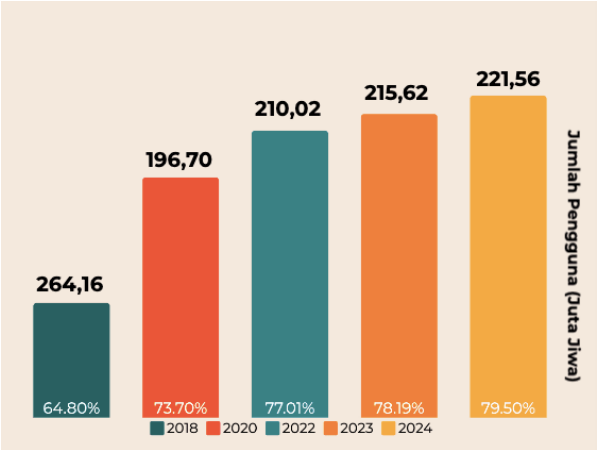

Fig. 1. Number of Internet Users in Indonesia 2018-2020

[a.] Source: APJII, 2024

Based on the survey results of the Indonesian Internet Service Providers Association (APJII), internet users in Indonesia in 2024 will reach 221,563,479 people out of a total population of 278,696,200 Indonesians in 2023. These results show that 79.5 percent of the Indonesian population is connected to the internet. An increase of 1.4 percent compared to the previous year which was at 78.19 percent.

The use of the internet has become an important part of people's lifestyles, even a necessity. In line with the increasing number of internet users, the e-commerce sector has also experienced tremendous growth in recent years [1]. So this is a great opportunity for various e-commerce platforms or marketplaces to reach consumers more widely and effectively. Marketplaces such as Tokopedia, Shopee, Bukalapak, and Lazada are becoming increasingly popular and gaining a large market share.

In addition, the COVID-19 pandemic has accelerated the adoption of online platforms by the public, especially due to social restrictions that have made consumers switch to online shopping to meet their daily needs. This condition provides a big push for various marketplaces to continue developing their services, increasing the ease of transactions, and offering various attractive promos to attract more users.

This development is also followed by support from the government through policies that encourage the digitalization of the economy and MSMEs (Micro, Small, and Medium Enterprises) to enter the digital market. Various programs and training for MSMEs are also held to support them in accessing the online market, which ultimately increases the number of local products sold in the marketplace.

In addition, in this rapidly developing digital era, the use of technology has become an important component for business success, especially in terms of marketing. Artificial Intelligence (AI) has become the most popular technology in recent years, and has been used in various industries, such as markets and e-commerce. With increasing competition in the online market, marketplace platforms such as Tokopedia, Shopee, Lazada, and Bukalapak have begun using AI to increase marketing efficiency and improve user experience. AI is widely used by marketplaces in Indonesia because it is very supportive in various business activities including product or service promotions [2].

One of the advantages of AI-based online marketing is better personalization, more accurate data analysis, and the ability to predict consumer behavior. Through real-time data analysis, this technology allows marketplace platforms to understand user preferences and needs. In addition, AI is used to optimize ads, provide relevant product recommendations, and increase user interaction through chatbots. Marketplaces can increase customer satisfaction and loyalty as well as sales conversion opportunities with these features.

Consumer perceptions of ease, trust, and security of online transactions are certainly influenced by the success of AI-based online marketing in the marketplace. However, issues such as data privacy and the level of trust in new technologies are still challenges that need to be considered by

business actors in this industry. Therefore, it is important to conduct further research on the effect of AI-based online marketing on mark-up performance.

The need for quality human resources (HR) is increasing as a result of the rapid growth of the e-commerce and marketplace industry in today's digital era. A marketplace is an online platform that allows sellers and buyers to transact with each other. However, the success of a marketplace depends on employees who are able to manage various aspects, such as data management, technology development, marketing, and customer service. The quality of marketplace employees affects the internal operations of a business as well as user experience, customer satisfaction, and market competitiveness.

However, the main challenge in this industry is finding and retaining high-quality human resources. Competition in obtaining digital talent is getting tighter, so marketplaces need to invest in developing employee competencies through training and development programs. Not only that, but assessing HR performance must also be a concern to ensure excellent service quality.

Improving the quality of human resources (HR) that provide knowledge and skills to micro and small business actors in the field of digital technology, including increasing economic literacy related to community empowerment in carrying out innovation in business processes that are relevant to various conditions that can improve the quality of life [3].

The use of marketplaces as online shopping platforms has increased significantly. Marketplaces, such as Shopee, Tokopedia, Lazada, and Bukalapak, facilitate transactions between sellers and buyers online, making the buying and selling process easier and faster. Ease of access, a variety of products, and various attractive features offered by this platform are the main factors that drive the increase in consumers in the marketplace. The increasingly growing digital transformation is also supported by changes in consumer behavior who prefer online shopping due to time efficiency, flexibility, and convenience.

Based on the background above, the researcher wants to conduct a study entitled "Analysis of the Influence of Artificial Intelligence-Based Online Marketing, Human Resource Quality, and Consumer Growth in the Marketplace: Quantitative Study with the SEM-PLS Approach".

1.1 Literature Review

1) Artificial Intelligence (AI) Based Online Marketing

Definition of Online Marketing based on Artificial Intelligence (AI)

According to Anggraini [4], basically online marketing is a marketing communication activity using internet media. According to its development, online marketing does not only use websites, but also email and other applications that run on internet protocols.

Furthermore, according to Rahman et.al [5], online marketing is a strategy for the process of distribution, promotion and pricing of goods and services on the internet market share or through other digital tools. Online marketing is the work of a company to communicate something, promote and sell goods and services via the internet.

AI is able to imitate human tasks cognitively, in the form of artifacts that act as intelligent agents, which perform actions based on understanding specific information from the environment [6]. In a study, Paschen et al. [7] defines intelligence as relating to the perception and effective processing of data, transforming it into knowledge, and then using it for result-driven behavior.

Artificial Intelligence(AI) has new technology that is widely used to help organizations track real-time data to analyze and respond to customer needs quickly [8]. AI offers capabilities about consumer behavior that are important for customer transactions and customer retention. AI drives subsequent customer actions and changes the overall customer experience [9].

Meanwhile, according to Astari [10], a digital marketing expert in Indonesia, online marketing based on Artificial Intelligence (AI) is the application of AI technology to automate and improve the effectiveness of various digital marketing processes, such as consumer behavior analysis, audience targeting, and advertising campaign optimization. AI allows companies to understand customer preferences and needs more accurately, so they can provide relevant content and improve consumer experience. Hidayat emphasized that AI-based marketing in Indonesia is important because of the dynamic characteristics of digital consumers and increasing competition in the e-commerce market.

From a broader perspective, Prabowo [11], explains that AI in marketing helps companies to process large-scale data quickly. He stated that AI enables more timely decision-making and increases efficiency in digital marketing strategies.

So it can be concluded that AI-based online marketing is the use of artificial intelligence technology to increase effectiveness, efficiency, and personalization in digital marketing strategies. AI allows companies to quickly analyze large amounts of data, understand consumer preferences, and target audiences more precisely through automation of marketing processes, such as behavioral analysis, ad targeting, and customer service.

Identify opportunities to leverage AI in Marketing

According to Huang and Rust [12], identifying opportunities to utilize AI in marketing consists of:

1) Mechanical AI, for data collection (marketing research), segmentation (marketing strategy), and standardization (marketing actions).
2) AI Thinking, for market analysis (marketing research), targeting (marketing strategy), and personalization (marketing actions).
3) AI Sensing, for customer understanding (marketing research), positioning (marketing strategy), and relation tionization (marketing actions).

The main advantage of leveraging AI in marketing is the opportunity to personalize and customize products and services and the entire marketing mix. And to maximize customer engagement, relevance and persuasion, and satisfaction. For example, predicting an individual's psychological traits from their digital footprint and smartphone data offers a huge opportunity for psychological targeting by creating psychologically tailored ads and persuasive appeals.

Artificial Intelligence (AI) Based Online Marketing Indicators

According to Rachmad [13], there are several main indicators that can be used to measure the success of AI-based marketing, namely:

1) Return on Investment (ROI)
   ROI is one of the key indicators, as AI enables companies to achieve higher results with lower marketing costs. Higher ROI indicates the effectiveness of AI-based marketing strategies in increasing business profits.
2) Marketing Cost Efficiency
   AI helps optimize marketing spend, such as ad targeting and automation, thereby reducing operational costs. The cost efficiency achieved shows that AI is able to provide maximum results with a more efficient budget.
3) Customer Satisfaction
   Customer satisfaction is another important indicator. Personalization of content and AI-based services, such as chatbots, improves customer experience, which is reflected in higher customer retention, positive reviews, and loyalty.
4) Conversion Rate
   AI-based marketing can increase conversion rates through more precise and relevant targeting, as well as personalization that suits customer preferences.
5) Customer Retention
   The use of AI in providing personalized experiences and responsive services helps retain customers in the long run. Higher retention rates indicate the success of AI marketing in maintaining customer loyalty.

2) Quality of Human Resources

Definition of Human Resources Quality

According to Mulia [14], defining the quality of human resources as the integration of physical abilities (physical health) and non-physical abilities (work professionalism, thinking ability, mental balance, and other skills), with these physical and mental abilities, individuals will be able to bring out their potential, innovate, and work professionally.

According to Hutapea and Thoha [15], the quality of human resources is a person's knowledge, skills and abilities that can be used to produce professional services.

Meanwhile, according to Surajiyo [16], he explains that "The quality of human resources is not only determined by the aspect of skills or physical strength, but is also determined by education or the level of knowledge, experience or maturity and attitudes and values that they possess."

So it can be concluded that the quality of human resources (HR) is the quality or ability possessed by human resources, both physically and non-physically. Indicators for measuring HR quality can be objective or subjective.

Factors that affect the quality of human resources

According to Paramarta [17], several factors that can influence the quality of human resources are as follows:

1) Planning
   activities to estimate the state of the workforce, to suit the needs of the organization effectively and efficiently in helping to achieve goals.
2) Organizing
   activities to organize employees by determining the division of labor, work relationships, delegation of authority, integration and coordination in the form of an organizational chart. The organization is only a tool to achieve goals.
3) Direction and procurement
   Directing is the activity of giving instructions to employees, so that they are willing to cooperate and work effectively and efficiently in helping to achieve organizational goals. While procurement is the process of recruitment, selection, placement, orientation and induction to get employees who are in accordance with the needs of the organization.
4) Control
   activities to control employees to obey organizational regulations and work according to plan. If there are deviations, corrective or improvement actions are taken.
5) Development
   Development is the process of improving employees' technical, theoretical, conceptual and moral skills through education and training.
6) The education and training provided should be in accordance with current and future job needs.
7) Compensation
   direct compensation in the form of money or goods to employees as compensation for services rendered to the organization. The principle of compensation is fair and appropriate.
8) Integration
   activities to unite the interests of the organization and the needs of employees, in order to create harmonious and mutually beneficial cooperation.
9) Maintenance
   maintenance activities or improving physical, mental and loyalty conditions, so that they will continue to work together until retirement.
10) Discipline
    one of the important functions of human resource management and is the key to realizing organizational goals, because without discipline, it is difficult to achieve maximum goals.
    Dismissal is the termination of an employee's employment relationship with an organization.

Human Resources Quality Indicators

According to Hutapea and Thoha [15], the Human Resource Quality Indicators are as follows:

1) Understanding the Field
   Employees have an understanding of what their job description is, both in carrying out the work and their job responsibilities.
2) Knowledge

Employees have knowledge of the work to be done, based on experience, or training results.

3) Abilities
   Employees must have skills appropriate to their field of work, so that work can be carried out optimally.
4) Spirit at work
   Employees always show work enthusiasm, by trying to complete work targets, and being disciplined in working.
5) Planning, or Organizing Ability
   Employees must have management skills in their work, so they can work effectively and efficiently.

3) Consumer Enhancement

Definition of Consumer

According to Kotler [18] consumers are individuals who buy from other people. So what is called a consumer is a person who controls the decision on a purchase and uses the product he buys.

A consumer is someone who uses or consumes a product or service provided (Fadila & Ridho, 2013). A consumer is an individual who buys a product or service for himself. A consumer is a decision maker who has full power over the decision to buy or not buy goods or services.

Meanwhile, according to Nasution [19], the definition of consumer or consumer depends on which position he is in. Literally, the meaning of the word consumer is every person who uses goods. The purpose of using goods or services can later determine which consumer is included.

Types of Consumers

According to Nasution [19], consumers are divided into three types, namely:

1) Commercial consumers are people who obtain goods and/or services that are used to produce other goods and/or services with the aim of making a profit.
2) Intermediate consumers are people who obtain goods and/or services that are used for resale with the aim of seeking profit.
3) The ultimate consumer (end usher) is a person who obtains and uses goods and/or services for the purpose of fulfilling the needs of personal life, family, other people and other living creatures and not for re-sale and/or to seek further profit.

Consumer Growth Indicators

According to Panjaitan [20], a marketing expert in Indonesia, there are several main indicators that can be used to measure consumer growth:

1) Customer Acquisition Rate (CAR)
   Customer acquisition rate shows how many new customers you have successfully acquired in a given period of time. An increase in the number of new customers indicates that your marketing strategy is successful in attracting new customers.
2) Customer Retention Rate (Customer Retention Rate)
   Customer retention rate shows how well a company can retain loyal customers. Continuous visits from customers indicate their satisfaction and loyalty, which is significant evidence of increasing customer satisfaction levels in the long run.
3) Customer Satisfaction (Consumer Satisfaction)
   How a product or service meets or exceeds customer expectations is demonstrated by customer satisfaction. High customer satisfaction tends to increase customer retention and attract word-of-mouth recommendations, which indirectly contribute to increased customer retention.
4) Customer Lifetime Value (CV)
   This value shows the amount of money a company can receive from a consumer over the course of their relationship with the brand. Increasing the lifetime value of a consumer shows that a company can create a consistent and valuable customer experience.
5) Net Promoter Score (NPS)

NPS is a measure of how many customers recommend a brand to others. This score has a significant impact on increasing customers because recommended brands have a greater chance of attracting new customers.

4) MarketPlace

Understanding Marketplace

According to Kotler & Keller [21], a marketplace is an online platform that provides easy access for sellers to market their products or services to consumers, making it easier for consumers to search for and buy the products they need.

Meanwhile, according to C. Loundon and P. Loundon [22], Marketplace (E-commerce) is the process of buying and selling services and goods electronically with computerized business transactions using the internet, networks, and other digital technologies.

According to Sulistiyawati [23], Marketplace is a sales promotion media using Internet technology which is often used and is better known as e-commerce. E-commerce is an application used to carry out online buying and selling activities.

So Marketplace is a digital platform or place where sellers and buyers interact online to make buying and selling transactions. Various products from various sellers are presented on one site or application, so that consumers can search, compare, and buy goods from various sellers in one place.

Marketplace Types

Types of e-commerce based on the type of relationship according to Bhankelar et al in Widyanita (2018) consist of four types. The following are the types of e-commerce:

1) Business to Business (B2B)
   Type of transaction between companies to other companies. For example, distributors get their goods from manufacturers. The price that occurs is adjusted to the number of orders and often negotiated.
2) Business to Consumer (B2C)
   Transactions that occur are usually directly to the end consumer, where the seller can be a distributor, as a producer or as a retailer. In this transaction, the shopping cart on the website page is used to accommodate consumer requests for the catalog available on the website.
3) Customer to Business (C2B)
   This transaction is an introduction to the B2C type. The end consumer acts as the seller, while the company acts as the buyer. This activity is carried out using the internet network, for example Google Play. Google allows its users to upload to its servers so that applications created by its customers can be sold to other Google Play users. This collaboration occurs between developers who act as consumers and Google Play as a business unit that accommodates products from developers.
4) Consumer to Consumer (C2C)
   The type of transaction that occurs is between consumers and consumers. For example, in a marketplace. The market place is called consumers, selling products or services they have to other consumers.

Makertplace Indicator

According to Dharmadiaksa et.al (2017) in this study, the marketplace variable was measured using a modified instrument with indicators such as:

1) Easy to access anytime and anywhere, e-commerce sites can run all the time, 7 days 24 hours a year and notifications are made in real time.
2) Purchase transactions are safe because they are verified and payments are validated.
3) Smooth communication, Ease in conveying relevant messages from seller to buyer..

2. Methods

2.1 Research methods

This quantitative research uses a descriptive and associative approach. This research was conducted to analyze the influence of online marketing based on Artificial Intelligence, HR Quality, and Consumer Increase in the Marketplace.

The data collection method for this research uses a survey research method. The data analysis technique used in this research is path analysis with Smart PLS 3.0.

2.2 Population and Sample

1) Population

Population is the object of research itself, the center of attention and source of research data [24]. The population in this study is business actors on the marketplace and online shop platforms.

2) Sample

Determination of sample size in this study uses the Lemeshow formula (1997), because the population size is unknown. The following is the Lemeshow formula.

$$n = z^2 p(1 - p) / d^2$$

Information:
n = Number of samples
z = Standard value = 1.96
p = Maximum estimate = 50% = 0.5
d = alpha (0.10) or sampling error = 10%

Then the minimum number of samples needed in this study was 96 respondents and will be rounded by the researcher to 100 respondents. The reason the researcher used the Lemeshow formula (1997) is because the target population is too large with varying numbers.

2.3 Data source

Data is information about a research object [25].

a. Primary data sources
   Primary data sources are data sources obtained directly from data sources that are observed and recorded for the first time. Meanwhile, according to Bungin, primary data sources are the first data sources where data is produced [25].
b. Secondary data sources
   While secondary data is data that is not obtained directly from the source, but is obtained by researchers from a second party. This secondary data is supportive of the primary data owned by the researcher, secondary data is also adjusted to the needs required by the researcher.

2.4 Data Collection Techniques

The data collection method used in this study is the survey method with a questionnaire, namely a data collection method by distributing questionnaires (question lists) addressed to respondents.

2.5 Data Analysis Techniques

The data analysis technique of this research uses PLS software version 3.0 (Partial Least Square) which is a variant-based structural equation analysis (Structural Equation Model) that can simultaneously test measurement models and test structural models. From the research results collected, the following analysis methods can be used:

1) Measurement Model (Outer Model)

The measurement model (outer model) is conducted to test the validity and reliability of the research instrument. Validity test in this study uses convergent validity and discriminant validity. Convergent validity is seen from the measurement model with indicator reflection assessed based on the correlation of the model between component score/item score with construct score calculated by PLS. If the correlation is more than 0.70 with the construct to be measured, then the individual reflection measure is said to be high. For early stage research, measurement with an outer loading value of 0.5-0.6 has been considered sufficient.

Ghozali [26] explains that in assessing discriminant validity with other methods, it is by comparing the square root of average variance extracted (AVE) value. The recommended value is that the AVE value must be greater than 0.5. The AVE formula according to Ghozali (2015:115) is: AVE = λi2 λi2 +ivar (εi)

The recommended composite reliability value must be above 0.6 (Ghozali, 2015:115).

2) Structural Model (Inner Model)

The structural model is used to predict the causal relationship between latent variables. The structural model is evaluated by looking at the percentage of variance explained by the R2 value for the dependent variable using the Stone-Geisser Q-Square Test measure [26]. The equation model is: N =**βO +**βη+ηε+**ζ**

Whereηdescribes the vector of endogenous (dependent) latent variables,εis a vector of residual variables. Each dependent latent variable of the latent variable can be specified as follows: pc =**Σi**β**ji**η**i +Σi**γ**jb**ε**b +**ζ**j**

Whereβji andγjb is the path coefficient connecting the endogenous predictor and the exogenous latent variable.εAndηalong the index range i and b, andζis the inner residual variable. If the results produce an R2 value greater than 0.2, it can be interpreted that the latent predictor has a large influence on the structural level. The following is a picture of the research structural model:

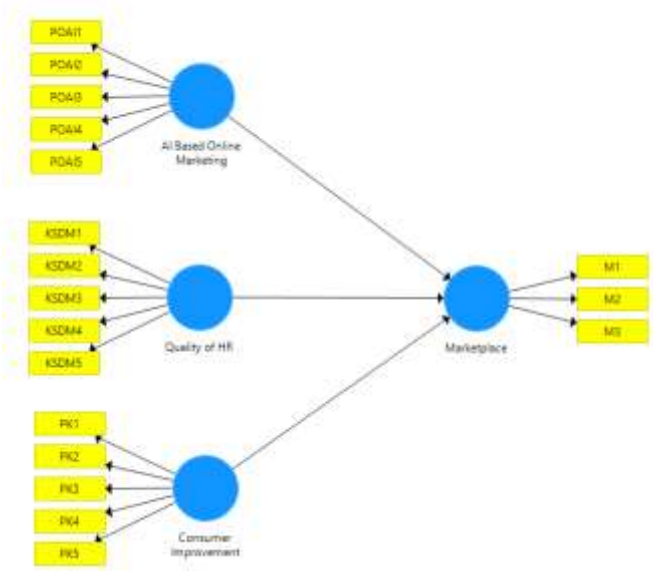

Fig. 2. Research Model

3) Hypothesis Testing

Hypothesis testing (β, γ, and λ) was conducted using the bootstrap resampling method developed by Geisser & Stone (Ghozali, 2015). The measure of the significance of hypothesis support can be used by comparing the t table and t statistic values through the following decision-making criteria:

1) If t statistic > t table and p values < sig 0.05 means Ha is accepted, Ho is rejected.

2) If t statistic ≤ t table and p values ≥ sig 0.05 means Ha is rejected, Ho is accepted.

3. Result And Discussion

3.1 Outer Model Analysis

Measurement model testing (outer model) is used to determine the specifications of the relationship between latent variables and their manifest variables. This testing includes convergent validity, discriminant validity and reliability.

1) Convergent Validity

According to Ghozali [27] a correlation can be said to meet convergent validity if it has a loading value of > 0.7. The output shows that the loading factor provides a value above the recommended value of 0.7. However, in the scale development stage of research, a loading of 0.60 is still acceptable. So that the indicators used in this study have met convergent validity (Convergen Validity). The structural model in this study is shown in the following figure:

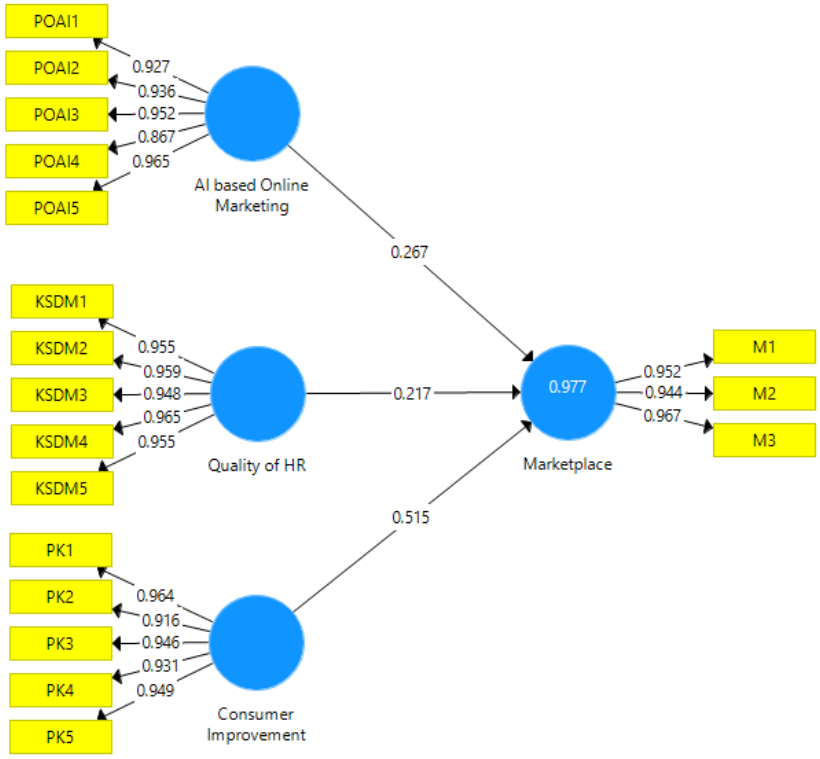

Fig. 3. Outer Model, Algorithm Testing

Table 1. Outer Loading

	AI based Online Marketing_	Quality of HR_	Consumer Improvement_	Marketplace
POAI1	0.927			
POAI2	0.936			
POAI3	0.952			
POAI4	0.867			
POAI5	0.965			
KSDM1		0.955		
KSDM2		0.959		
KSDM3		0.948		
KSDM4		0.965		
KSDM5		0.955		
PK1			0.964	
PK2			0.916	
PK3			0.946	
PK4			0.931	
PK5			0.949	
M1				0.952
M2				0.944
M3				0.967

[b.] Source: Smart PLS Program Output. 3.0, 2024

Based on the data in table 2, the value can be seen*outer loading*the lowest in the outer model test results of this study is 0.867 which is in the POA14 indicator / AI-based Online Marketing. Referring to the previously determined outer loading limit of 0.7, the results indicate that the model is stated to meet the assumption of convergent validity because the lowest outer loading value obtained is 0.867> 0.7.

2) Construct Validity and Reliability

Table 2. Construct Validity and Reliability

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
AI based Online Marketing_	0.961	0.963	0.970	0.865
Quality of HR_	0.977	0.977	0.982	0.915
Consumer Improvement_	0.968	0.968	0.975	0.886
Marketplace	0.951	0.951	0.968	0.911

[c.] source: Smart PLS Program Output. 3.0, 2024

The data in Table 3 above shows that the lowest AVE value of the 4 variables is 0.865, which is owned by the AI-based online marketing variable. This result shows that the four research variables have met the assumptions.discriminant validitybecause the lowest AVE value obtained is more than 0.5. Meanwhile, the results of cronbach alpha and composite reliability show that the lowest values are 0.951 and 0.968 owned by the Marketplace variable. Thus, these results have also proven that all variables meet the reliability construct assumption because the lowest cronbach alpha and composite reliability values are > 0.7.

3.2 Inner Model Testing

After conducting the outer model test, it is necessary to carry out an evaluation on the final structural equation model (*inner model*). The inner model test of this research was conducted by looking at the path coefficient and R square values as follows:

Table 3. R Square

	R Square	R Square Adjusted
Marketplace	0.977	0.976

[d.] Source: Output of Smart PLS Program. 3.0, data processed by the author 2024

Based on table 4. above, it shows that the valueR Squarefor the Marketplace variable is 0.977, the acquisition explains that the percentage of the Marketplace is 97.7%. This means that the variables of AI-based online marketing, HR quality and consumer growth can affect the Marketplace, by 97.7% and the remaining 2.3% is influenced by other variables.

Table 4. Inner Model test results

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AI based Online Marketing_ -> Marketplace	0.267	0.255	0.121	2,204	0.028
Quality of HR_ -> Marketplace	0.217	0.202	0.160	1,359	0.175
Consumer Improvement_ -> Marketplace	0.515	0.542	0.160	3,212	0.001

[e.] Source: Output of Smart PLS Program. 3.0, data processed by the author 2024

Based on table 5 above, the results of the evaluation of the structural equation model of the relationship between variables are partially explained by the values*path coefficient* so it can be described as follows:

1) *Path coefficient*. hypothesis 1, namely the variable of AI-based online marketing on the marketplace is obtained at 0.267. This value shows that there is an influence of 26.7% (0.267 x 100%). This result shows that with AI-based online marketing, it will increase the Marketplace.
2) The path coefficient value in hypothesis 2 is obtained at 0.217. This value shows that the quality of HR has an influence of 21.7% (0.217 x 100%) on the marketplace. This result also means that with good HR quality, it will increase the marketplace
3) The path coefficient value in hypothesis 3 is obtained at 0.515. This value shows that the increase in consumers has an influence of 51.5% (0.515 x 100%) on the marketplace. This result also means that the higher the increase in consumers, the better the marketplace.

3.3 Hypothesis Testing

This study has 3 hypotheses as the research questions that have been formulated and need to be tested for their truth. Hypothesis testing in this study uses the t-test, namely by comparing the t-statistic value obtained from the bootstrapping test with the critical limit of the t-table value of 1.983 at a significance level of 5% (0.05). The results of the hypothesis test of this study are presented as follows:

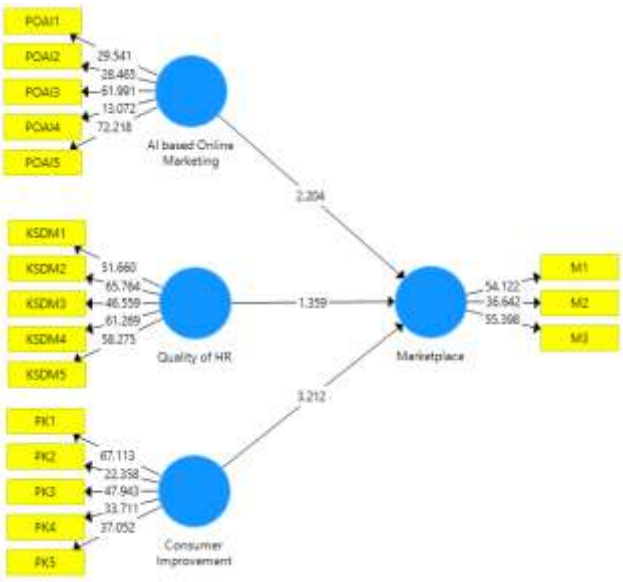

Fig. 4. Inner Model, Bootstrapping Testing

Table 5. Results of Direct Influence Test

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values	Information
AI based Online Marketing_ -> Marketplace	0.267	0.255	0.121	2,204	0.028	Accepted
Quality of HR_ -> Marketplace	0.217	0.202	0.160	1,359	0.175	Rejected
Consumer Improvement_ -> Marketplace	0.515	0.542	0.160	3,212	0.001	Accepted

[f.] Source: Output of Smart PLS Program. 3.0, data processed by the author 2024

Based on the PLS output (bootstrapping test) presented in Table 6, it can be explained that:

a. Hypothesis 1: From the original sample value of 0.267, the t-statistic value of 2.204> 1.983 and the P-value of 0.028 were obtained. These results prove that AI-based online marketing has a significant positive effect on the Marketplace with a relationship value of 26.7% (0.267 x 100%). The t-statistic value of 2.204> t table 1.983 and the P-value of 0.028 <0.05 prove that hypothesis 1 in this study is accepted.
b. Hypothesis 2: From the original sample value of 0.217, the t statistic value is 1.359 <1.983 and the P-value is 0.175. These results prove that the quality of human resources does not affect the marketplace with a relationship value of 21.7% (0.217 x 100%). The t statistic value of 1.359 <t table 1.983 and the P-value of 0.175> 0.05 prove that hypothesis 2 in this study is rejected.
c. Hypothesis 3: From the original sample value of 0.515, the t statistic value is 3.212 > 1.983 and the P-value is 0.001. These results prove that the increase in consumers has a positive and significant effect on the marketplace with a relationship value of 51.5% (0.515 x 100%). The t statistic value of 3.212 > t table 1.983 and the P-value of 0.001 < 0.05 prove that hypothesis 3 in this study is accepted.

4. Conclusions

Based on the results of the research that has been conducted and the data analysis as explained in the previous chapter, the following conclusions can be drawn:

1) AI-based Online Marketing has a significant positive effect on the Marketplace, with a t-statistic value of 1.359 < t table 1.983 and a P-value of 0.175 > 0.05.
2) The quality of human resources does not affect the marketplace, the t-statistic value obtained is 1.359 < t table 1.983 and P-value 0.175 > 0.05.
3) Consumer growth has a significant positive effect on the marketplace, with a t statistic value of 3.212 > t table 1.983 and a P-value of 0.001 < 0.05.

Based on the conclusions outlined above, here are some points that can be considered:

a. AI Based Online Marketing
   It is expected that business actors can optimize AI-based features, such as more accurate product recommendations, promotional personalization, and deeper consumer behavior analysis to improve customer experience.
b. Quality of Human Resources
   The quality of human resources has not been a major factor in supporting the development of the marketplace directly. It is hoped that business actors can improve the quality of human resources by implementing training and development to ensure that employees have skills relevant to digital technology in order to increase consumers.
c. Consumer growth
   It is expected that business actors can expand the market through the right digital marketing strategy, the marketplace can increase the number of potential consumers and take advantage of the positive influence of the increase in consumers which has been proven to be significant.

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