

CHAPTER I

INTRODUCTION

1.1 Introduction

This study aims to determine whether Artificial Intelligence (AI) can influence consumer behavior, especially on online consumer satisfaction. This study identifies the impact between the factors that become variable X, namely content-based filtering, recommendation cluster analysis and collaborative filtering recommendation systems that affect variable Y, namely online consumer satisfaction. Therefore, in this chapter the researcher introduces the research background, problem formulation, research questions, and research objectives. Besides, it also includes the scope of the research as well as the respondents who took part in the research, research limitations, research significance, research contributions, and summary conclusions.

1.2 Research Background

When most people hear the term artificial intelligence, the first thing they usually think of is robots. That's because big-budget films and novels weave stories about human-like machines that wreak havoc on Earth. But nothing could be further from the truth. Artificial intelligence is based on the principle that human intelligence can be defined in a way that a machine can easily imitate and execute tasks, from the most simple to those that are even more complex. The goals of artificial intelligence include learning, reasoning, and perception.

As technology advances, Artificial Intelligence (AI) become indispensable in industrial world especially the AI Recommendation Engine Technology System. The evolution of the internet and digital technology has sparked new opportunities for trade, expanded product lines, and improved customer experiences. As Artificial Intelligence becomes a practical technology in industries, it is worthy to note that many businesses are still playing catch-up, while figuring out how it can transform their operations. Many retail and e-commerce companies, such as Amazon and Alibaba. Use a recommendation

engine. To identify the target audience. Based on recent searches by potential customers, AI algorithms in search engines record the details of the product being searched for. Based on the results of the algorithm, the search engine recommends the appropriate browser. And list them on a personal dashboard to help them find products quickly.

Shopping has been, is and will continue to be a necessity for mankind. It is not a long time since we asked our friends for recommendations to buy this or that product. Hence, it is human nature to buy things recommended by our friends, which we trust more. The digital age has taken into account this ancient custom. Therefore, every online shop that is visited, may see several recommendation engines in use. Using algorithms and data, the recommendation engine filters and recommends the most relevant products to specific users. As said, it's like an auto shop assistant. When asking for something, the recommendation AI also suggests other things that consumers might be interested in. The development of a product recommendation algorithm model is an area of research that develops from hour to hour.

The applications for artificial intelligence are endless. The technology can be applied to many different sectors and industries. AI marketing uses artificial intelligence technologies to make automated decisions based on data collection, data analysis, and additional observations of audience or economic trends that may impact marketing efforts. AI is often used in marketing efforts where speed is essential. AI tools use data and customer profiles to learn how to best communicate with customers, then serve them tailored messages at the right time without intervention from marketing team members, ensuring maximum efficiency. AI is used to augment marketing teams or to perform more tactical tasks that require less human nuance.

The evolution of the internet and digital technology has sparked new opportunities for trade, expanded product lines, and improved customer experiences. As Artificial Intelligence becomes a practical technology in

industries, it is worthy to note that many businesses are still playing catch-up, while figuring out how it can transform their operations. Consequently, there is a slow transition from traditional business models to technology-enabled enterprises. Modern marketing relies on an in-depth understanding of customer needs and preferences, and then the ability to act on that knowledge quickly and effectively. The ability to make real-time, data-driven decisions has brought AI to the forefront for marketing stakeholders. However, marketing teams must be discerning when deciding how to best integrate AI into their campaigns and operations. The development and use of AI tools are still in early stages. Therefore, there are a few challenges to be aware of when implementing AI in marketing. There is a myriad of use cases for AI in marketing efforts, and each of these use cases yields different benefits such as risk reduction, increased speed, greater customer satisfaction, increased revenue, and more. Benefits may be quantifiable (number of sales) or not quantifiable (user satisfaction).

Generally, an algorithms developed for recommendation systems rely on purchases and page views done before. What is more, today there are many services suggesting in-the-moment recommendations, as they use artificial intelligence for analyzing interactions of the users and find visually proper products that will interest any individual customer. Due to AI, recommendation engines make quick and to-the-point recommendations tailored to each customer's needs and preferences. With the usage of Artificial Intelligence, online searching is improving as well, since it makes recommendations related to the user's visual preferences rather than product descriptions. Seemingly, artificial intelligence recommendation engines may become the alternatives of search fields since they help users find items or content that they may not find in another way. That's why today recommendation engines play an essential role for sites like Amazon, Facebook, YouTube and so on.

The main topic of interest is Artificial Intelligence and Consumer behavior, In recent times, Artificial Intelligence has rapidly emerged and it is changing the way we have seen and known marketing. Surprisingly, AI is an asset

considering the benefits it offers and will continue to offer provided we use it wisely. The major benefit is the positive impact it has made on enabling marketers to analyze and understand consumer buying behavior. AI and Consumer Behaviour offer good insights when closely related and used together. Retailers find a natural connection between AI and consumer behavior. To gather evidence and analyze how consumers are shopping these days is so complex due to the availability of a large amount of data. This is made easy with AI. When AI is mixed with human-produced data and information for analyzing consumer behavior the actual benefit of AI comes to the picture. Using AI to analyze the online buying behavior of the customer becomes essential to survive in the marketing world. With new AI features like customized marketing messages, customers are compelled to check out the offers being offered by the brand. All of this is the result of behavioral marketing.

1.3 Problem Statement

Many e-commerce users do not understand the recommendation system, in a recommendation ad the user only understands that it is only an advertisement for a product that is offered to consumers. The main area of interest of this research is in 'exploring whether there is consumer awareness of AI and the impact of AI itself on consumer satisfaction. According to Efendioglu, Yip, Murray (2004), most consumers in developing countries do not support e-commerce, and this is a result of lack of confidence in technology and online culture. Indonesia and Vietnam are countries that use e-commerce

1.4 Research Questions

Research problems are problems, difficulties, contradictions, or certain knowledge gaps that you want to address in a study. We may be looking for practical problems that aim to contribute to change, or theoretical problems aimed at expanding knowledge. The following are research questions regarding the impact of Artificial Intelligence (AI) Recommendation Engine Technology on Online Consumer Satisfaction :

- a. Is there an impact of **Content-based** Filtering on Online Consumer Satisfaction?
- b. Is there an impact of Recommendation Cluster Analysis on Online Consumer Satisfaction?
- c. Is there an impact of Collaborative Filtering Recommender System on Online Consumer Satisfaction?

1.5 Research Objectives

Research objectives are usually expressed in lay terms and are directed as much to the client as to the researcher. Research objectives may be linked with a hypothesis or used as a statement of purpose in a study that does not have a hypothesis. Even if the nature of the research has not been clear to the layperson from the hypotheses, s / he should be able to understand the research from the objectives. Below are the research objectives that use to pilot during the research study :

- a. To identify the impact of **Content-based** Filtering on Online Consumer Satisfaction.
- b. To identify the impact of Recommendation Cluster Analysis on Online Consumer Satisfaction.
- c. To identify the impact of Collaborative Filtering Recommender System on Online Consumer Satisfaction.

1.6 Benefits Of The Research

- a. Theoretical Benefits

The results of this study can be the basis for developing instructional media or further application of instructional media. Besides that, it is also an added value for scientific knowledge in the field of education.

- b. Practical Benefits

Researchers are able to apply appropriate media in certain learning materials. As well as researchers have knowledge and insight about the appropriate learning materials and media.

1.7 Scope of the Research

This will only discuss how the role of AI in the industry and advertising of a product in an e-commerce. Then this research only focuses on looking at the impact of Artificial Intelligence (AI) Recommendations on several variables on online consumer satisfaction.

1.8 Systematics Writing

Writing systematics is designed to obtain a comprehensive picture and facilitate understanding of this research. The systematic discussion of this research can be divided into three chapters with the following systematics :

CHAPTER I : INTRODUCTION

This chapter is an introduction that discusses the background of writing research. In addition, it also discusses the objectives of Artificial Intelligence for this research and for products marketing and the systematics of writing.

CHAPTER II : THEORITICAL REVIEW

This chapter contains an overview of a AI and describe the Theory. Then this chapter explain about the Artificial Intelligence (AI) Recommendation Engine Technology, Artificial Intelligence Recommendation Personalized, Consumer Satisfaction, Consumer Behavior, **Content-based** Filtering, Recommendation Cluster Analysis, Collaborative Filtering Recommender System.

CHAPTER III : RESEARCH METHODOLOGY

This chapter discusses the problems encountered how to formulate the problems. In addition, this chapter also discusses and analyze how AI Recommendation Engine Technology can impact Consumer Satisfaction.

CHAPTER IV : RESULT AND DISCUSSION

The systematics of thesis writing in chapter four contains the results of research. so report what is obtained from the results in the questionnaire and interview. In the discussion chapter, it is more about discussing the theoretical results of the research. Namely by comparing the premises that support the hypothesis with existing facts and realities.

CHAPTER V : COCLUSION

The last chapter is the conclusion, that is, write down the conclusions from the results of the research and analysis carried out.

REFERENCES

APPENDIX

1.9 Sumarry

In this chapter, the researcher must describe all the contexts and formulations of the problem relevant to the field of study for chapter one. This chapter specifically discusses the variables that influence online satisfaction. In addition, this chapter must also explain the research question and research objectives so that the researcher will reflect on specific results. Furthermore, the scope of the study and its limitations on limited information on the above topics are also noted.