

## Research Article

# Utilised Artificial Intelligence (AI) to Determine the Extent of the Influence of Brand Identity on Purchasing Decisions Towards KFC Products in Daerah Istimewa Yogyakarta (DIY)

Rizqa Putri Aldina and Ifada Rahmayanti\*

Economic and Business Faculty, Universitas Ahmad Dahlan, Yogyakarta, Indonesia

**ORCID**

Ifada Rahmayanti: <https://orcid.org/0000-0002-2407-6048>

**Abstract.**

The purpose of this research is to use artificial intelligence to determine the influence of brand identity on purchasing decisions for KFC products in Daerah Istimewa Yogyakarta (DIY). This study uses quantitative methods to collect data, by distributing questionnaires in the form of GForms through WhatsApp. Non-probability sampling is used for this purposive sampling research. Trends in the data are analyzed using the artificial intelligence (AI) IBM SPSS Modeller. AI is used to help analyze the relationship between brand identity and purchasing decisions for these products. The findings of this study confirm the assumption that brand identity has a significant effect on purchasing decisions, thus validating previous theories and research conducted by experts on the topic. The practical implications of these research findings are expected to benefit KFC business actors in DIY, as they also demonstrate the important role of AI in helping to uncover various assumptions about the influence of brand identity on purchasing decisions.

**Keywords:** brand identity, artificial intelligence, purchasing decision, marketing strategy, self-image, personality

Corresponding Author: Ifada Rahmayanti; email: [ifada.rahmayanti@mm.uad.ac.id](mailto:ifada.rahmayanti@mm.uad.ac.id)

**Published:** 19 November 2024

Publishing services provided by Knowledge E

© Aldina, Rahmayanti. This article is distributed under the terms of the [Creative Commons Attribution License](#), which permits unrestricted use and redistribution provided that the original author and source are credited.

Selection and Peer-review under the responsibility of the 1st ICCDBS Conference Committee.

## 1. Introduction

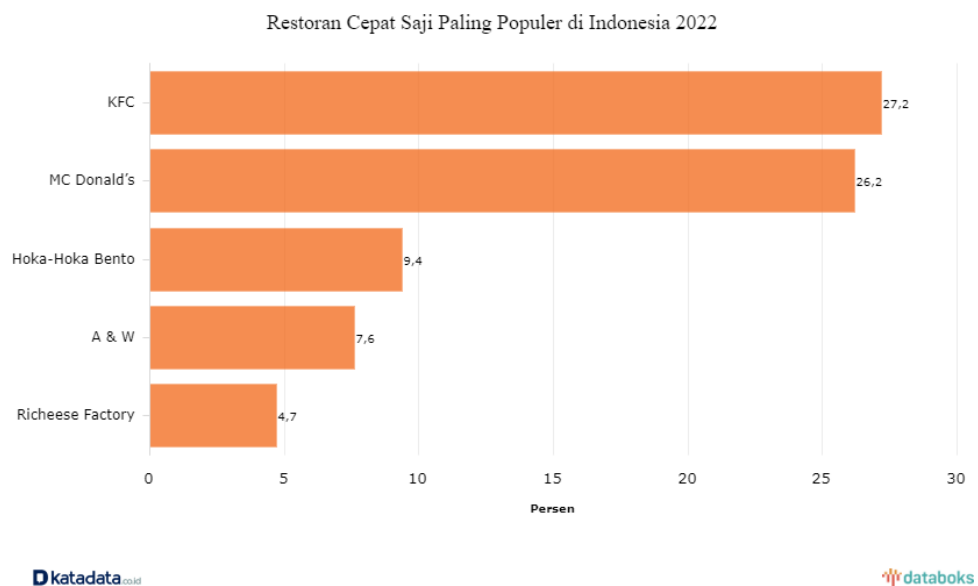
Technological breakthroughs have had a tremendous impact on the corporate environment, creating new opportunities. Thus, all companies, especially those in fast-growing industries, must try to understand current technological advances and possible future advances that may affect their products/services [1].

The rapid development of technology has been utilised by KFC, making it the world's first AI (Artificial Intelligence) innovator in the fast food industry. KFC has taken advantage of the rapid development of technology. It is the world's first AI innovator in the fast



food industry [2,3]. KFC's first artificial intelligence store is an intelligent robot to help customers order food and make payments. The AI-employed store is located at the Shanghai National Convention and Exhibition Centre and features an AI robot named "Du Mi" launched by Baidu at the 2015 World Conference. According to China Daily, Du Mi is the first commercial use of artificial intelligence in the fast food industry.

One of the popular fast food restaurants in Indonesia owned by PT Fast Food Indonesia Tbk. is KFC (Kentucky Fried Chicken) which was founded by Gelael Group in 1978 as the first franchisee in Indonesia. The Company started its first restaurant operation in October 1979 at Jalan Melawai, Jakarta, and successfully opened branches in various regions in Indonesia such as Bandung, Semarang, Surabaya, Medan, Makassar, Manado, and Yogyakarta in 1995. This success can be outlined in the survey data below (Figure 1) :



**Figure 1:** Top Brand Award Survey Diagram.

Image caption description:

The Top Brand Award 2022 survey had 8,500 respondents spread across 15 major cities in Indonesia. The respondents consisted of 6,000 random samples, 1,700 booster samples and 800 B2B (business to business) booster samples, with sampling using the retail random method and for B2B using purposive sampling. In this survey, the highest score for KFC is 27.2%, followed by McDonald's with 26.2%. Next is Hoka-Hoka Bento (9.4%), followed by AW (7.6%) and Richeese Factory (4.7%).

When making purchasing decisions, consumers typically have specific reasons for choosing a product, such as high quality, appealing locations, or speedy service.

Additionally, some consumers may make impulsive purchases due to widespread promotions or a food brand's popularity. Based on the aforementioned concepts, this study investigates the significance of brand identity (X1) and its effect on purchase decisions (Y), while AI is employed as an assistive tool to analyse the association between brand identity and product purchase decisions.

This study is a mixed-methods research project that aims to provide a comprehensive description of the subject matter under study. The title is related to a Google Form survey tool sent to 200 consumers who purchased KFC products in the Special Region of Yogyakarta during 2023, with a response rate of 128. The collected samples were then analyzed, beginning with descriptive analysis, basic statistics, and regression using SPSS version 23 for Windows. With due consideration and close observation by researchers, the KFC outlets present in the Special Region of Yogyakarta illustrate examples of fast-food chains that have effectively developed, competed, and yielded substantial profits in the national market. The outlets have commendable management, evident in all the branches across Indonesia, including those operating in the Special Region of Yogyakarta, and are highly sought after by the local populace.

## 2. Literature Review

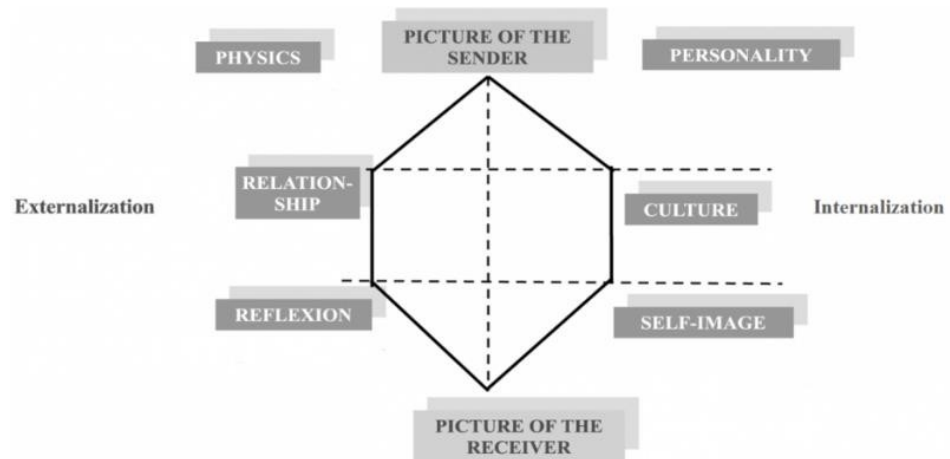
### 2.1. Brand Identity

The "Brand Identity Prism" model, developed by Kapferer, presents diverse elements necessary for establishing a brand identity (Figure 2). This comprehensive model should be referred to in any study that deals with the subject of brand identity. Divided into two dimensions, the model covers the six fundamental aspects of brand identity (Kapferer, 2012) :

Constructed source vs. constructed receiver: a well-presented brand should be able to be seen as a person (constructed source: physique and personality) as well as a stereotypical user (constructed receiver: reflection and self-image).

Externalisation vs. Internalisation means that a brand has social aspects that can determine its external expression (externalisation: physique, relationship and reflection).

The following details six aspects of Kapferer's brand identity prism model that allow brand managers to assess their brand's strengths and weaknesses [4].



**Figure 2:** The Brand Prism.

## 2.2. Technology Artificial Intelligence

Artificial Intelligence (AI) refers to the capacity of a computer or computer-controlled robot to undertake tasks typically associated with intelligence beings. The term is commonly employed in projects that aim to create systems capable of thinking, deriving meaning, generalising, and learning from prior experiences [5]. Until now, there has been rapid development in the field of artificial intelligence, with almost all sectors of society employing AI. This progress has resulted in the realization of greater precision and reliability. Additionally, smarter computers are continuing to emerge [6].

## 2.3. Purchase Decision

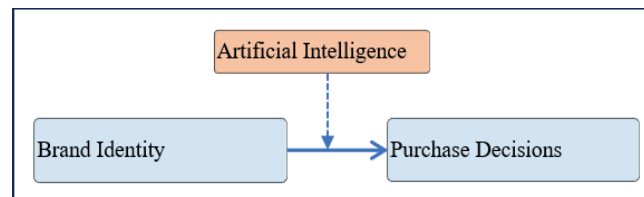
Defines purchasing decisions as part of consumer behaviour, which is the study of how individuals, groups, and organisations choose, buy, and use goods, services, ideas, or experiences to meet their needs [7].

## 2.4. Hypotheses

From the above explanation, a hypothesis asosiatif is made as below (see Figure 3): H0

:  $\rho$  = No correlation between brand identity and purchasing decision.

H0 :  $\rho$  = Correlation is greater or less than zero.



Description of figure 3 :  
 Brand identity = X  
 Purchase decision = Y  
 Artificial Intelligence = Z

Source : Data processed , 2023.

**Figure 3:** Research paradigm.

### 3. Methodology Research

A quantitative survey method was utilised in this study to determine percentages and collect factual data from the field. The marketing manager of the Sudirman Branch of KFC, located in the Special Region of Yogyakarta, participated as an interviewee using a data source sample collection approach. The researcher administered a questionnaire for an active sample technique.

Google Forms and WhatsApp do not belong to the category of Artificial Intelligence (AI) as they lack the ability to perform tasks commonly associated with intelligent entities, such as finding meaning, generalising, or learning from past experiences [6]. Nevertheless, Google Forms employs AI technology to help users in the creation of forms and surveys. For instance, Google Forms employs artificial intelligence to establish response validation regulations. These regulations verify the accuracy of email addresses and confirm the conformity of numerical responses to predetermined ranges [3].

However, WhatsApp has implemented AI-driven functionalities, including the creation of stickers and the utilization of AI assistants for the production of Image 1.

The research aims to conduct fundamental research using a mixed-methods approach, comprising of both quantitative and qualitative methods. The study adopts field research, literature review, observation, and interviews.

Initially, a qualitative descriptive approach is taken to ascertain the influence of brand identity on purchasing decisions for KFC.

Based on the data analysis above, all questionnaire items used to assess the brand identity variable (X1) demonstrate a correlation coefficient (rcount) greater than the predetermined rtable of 0.174. The author's research successfully demonstrates the validity of the question items used. Therefore, all question items may be deemed valid for use. Each item's Question Item Correlation Coefficient (rcount) value and table description (Table 1).

TABLE 1: Summary of Operational Variables.

Type of Variable	Name	Variable Definition	Hypothesis (Expected Sign)	Source of Data
Independent	Brand identity	A brand's identity is formed through the interplay of its positioning and personality with Kapferer's model.	Significancy of X to Y	Quarterly. Indirect observation with KFC's social media platforms.
Dependent	Purchase decision	Purchasing decisions encompass the examination of how individuals, groups, and organisations choose, procure, and utilise goods, services, ideas, or experiences to fulfil their respective requirements [7].	Correlation of X and Y	Questioner via Gform and G.Data analyze
Control	Artificial Intelligence	Artificial Intelligence (AI) refers to the capacity of a computer or computer-controlled robot to undertake tasks typically associated with intelligence beings. The term is commonly employed in projects that aim to create systems capable of thinking, deriving meaning, generalising, and learning from prior experiences [5].	Controlling the X	Indirect observation.

Source: (Data processing 2023)

### 3.1. Analysis

#### 3.1.1. Respondents characteristics

Based on the age of 128 respondents, 96 people (76.5%) were aged 16-25 years. Based on the data, as many as 128 respondents in this study were female, namely 95 people (74.6%). Based on the employment characteristic the first respondent category is students as many as 72 people (57.1%). The second category is private employees as many as 21 people (16.7%). The third category is entrepreneurs as many as 20 people (15.9%). The fourth category is housewives as many as 10 people (7.9%). The fifth category is civil servants as many as 3 people (2.4%).

#### 3.1.2. Hypothesis test Parsial

T - Test

### 3.1.3. Brand identity variable test results (X1)

$$\alpha/2; n - k - 1$$

The test uses SPSS version 23 and it is found that the significance value for the brand identity variable (X1) is 0.002. The significance value of brand identity (X1) of  $0.002 < 0.05$  and  $T_{\text{Count}} (3.212) > T_{\text{table}} (1.979)$  so it can be concluded that the brand identity variable (X1) has a significant effect on purchasing decisions (Y).

## 4. Results and Discussion

Based on the results of the test analysis and discussion of the research that the authors carried out with the title of the influence of brand identity (X1) on purchasing decisions (Y), it can be concluded that: Brand Identity (X1) has a positive and significant effect on purchasing decisions (Y).

The study aims to utilize Artificial Intelligence (AI) to investigate the impact of brand identity on the buying behavior of KFC products in Yogyakarta. The research seeks to maintain an objective and unbiased approach by utilizing clear, concise language and avoiding subjective evaluations or ornamental language. The study will adhere to standard academic structure and employ a formal register while utilizing precise technical terminology to describe the research data. The ultimate goal is to acquire meaningful insights into the relationship between brand identity and purchasing decisions for KFC products in Yogyakarta.

## 5. Conclusion

AI can predict consumer purchasing patterns by analysing KFC's brand identity. Sophisticated algorithms can identify the most influential factors in purchasing decisions, including consumer trust in the brand, perceived product quality, previous experiences, and personal preferences.

Moreover, AI can help to optimise KFC's marketing and branding strategies for DIY projects. Through analysis of consumer data and purchase behaviour, AI can offer beneficial insights for developing improved marketing campaigns and brand identity adjustments. In summary, IBM SPSS Modeler as a part of Artificial Intelligence proves to

be an advantageous tool in determining the degree to which brand identity influences consumer decisions for KFC products in DIY. By analysing data and employing machine learning techniques, artificial intelligence can offer KFC significant insights to enhance their marketing strategies and fortify their brand identity in the do-it-yourself market.

## Acknowledgements

Thank you for the manager of KFC Sudirman Branch, Yogyakarta.

## References

- [1] Pierce JA, Robinson RB Jr. Strategic Management. 12 edition. (N. P. Sari, Trans.) Jakarta Selatan: Salemba Empat; 2016..
- [2] Furness D. Hate ordering fried chicken from human beings? KFC's new restaurant has you covered [Internet]. Digital Trends. Digital Trends; 2016. Available from: <https://www.digitaltrends.com/cool-tech/kfc-ai-robot-restaurant/>
- [3] David FR. Strategic Management. 15 edition. (D. A. Hakim, Ed., N. Puspitasari, & L. N. Puspitasari, Trans.) Jakarta Selatan: Salemba Empat; 2016..
- [4] Kapferer JN. The new strategic brand management. 5th ed. United Kingdom: Kogan Page; 2012.
- [5] Coursera. What is artificial intelligence? Definition, uses, and types [Internet]. Coursera. 2023. Available from: <https://www.coursera.org/articles/what-is-artificial-intelligence>
- [6] Jamaaluddin, Sulistyowati I. Buku Ajar Kecerdasan Buatan (*Artificial intelligence*). Sidoarjo: UMSIDA PRESS; 2021.
- [7] Kotler P, Keller KL. Marketing management. 13th ed. Upper Saddle River (New Jersey): Person Prentice Hall; 2006.