

**THE EFFECTIVENESS OF ARTIFICIAL INTELLIGENCE (AI) THROUGH
CUSTOMER SHOPPING EXPERIENCE IN E-COMMERCE MALAYSIA**

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‘I hereby declared that I had read through this thesis and in my opinion that this thesis is adequate in terms of scope and quality. This thesis is submitted to Universiti Teknikal Malaysia Melaka which fulfill the requirements for the completion and award of Bachelor Degree of Technopreneurship with Honors (Btech).’

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**The thesis is submitted in partial fulfillment of the requirements for the award
of Bachelor of Technopreneurship with Honors**

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June 2019

DECLARATION OF ORIGINAL WORK

“I hereby declare this report is the result of my own, except certain explanations and passage where every of it is cited with source clearly.”

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DEDICATION

I would like to dedicate the appreciation to my family members who supported me in terms of spiritual and financial, beloved supervisor and panel who guided me throughout the research and course mates that assisted me through the journey of research.

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I would like to take this opportunity to express my sincere appreciation to my supervisor Pn Azrina Binti Othman for her guidance and encouragement throughout the journey of completing this final year project. Throughout her guidance, I managed to finish my final year project successfully within the time frame given. Besides that, there are some other important people involved in this final year project, for instance my beloved lectures, friends and course mates. I am deeply grateful for the guidance and support towards this project as play an important role for this project.

Next, I am sincerely thanks to the researchers that they have previously conducted the similar study and published online. Although the research topic of the topic study was different, the theory and knowledge provided were useful as a reference in this final year project.

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ABSTRACT

In the era of globalization, Malaysia is entering Industry 4.0 or known as Fourth Industrial Revolution which focusing on digital transformation. Besides that, Artificial Intelligence (AI) is a current trend in today markets and it gives so many opportunities in different fields. Therefore, AI has been picking up the speed in online retail space in order to deliver a more personalized experiences for online shoppers. However, some of the online shoppers are not aware of implementation of AI in e-commerce Malaysia. Therefore, the aim of this research was to know the effectiveness of artificial intelligence through customer shopping experience in e-commerce Malaysia. This research was descriptive research and it was used quantitative research method in order to obtain the data. The data were collected using questionnaires from 384 respondents and mainly target in Melaka and Negeri Sembilan. The result of analysis showed that perceived ease of use, perceived enjoyment and intention to use has significant impact on the effectiveness of Artificial Intelligence through customer shopping experience in e-commerce Malaysia. Besides that, impacts of customer shopping experience has significant relationship on the effectiveness of Artificial Intelligence in e-commerce Malaysia. There was a motivational factor which is perceived usefulness factor is not significant in the influence of effectiveness of Artificial Intelligence through customer shopping experience in e-commerce Malaysia. The results of this study contributes exceptional judgement to e-retailers and the e-commerce platforms in Malaysia.

Keywords: Artificial Intelligence, customer shopping experience, e-commerce, Malaysia, TAM, Melaka, Negeri Sembilan

ABSTRAK

Dalam era globalisasi, Malaysia sedang memasuki Industri 4.0 atau dikenali sebagai Revolusi Perindustrian Keempat yang memberi tumpuan kepada transformasi digital. Selain itu, kecerdasan buatan (AI) adalah trend semasa dalam pasaran hari ini dan ia telah memberi banyak peluang dalam pelbagai bidang yang berbeza. Oleh itu, AI telah memilih kelajuan dalam ruang runit dalam talian untuk memberikan pengalaman yang lebih peribadi untuk pembeli dalam talian. Bagaimanapun, terdapat pembeli dalam talian yang tidak menyedari pelaksanaan AI dalam laman web e-dagang Malaysia. Oleh itu, tujuan penyelidikan ini adalah untuk mengetahui keberkesanan AI melalui pengalaman membeli-belah pelanggan dalam e-dagang Malaysia. Kajian ini merupakan kajian secara deskriptif dan menggunakan cara kuantitatif. Data kajian ini telah dikumpulkan melalui soal selidik sebanyak 384 responden dan sasaran terutamanya adalah di Melaka dan Negeri Sembilan. Keputusan analisis telah menunjukkan bahawa faktor sikap terasa mudah penggunaan, keseronokan dirasakan dan niat untuk menggunakan mempunyai kesan yang besar ke atas keberkesanan AI melalui pengalaman membeli-belah pelanggan dalam e-dagang Malaysia. Justeru itu, kesan pengalaman membeli-belah pelanggan juga mempunyai kesan ke atas keberkesanan AI dalam e-dagang Malaysia. Manakala, penyelidik mendapati bahawa faktor sikap dilihat kegunaan tidak berperanan dalam mempengaruhi keberkesanan AI melalui pengalaman membeli-belah pelanggan dalam e-dagang Malaysia. Keputusan kajian ini telah menyumbangkan pemahaman kepada e-peruncit dan e-dagang Malaysia.

Kata Kunci: *Kecerdasan buatan, pengalaman membeli-belah pelanggan, e-dagang, Malaysia, model TAM, Melaka, Negeri Sembilan*

TABLE OF CONTENTS

| CHAPTER | CONTENT | PAGES |
|----------------------|-------------------------------------|--------------|
| | DECLARATION OF ORIGINAL WORK | i |
| | DEDICATION | ii |
| | ACKNOWLEDGEMENT | iii |
| | ABSTRACT | iv |
| | ABSTRAK | v |
| | TABLE OF CONTENTS | vi |
| | LIST OF TABLE | xii |
| | LIST OF FIGURES | xiv |
| | LIST OF ABBREVIATIONS | xv |
| | LIST OF SYMBOLS | xvi |
| | LIST OF APPENDIX | xvii |
| CHAPTER 1 | INTRODUCTION | |
| | 1.0 Introduction | 1 |
| | 1.1 Background of Study | 1 |
| | 1.2 Problem Statement | 4 |
| | 1.3 Research Questions | 6 |
| | 1.4 Research Objectives | 7 |
| | 1.5 Scope of Study | 7 |
| | 1.6 Limitations of Study | 8 |
| | 1.7 Importance of Research | 8 |
| | 1.8 Summary | 9 |

| | | |
|------------------|---|----|
| CHAPTER 2 | LITERATURE REVIEW | |
| | 2.0 Introduction | 10 |
| | 2.1 Artificial Intelligence | 11 |
| | 2.1.1 Types of Artificial Intelligence | 11 |
| | 2.1.2 Machine Learning and Deep Learning | 12 |
| | 2.1.3 Applications of Artificial Intelligence | 14 |
| | 2.2 E-commerce | 15 |
| | 2.2.1 Types of E-commerce | 16 |
| | 2.2.2 Personalization in E-commerce platform | 18 |
| | 2.2.3 Effectiveness of Artificial Intelligence in E-commerce Malaysia | 19 |
| | 2.3 Customer Shopping Experience | 20 |
| | 2.3.1 Online Customer Shopping Experience | 21 |
| | 2.3.2 The Importance of The Customer Shopping Experience | 21 |
| | 2.3.3 Customer Satisfaction | 22 |
| | 2.3.4 E-commerce Satisfaction | 22 |
| | 2.3.5 E-Satisfaction of Customer in E-commerce Context | 23 |
| | 2.4 Theoretical Framework | 23 |
| | 2.4.1 Technology Acceptance Model (TAM) | 23 |
| | 2.5 Research Framework | 26 |
| | 2.6 Hypothesis of Study | 27 |
| | 2.7 Summary | 29 |
| CHAPTER 3 | RESEARCH METHODOLOGY | |
| | 3.0 Introduction | 30 |
| | 3.1 Research Design | 31 |
| | 3.1.1 Descriptive Research | 31 |
| | 3.2 Methodology Choice | 32 |

| | |
|---|-------------------------------------|
| 3.3 Data Source | 33 |
| 3.3.1 Primary Data and Secondary Data Source | 33 |
| 3.4 Scope and Sample | 34 |
| 3.5 Location of Research | 36 |
| 3.6 Research Strategy | 36 |
| 3.6.1 Questionnaire Design | 37 |
| 3.6.2 Pilot Test | 38 |
| 3.7 Data Analysis Method | 39 |
| 3.7.1 Descriptive Analysis | 39 |
| 3.7.2 Pearson Correlation Analysis | 40 |
| 3.7.3 Regression Analysis | 41 |
| 3.8 Validity and Reliability | 41 |
| 3.8.1 Internal Validity | 42 |
| 3.8.2 External Validity | 42 |
| 3.8.3 Construct Validity | 43 |
| 3.8.4 Reliability | 43 |
| 3.9 Summary | 44 |
| | |
| CHAPTER 4 | DATA ANALYSIS AND DISCUSSION |
| 4.1 Introduction | 46 |
| 4.2 Pilot Test | 47 |
| 4.2.1 Reliability Test | 47 |
| 4.3 Descriptive Statistics Analysis | 48 |
| 4.3.1 Respondent's Demographic Profile | 48 |
| 4.3.1.1 Gender | 49 |
| 4.3.1.2 Age | 50 |
| 4.3.1.3 Race | 51 |
| 4.3.1.4 State | 52 |
| 4.3.1.5 Educational Level | 53 |
| 4.3.1.6 Income Level | 54 |
| 4.3.1.7 Occupational Level | 55 |
| 4.3.1.8 Daily Usage of Mobile Phone | 56 |

| | |
|--|----|
| 4.3.1.9 Respondents' Experience In Online Shopping By Using Mobile Phone | 57 |
| 4.3.1.10 Acknowledgement of Respondents Towards AI | 58 |
| 4.3.1.11 Acknowledgement of Respondents Towards E-commerce Platform Implemented With AI | 59 |
| 4.3.1.12 Respondents' Experience Towards Lazada App Malaysia | 60 |
| 4.3.1.13 Respondents' Shopping Experience Towards Lazada App Malaysia | 61 |
| 4.3.1.14 Reasons That Impede Respondents To Use Lazada App Malaysia | 62 |
| 4.3.2 Research Question Analysis | 63 |
| 4.3.2.1 Effectiveness of Artificial Intelligence in E-commerce Malaysia | 63 |
| 4.3.2.2 Impacts of Customer Shopping Experience | 66 |
| 4.3.2.3 Perceived Usefulness | 69 |
| 4.3.2.4 Perceived Ease of Use | 70 |
| 4.3.2.5 Perceived Enjoyment | 71 |
| 4.3.2.6 Intention To Use | 72 |
| 4.4 Reliability Test | 73 |
| 4.5 Inferential Statistics | 74 |
| 4.5.1 Pearson Correlation | 74 |
| 4.5.2 Multiple Regression Analysis | 76 |
| 4.5.2.1 Multiple Regression Analysis Between DV and IV | 77 |

| | |
|---|---|
| 4.5.2.2 Multiple Regression Analysis Between MV and IV | 79 |
| 4.5.2.3 Multiple Regression Analysis Between DV, MV and IV | 81 |
| 4.5.3 Hypothesis Testing | 84 |
| 4.5.3.1 Summary for Hypothesis Testing | 88 |
| 4.6 Summary | 89 |
| CHAPTER 5 | DISCUSSION, RECOMMENDATIONS AND CONCLUSION |
| 5.0 Introduction | 90 |
| 5.1 Summary of the Study | 90 |
| 5.2 Discussion of Objective and Hypothesis Testing | 91 |
| 5.2.1 Objective 1: To investigate the factors that influence the effectiveness of artificial intelligence through customer shopping experience in e-commerce Malaysia | 92 |
| 5.2.2 Objective 2: To clarify the most significant factors that influence the effectiveness of artificial intelligence through customer shopping experience in e-commerce Malaysia | 93 |
| 5.2.3 Objective 3: To identify the relationship between customer shopping experience and the effectiveness of artificial intelligence in e-commerce Malaysia | 96 |
| 5.3 Implication of Study | 97 |

| | |
|---|------------|
| 5.4 Limitation of the Study | 100 |
| 5.5 Recommendations for Future Research | 101 |
| 5.6 Conclusion | 102 |
| 5.7 Summary | 104 |
| References | 105 |
| Appendix | 119 |

LIST OF TABLES

| TABLE | TITLE | PAGE |
|--------------|---|-------------|
| 3.1 | Rules of Thumb for Interpretation Correlation | 40 |
| 3.2 | Cronbach's Alpha Coefficient | 44 |
| 4.1 | Reliability Test for Pilot Test | 47 |
| 4.2 | Analysis of respondents by gender | 49 |
| 4.3 | Age of Respondents | 50 |
| 4.4 | Race of Respondents | 51 |
| 4.5 | State of Respondents | 52 |
| 4.6 | Educational Level of Respondents | 53 |
| 4.7 | Income Level of Respondents | 54 |
| 4.8 | Occupational Level of Respondents | 55 |
| 4.9 | Daily Usage of Mobile Phone | 56 |
| 4.10 | Respondent's experience in online shopping by using mobile phone | 57 |
| 4.11 | Acknowledgement of respondents towards Artificial Intelligence (AI) | 58 |
| 4.12 | Acknowledgement of respondents towards e-commerce platform implemented with Artificial Intelligence (AI) | 59 |
| 4.13 | Respondents' experience towards Lazada App Malaysia | 60 |
| 4.14 | Respondents' shopping experience towards Lazada App Malaysia | 61 |
| 4.15 | Reasons that impede respondents to use Lazada App Malaysia | 62 |
| 4.16 | Effectiveness of Artificial Intelligence in E-commerce Malaysia | 63 |

| | | |
|------|---|----|
| 4.17 | Impacts of Customer Shopping Experience | 66 |
| 4.18 | Statistics of Perceived Usefulness | 69 |
| 4.19 | Statistics of Perceived Ease of Use | 70 |
| 4.20 | Statistics of Perceived Enjoyment | 71 |
| 4.21 | Statistics of Intention To Use | 72 |
| 4.22 | Reliability Test | 73 |
| 4.23 | Pearson Correlation Between Variables | 75 |
| 4.24 | Multiple Regression Analysis Between DV and IV | 77 |
| 4.25 | Multiple Regression Analysis Between MV and IV | 79 |
| 4.26 | Multiple Regression Analysis Between DV, MV and IV | 81 |
| 4.27 | Coefficient Table | 84 |
| 4.28 | Summary for Hypothesis Testing | 88 |

LIST OF FIGURES

| FIGURE | TITLE | PAGE |
|---------------|--|-------------|
| 2.1 | Statistics of number of online shoppers in Malaysia (in millions) | 15 |
| 2.2 | Research Framework for the Effectiveness Of Artificial Intelligence (AI) Through Customer Shopping Experience In E-Commerce Malaysia | 26 |
| 3.1 | Table of Krejcie and Morgan | 33 |

LIST OF ABBREVAITIONS

| ABBREVAITIONS | MEANING |
|----------------------|--|
| AI | Artificial Intelligence |
| BCG | Boston Consulting Group |
| B2B | Business to business |
| B2C | Business to consumer |
| C2C | Customer to customer |
| C2B | Customer to business |
| TAM | Technology acceptance model |
| IV | Independent variable |
| MV | Mediating variable |
| DV | Dependent variable |
| SPSS | Statistical Package for Social Science |
| PU | Perceived usefulness |
| PEOU | Perceived ease of use |
| PE | Perceived enjoyment |
| ITU | Intention to use |

LIST OF SYMBOL

| SYMBOLS | MEANING |
|----------------|-------------------------------|
| R | Correlation coefficients |
| α | Cronbach's Alpha Coefficients |
| B | Beta value |
| H ₀ | Null hypothesis |
| H ₁ | Alternative hypothesis |
| m | Mean |
| s.d. | Standard deviation |

LIST OF APPENDIX

| APPENDIX | TITLE |
|-----------------|-----------------------|
| APPENDIX 1 | Gantt Chart for PSM 1 |
| APPENDIX 2 | Gantt Chart for PSM 2 |
| APPENDIX 3 | Questionnaire |

CHAPTER 1

INTRODUCTION

1.0 Introduction

For this chapter, it explained about all the important information that related to the research topic was the effectiveness of AI through customer shopping experience in e-commerce Malaysia. Besides that, researcher also explained about the artificial intelligence and believed that this chapter was a beginning of discussion in order to bring and achieve success research to the public. In addition, researcher also discussed about background of research, problem statement that stops customer from online shopping, research problems which constructed based on the problem, research objectives, scope of study, limitations of research, and importance of research.

1.1 Background of Study

The Internet has created an opportunity for everyone because of Internet has the ability to make feasible the conduct of business by using internet network, and besides that connecting all the people around the World without any geographical boundary. According to Li & Gery, (2000); Waldo, (2000) which mentioned that by using Internet, consumer can enjoyed the process of order products or any services without distressing about the obstruction for example traffic jams. In short, Internet

has provided a new opportunities for e-retailers by using an advanced ways to promote and distribute their products, services and information in order to reach their target customers.

Internet shopping had become a popular trends in nationwide and widely accepted by every public because it can make the process of purchasing products more quickly and easier (Bourlakis et al., 2008). The Internet was becoming popular in Malaysia as it can help to promote a different ways of doing their business and besides that provide a platform which every people can share their ideas with each others. Internet was known as the World's biggest shopping mall which allowed any company or public to sell their products or services through Internet with low cost and also covering global market.

E-commerce is a business space in the computer network. The definition of e-commerce was the procedure of parceling out, acquiring and selling, marketing and servicing of the products or services by using the Internet access. Internet allowed direct communication between the e-retailers and the customers through live chat that implemented in e-commerce platform. E-commerce had become a potentially developing business for today's market especially in Malaysia. Majority of e-commerce business had begin to implement Artificial Intelligence (AI) in their e-commerce platforms in order to provide to excellent understand on their customers shopping patterns, and provided their customers with an enhanced and personalized shopping experience.

AI is the engineering and science of making intelligent machines and intelligent computer programs. According to Shyna and Vishal (2017), which explained AI as to build in the intelligence into the machines or software and offer them the capability to think as humans. Currently, artificial intelligence had been boost up their speed in entering the e-commerce business in order to deliver a more personal shopping experience for online shoppers. For example, Alibaba and Wechat had driven a main revolution with chatbots, combining payment methods and solve the customer service issues at a large scale.

One of the example that e-commerce platform in Malaysia had implemented AI in order to provide a more personal shopping experience to their customer is Lazada Malaysia. According to Lazada Malaysia CEO, Hans-Peter Ressel, which indicate that the Lazada Malaysia is working on a completely new Lazada app, powered by AI. Besides that, by introducing the new remodel Lazada App, it can provide their customers or users with a highly personalized shopping and browsing experience. Thus, a new Lazada App would reduce the emphasis on product categories and display more products based on their customer shopping patterns or viewing history by providing them with a personalized suggestion on high matched products to a low matched products.

According to Global Consumer Insights Survey 2018 - The Malaysian Perspective, Malaysians were showing interest in AI. Besides that, only 11% of Malaysians out of 500 respondents were currently own AI devices but 50% plan to purchase an AI device had doubled that of the UK (24%) and US (25%). However, Malaysians remained conscious of ways to reduce online security risks.

AI has allowed e-retailers to take into consideration their consumer's basic information for example name, gender, location and preference so that to bring convenience for e-retailers to respond to their customer needs more immediately. By implementing AI in e-commerce platforms, it had provided a more personalized shopping experience for consumers which customers do not need to scroll through thousand of products and options through product categories. According to Abraham et al. (2017) which mentioned that a news report by Boston Consulting Group (BCG) stated that e-retailers that have enforced the personalization strategies in their e-commerce platform can achieved a 6-10% sales gains, which is two or three times faster than other retailers.

A customer shopping experience is defined as the cognition and feelings the customers experiences when they use the product or services (John et al. 1997). Grewal et al., (2009) stated that it is critical for e-retailers to focused on their customer shopping experience in order to strive with others competitors effectively in a competitive environment. By having a compelling e-commerce platforms, it will help to increases the participation of customers, spending more time on the

e-commerce platform, and besides that improves the utilization of online shopping by using e-commerce platforms.

1.2 Problem Statement

According to Yoong (2018), Malaysia had become one of the rapidly growing e-commerce markets in Southeast Asia and also achieved a high rates of e-commerce usage. Customer shopping experience is the major problem that faced by e-commerce. Malaysia achieved 15.3 million online shoppers which is around 50% of the total population and achieved a 62% of mobile users use their own devices to shop online (Yoong, 2018). The factors that influenced most of the online shoppers to make online purchase were price, product range, free shipping, convenience, save time, and exclusive promotions by online sellers. However, there are some customer who do not shop online or purchase online due to some reasons such as:

1. Lack of trust

Customer often described online shopping process as a disappointing, confusing, and overwhelming activity because there are some customers who do not familiar with the online shopping especially elderly (Dai et al., 2014). Besides that, according to Hassanein and Head (2007), by using online shopping, customers were not allowed to touch and see the products and customers will feel lacked of interpersonal communication with the sales person or fast satisfaction. This had cause the issue of customers lack of trust in the online shopping and online retailers, and also customers may not rely the products information or description that provided on the e-commerce platforms (Chang, Cheung, and Tang 2013). With reference to a report on e-commerce Malaysia which reported that 91% of the online customers do not shop online because they lack of trust in online shopping. In