

**FACTORS INFLUENCING MALAYSIA MULTI
LEVEL MARKETING DISTRIBUTORS
ACCEPTANCE OF DIGITAL BUSINESS
PLATFORM: A MODERATING EFFECT OF
GENDER**

LEE SAU PENG

**ASIA e UNIVERSITY
2025**

FACTORS INFLUENCING MALAYSIA MULTI LEVEL MARKETING
DISTRIBUTORS ACCEPTANCE OF DIGITAL BUSINESS PLATFORM: A
MODERATING EFFECT OF GENDER

LEE SAU PENG

A Thesis Submitted to Asia e University in
Fulfilment of the Requirements for the
Doctor of Business Administration

January 2025

ABSTRACT

This study investigates the factors influencing Malaysian Multilevel Marketing (MLM) distributors' acceptance of digital business platforms (BDPs), with a focus on the moderating effect of gender in the post-COVID-19 era. Grounded in the Unified Theory of Acceptance and Use of Technology (UTAUT), a research model was developed to examine key determinants of behavioral intention (BI) to adopt BDPs. Both, offline and online survey methods were deployed to collect data. A total of 318 useful responses were returned by MLM distributors. Statistical analysis was performed using SPSS for descriptive statistics and PLS-SEM for inferential statistics. The findings revealed that performance expectancy, social influence, facilitating conditions, perceived trust, and perceived product attributes were statistically significant and positively influenced BI. Gender was found to significantly moderate the relationship between perceived product attributes and BI, while no significant moderating effects were observed for other variables. This study contributes to the academic literature by proposing and validating a novel research model for understanding BDP adoption in the MLM context. It offers valuable insights for industry stakeholders and policymakers, providing guidance on promoting digital platform adoption in the post-pandemic business environment.

Keywords: Digital transformation, Technology acceptance, Unified Theory of Acceptance and Use of Technology (UTAUT), Digital business platform (BDP), Multilevel Marketing (MLM), Gender moderating effect

APPROVAL

This is to certify that this thesis conforms to acceptable standards of scholarly presentation and is fully adequate, in quality and scope, for the fulfilment of the requirements for the Doctor of Business Administration

The student has been supervised by: **Prof. Dr. Osman Mohamed**

The thesis has been examined and endorsed by:

Assoc. Prof. Ts. Dr. Mohd Zukime bin Mat Junoh

Universiti Malaysia Perlis

Examiner 1

Assoc. Prof. Dr. Ahmad Sabri Yusuff

Asia e University

Examiner 2

This thesis was submitted to Asia e University and is accepted as fulfilment of the requirements for the Doctor of Business Administration



.....
Dr Khairul Nizam Bin Mahmud

Asia e University

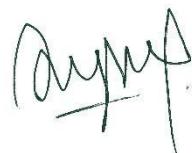
Chairman, Examination Committee

14 January 2025

DECLARATION

I hereby declare that the thesis submitted in fulfilment of the requirements for the Doctor of Business Administration is my own work and that all contributions from any other persons or sources are properly and duly cited. I further declare that the material has not been submitted either in whole or in part, for a degree at this or any other university. In making this declaration, I understand and acknowledge any breaches in this declaration constitute academic misconduct, which may result in my expulsion from the programme and/or exclusion from the award of the degree.

Name: Lee Sau Peng (Edward)



Signature of Student:

Date: 14 January 2025

ACKNOWLEDGEMENTS

I would like to express my heartfelt gratitude to my exceptional supervisor, Professor Dr. Osman Bin Mohamad, for his invaluable guidance, insightful advice, and unwavering support throughout this research journey. His mentorship has been instrumental in shaping the direction and completion of this thesis.

My sincere appreciation also goes to the administrators and academic facilitators of Asia e University for fostering a stimulating and intellectually enriching academic environment that has greatly contributed to my learning and development.

I am deeply thankful for the steadfast support and encouragement from my associates in the MLM industry and my beloved family. In particular, I am profoundly grateful to my dear wife, Chew Swee Heah, and our sons, Jian-Hui, Jian-Min, and Jian-Ze, whose love, patience, and belief in me provided the motivation and strength to persevere and complete this study.

I also wish to acknowledge the professors and researchers whose foundational work has significantly informed and inspired my research.

Finally, I extend my gratitude to everyone who has supported me in any way, directly or indirectly, throughout this journey. Your contributions have been invaluable, and I am deeply appreciative.

Sincerely,



Lee Sau Peng

TABLE OF CONTENTS

| | |
|--|-------------|
| ABSTRACT | ii |
| APPROVAL | iii |
| DECLARATION | iv |
| ACKNOWLEDGEMENTS | vi |
| TABLE OF CONTENTS | vii |
| LIST OF TABLES | x |
| LIST OF FIGURES | xiii |
| LIST OF ABBREVIATION | xiv |
| | |
| CHAPTER 1 INTRODUCTION | 1 |
| 1.0 Chapter Overview | 1 |
| 1.1 Background of the Study | 1 |
| 1.1.1 The Need to Digitalize | 7 |
| 1.1.2 The Challenges of Digitalization | 11 |
| 1.1.3 Context of the Study | 12 |
| 1.1.4 Background Information of MLM Industry in Malaysia | 13 |
| 1.2 Problem Statement | 24 |
| 1.3 Research Questions | 27 |
| 1.4 Research Objectives | 28 |
| 1.5 Scope of the Study | 29 |
| 1.6 Significance of the Study | 29 |
| 1.7 Operational Definition | 31 |
| 1.8 Organization of the Thesis | 32 |
| 1.9 Summary | 33 |
| | |
| CHAPTER 2 LITERATURE REVIEW | 34 |
| 2.0 Chapter Overview | 34 |
| 2.1 Review of the Literature | 34 |
| 2.1.1 Review of Technology Adoption Theory | 34 |
| 2.2 Review of Empirical Studies | 39 |
| 2.2.1 Empirical Evidence Across Countries and Industries | 39 |
| 2.2.2 Technology Acceptance Study during Post Pandemic | 40 |
| 2.2.3 Empirical Studies on Technology Adoption in Malaysia | 49 |
| 2.2.4 Empirical Study Evidences on MLM Industry in Malaysia | 64 |
| 2.3 Gaps of the Study | 72 |
| 2.4 Research Model Development | 74 |
| 2.4.1 Dependent Variable | 74 |
| 2.4.2 Independent Variables | 77 |
| 2.4.3 Moderating Variable | 90 |
| 2.4.4 Theoretical Framework | 102 |
| 2.5 Research Hypothesis | 103 |
| 2.6 Summary | 109 |
| | |
| CHAPTER 3 METHODOLOGY | 111 |
| 3.0 Chapter Overview | 111 |
| 3.1 Research Design | 111 |

| | | |
|---|---|------------|
| 3.1.1 | Type of Research | 113 |
| 3.1.2 | Unit of Analysis | 115 |
| 3.2 | Questionnaire Development | 116 |
| 3.2.1 | Instrument Development | 116 |
| 3.3 | Demographic Variable | 122 |
| 3.4 | Scale of the Measurement | 123 |
| 3.4.1 | Reliability and Validation of Adopted Items | 125 |
| 3.4.2 | Content Validity | 127 |
| 3.5 | Plot Study | 129 |
| 3.6 | Population | 136 |
| 3.7 | Sample Size | 137 |
| 3.8 | Administration of the Data Collection | 139 |
| 3.9 | Data Collection Procedure | 141 |
| 3.9.1 | Data Collection Process | 142 |
| 3.10 | Statistical Technique | 146 |
| 3.11 | Descriptive Analysis | 147 |
| 3.12 | Goodness of Measurement | 148 |
| 3.12.1 | Inner and Outer Model of SEM | 148 |
| 3.13 | Reliability Analysis | 149 |
| 3.14 | Measurement Model and Structural Model | 150 |
| 3.14.1 | Path Coefficient | 150 |
| 3.14.2 | Bootstrapping | 151 |
| 3.15 | Summary | 152 |
| CHAPTER 4 DATA ANALYSIS AND FINDINGS | | 153 |
| 4.0 | Chapter Overview | 153 |
| 4.1 | Participation and Response Rate | 153 |
| 4.2 | Data Screening and Cleaning | 157 |
| 4.2.1 | Data Screening | 157 |
| 4.2.2 | Data Cleaning | 158 |
| 4.2.3 | Summary of Useful Returns | 160 |
| 4.3 | Common Method Bias | 161 |
| 4.4 | Demographic Profile of Respondents | 162 |
| 4.4.1 | Gender | 164 |
| 4.4.2 | Marital Status | 164 |
| 4.4.3 | Age Group | 164 |
| 4.4.4 | Education Level | 165 |
| 4.4.5 | Ethicity Group | 165 |
| 4.4.6 | Industry Experience | 165 |
| 4.4.7 | Distributor Status | 166 |
| 4.4.8 | Company Established Period | 166 |
| 4.4.9 | Cross Tabulation Results | 167 |
| 4.4.10 | Experience on Platform Usage | 172 |
| 4.4.11 | Experience on Platform Feature | 173 |
| 4.4.12 | Descriptive Statistic for Measurement Items | 175 |
| 4.5 | PLS-SEM Procedure | 181 |
| 4.5.1 | Measurement Model Assessment | 181 |
| 4.5.2 | Assessment of Structural Model | 193 |
| 4.5.3 | Moderation Effect of Gender | 203 |
| 4.5.4 | Model Fit Test | 217 |

| | | |
|--|--|------------|
| 4.6 | Summary of the Findings | 220 |
| 4.6.1 | Hypothesis Testing Results | 220 |
| 4.6.2 | Model Explanatory and Predictive Relevant Summary | 221 |
| 4.7 | Summary | 222 |
| CHAPTER 5 CONCLUSION AND RECOMMENDATION | | 224 |
| 5.0 | Chapter Overview | 224 |
| 5.1 | Recapitulation of the Study | 224 |
| 5.2 | Discussion | 226 |
| 5.3 | Behavioral Intention (Dependent Variable) | 227 |
| 5.4 | Influence of Performance Expectancy (PE) | 228 |
| 5.5 | Influence of Social Influence (SI) | 230 |
| 5.6 | Influence of Facilitating Condition (FC) | 233 |
| 5.7 | Influence of Perceived Trust (PT) | 236 |
| 5.8 | Influence of Perceived Product Attribute (PA) | 238 |
| 5.9 | Influence of Moderating Variable (Gender) | 241 |
| 5.10 | Contribution of the Study | 251 |
| 5.10.1 | Theoretical Contribution | 251 |
| 5.10.2 | Methodological Contribution | 254 |
| 5.10.3 | Managerial Contribution | 256 |
| 5.10.4 | Reflection on Broader Implication of Digital Transformation in Similar Industry or Context | 265 |
| 5.11 | Limitation and Future Research Direction | 268 |
| 5.11.1 | Limitation of the Study | 268 |
| 5.11.2 | Future Research Direction | 269 |
| 5.12 | Conclusion | 275 |
| REFERENCES | | 277 |
| APPENDICES | | 291 |
| Appendix A | | 291 |
| Appendix B | | 292 |
| Appendix C | | 293 |
| Appendix D | | 296 |
| Appendix E | | 297 |
| Appendix F | | 299 |
| Appendix G | | 304 |
| Appendix H | | 310 |
| Appendix I | | 349 |
| Appendix J | | 352 |
| Appendix K | | 356 |
| Appendix L | | 357 |
| Appendix M | | 359 |
| Appendix N | | 360 |
| Appendix O | | 367 |

LIST OF TABLES

| Table | | Page |
|--------------|---|-------------|
| Table 1.1 | Business Digitalization Report | 8 |
| Table 1.2 | Business Digitalization Model and Technology | 9 |
| Table 1.3 | MLM Companies Engaging in the Digital business platform | 22 |
| Table 2.1 | Summary of Empirical Studies Across Countries and Industries | 44 |
| Table 2.2 | Summary of Empirical Studies on Technology Acceptance in Malaysia | 53 |
| Table 2.3 | Empirical Studies on MLM Industry in Malaysia | 68 |
| Table 2.4 | Empirical Studies on BI as Dependent Variable (DV) | 75 |
| Table 2.5 | Empirical Studies on PE as Independent Variable (IV) | 78 |
| Table 2.6 | Empirical Studies on SI as Independent Variable (IV) | 81 |
| Table 2.7 | Empirical Studies on FC as Independent Variable (IV) | 83 |
| Table 2.8 | Empirical Studies on PT as Independent Variable (IV) | 86 |
| Table 2.9 | Empirical Studies on PA as Independent Variable (IV) | 88 |
| Table 2.10 | Moderating Effect of Gender on the Relationship between PE and BI | 91 |
| Table 2.11 | Moderating Effect of Gender on the Relationship between SI and BI | 93 |
| Table 2.12 | Moderating Effect of Gender on the Relationship between FC and BI | 96 |
| Table 2.13 | Moderating Effect of Gender on the Relationship between PT and BI | 98 |
| Table 2.14 | Empirical Studies on Moderating Effect of Gender on PA and BI | 100 |
| Table 3.1 | Instrument Development | 117 |

| | | |
|------------|---|-----|
| Table 3.2 | Demographic Variables and Company Established Period | 122 |
| Table 3.3 | Reliability and Validity Result on Constructs and Items Adopted | 125 |
| Table 3.4 | Questionnaires Distribution Report | 131 |
| Table 3.5 | Constructs and Items of Study | 132 |
| Table 3.6 | Reliability Test of the Items | 132 |
| Table 3.7 | Reliability and Convergent Validity Test | 133 |
| Table 3.8 | Fornell-Larcker Criterion Result | 135 |
| Table 3.9 | Heterotrait-Monotrait (HTMT) Ratio Result | 136 |
| Table 3.10 | Online Survey: Advantages & Disadvantages | 141 |
| Table 4.1 | Offline and Online Survey Response Rate | 153 |
| Table 4.2 | Product Category of MLM Companies Involved in the Offline Survey | 155 |
| Table 4.3 | Summary of Data Cleaning | 159 |
| Table 4.4 | Summary of Useful Returns | 160 |
| Table 4.5 | Common Method Bias (CMB) Test Results | 161 |
| Table 4.6 | Summary of Demographic Profile of Respondents | 162 |
| Table 4.7 | Summary of Company Establish Period | 166 |
| Table 4.8 | Cross Tabulation of Ethnicity, Education Level & Distributor Status | 168 |
| Table 4.9 | Cross Tabulation of Gender, Education Level & Distributor Status | 170 |
| Table 4.10 | Cross Tabulation of Gender, Age Group & Industry Experience | 171 |
| Table 4.11 | Descriptive Statistics for Experience on Platform Usage | 173 |
| Table 4.12 | Descriptive Statistics for Experience on Platform Feature | 174 |
| Table 4.13 | Descriptive Statistics for Constructs and Measurement Items | 176 |

| | | |
|------------|--|-----|
| Table 4.14 | Reliability and Convergence Validity Test Result | 182 |
| Table 4.15 | Summary of Items Dropped from the Research Model | 186 |
| Table 4.16 | Cross Loading Test Result | 190 |
| Table 4.17 | Fornell-Larker Criterion Result | 191 |
| Table 4.18 | Heterotrait-Monotrait Ratio of Correlations (HTMT) Test Result | 192 |
| Table 4.19 | Multicollinearity Test Result for Constructs & Items | 193 |
| Table 4.20 | Path Coefficient Result | 195 |
| Table 4.21 | Hypothesis Testing Result (Direct Relationship) | 196 |
| Table 4.22 | MICOM – Composite Invariance (Step 2) Result | 205 |
| Table 4.23 | MICOM – Equal Mean Assessment (Step 3a) Result | 205 |
| Table 4.24 | MICOM – Equal Variance Assessment (Step 3b) Result | 206 |
| Table 4.25 | Full Measurement Invariance Result | 207 |
| Table 4.26 | Path Coefficient Result (Group Analysis) | 208 |
| Table 4.27 | Bootstrapping Result (Moderating Effect) | 209 |
| Table 4.28 | R ² Result | 217 |
| Table 4.29 | f ² Test Result | 218 |
| Table 4.30 | Q ² Predict Result (MV) | 218 |
| Table 4.31 | Q ² Predict (LV) | 219 |

LIST OF FIGURES

| Figure | | Page |
|---------------|--|-------------|
| Figure 1.1 | MyDIGITAL's Objectives Related to Digitalization | 4 |
| Figure 1.2 | Examples of Digitalization Grants from the Government | 6 |
| Figure 1.3 | Multilevel Marketing Distribution Channel | 15 |
| Figure 1.4 | Product Category and Weightage of Direct Sales in Malaysia | 17 |
| Figure 1.5 | Direct Sales Turnover and Growth in Malaysia | 18 |
| Figure 1.6 | Digital business platform of MLM Companies | 21 |
| Figure 2.1 | The Evolvement of Technology Acceptance Theory | 35 |
| Figure 2.2 | The Meta-UTAUT Extension | 38 |
| Figure 2.3 | Theoretical Framework Diagram | 103 |
| Figure 3.1 | Research Flow Diagram | 112 |
| Figure 3.2 | G Power Sample Size Calculator Result | 139 |
| Figure 3.3 | Data Collection Process | 142 |
| Figure 3.4 | Outer Model (Measurement Model) and Inner Model (Structural Model) | 149 |
| Figure 4.1 | Proposed Research Model | 188 |
| Figure 4.2 | Final Research Model | 189 |
| Figure 4.3 | Measurement Invariance of Composite (MICOM) Procedure | 204 |

LIST OF ABBREVIATION

| | |
|-------------|--|
| AJL931222 | The Direct Sales License serial number issued by MDCTA |
| APEC | Asia Pacific Economy Cooperation |
| B2B | Business to Business |
| B2C | Business to Consumer |
| Bonus | Commission earned from the MLM rewarding plan |
| Distributor | The person who joined MLM company as member |
| Downline | The person who joined MLM company under the sponsor |
| DSAM | Direct Sales Association of Malaysia |
| IS | Information System |
| IT | Information Technology |
| MDDA | Malaysian Direct Distribution Association |
| MDEC | Malaysia Digital Economy Corporation |
| MDTCA | Ministry of Domestic Trade and Consumer Affairs |
| MLM | Multilevel Marketing |
| PLS | Partial Least Square |
| SEM | Structural Equation Modelling |
| SmartPLS | A brand name of a statistic software |
| SME | Small and Medium Enterprise |
| Sponsor | The person recommended someone to join MLM company |
| SPSS | A brand name of a statistic software |
| Upline | The person who sponsored someone into MLM company |
| WFDSA | World Federation of Direct Sales |

CHAPTER 1

INTRODUCTION

1.0 Chapter Overview

This chapter provides an overview of the study context, beginning with the background of the study. The researcher outlined the scope of the research and provided background information on the MLM industry in Malaysia, covering its development, challenges, and governance. The problem statement, research questions, and objectives are presented. Additionally, the researcher discussed the significance of the study and how it could contribute to the digitalization acceptance in the MLM industry. In order to comprehend the topics covered in subsequent chapters, the researcher has provided some clear definitions of key variables and terms.

1.1 Background of the Study

Significant changes in the corporate landscape have resulted from the fast evolution of digital technology. Globalization, the digital transformation goal, and the problems posed by the COVID-19 pandemic have all increased the relevance of digital business platforms (Chaudhuri, 2021).

Digital business platforms (BDP) have become critical for enterprises across industries in an increasingly linked and digital environment. They help organizations to capitalize on globalization, promote digital transformation, and overcome the COVID-19 pandemic's obstacles (Kaftan et al., 2023).

Embracing digital platforms enables firms to boost their competitiveness, broaden their reach, and traverse the ever-changing digital market with agility and moving forward. Efficient use of digital business platforms will remain a vital success element in an era characterized by globalization, the digital transformation agenda, and

post-Covid problems (Omri & Chikhaoui, 2023). This perspective emphasizes the need of digital business platforms in dealing with these changing dynamics.

Digital transformation is a strategy to transform the business electronically leveraging on technological innovation and advancement. The purpose is to improve the company's competency or competitive advantage and finally improve business sustainability.

Since the outbreak of the COVID-19 pandemic globally, Malaysia was experiencing this unprecedented phenomenon began from February 2020 which led to the first Movement Control Order (MCO) on the 18th March 2020, and two other MCOs subsequently until the last MCO period which ended in April 2022, the business community had to face some sudden changes of environment during that period of time until April 2022 when the country entered into an endemic stage.

Due to the COVID-19 pandemic challenges, the digital transformation of businesses became the main agenda in the Malaysian Budget 2021 which was passed by the parliament in November 2020. The government has highlighted digital transformation as a critical approach for revitalizing and sustaining the country's small and medium enterprises (MDEC, 2020). The Malaysia Digital Economy Corporation (MDEC) has taken on the responsibility, with an RM500 million grant to support the digitization needs of Small and Medium Enterprises (MDEC, 2020).

As outlined in Figure 1.1, seven ministries and three government agencies are tasked with implementing the strategy's ten objectives. Of these objectives, three are jointly overseen by two ministries, four are managed by individual ministries, and three are handled by individual government agencies.

The three objectives jointly managed by two ministries focus on (1) providing a tailored digital compass to guide the digital transformation of businesses, (2) fostering

a dynamic intellectual property (IP) system to encourage innovation, and (3) stimulating investment through the development of digital industry clusters.

The objectives assigned to individual ministries are diverse and include (1) fostering the growth of local digital champions capable of addressing social and environmental challenges while competing regionally, (2) integrating comprehensive digital economy elements into international trade arrangements and partnerships, (3) introducing a fit-for-purpose tax framework to capture revenue from the expanding digital economy, and (4) establishing online platforms to enhance accessibility for vulnerable groups.

Meanwhile, the objectives under the purview of individual government agencies emphasize regulatory and infrastructural advancements. These include (1) adopting an agile regulatory approach to address the evolving needs of digital economy businesses, (2) aligning pro-competition measures with digital economy policies, and (3) promoting electronic payment onboarding programs to encourage a transition toward a cashless society.

Collectively, these efforts, as outlined in the Malaysia Digital Economy Blueprint, aim to create a robust digital ecosystem. The focus ranges from providing digital transformation guidance to revising IP and tax frameworks, ultimately fostering globally competitive digital businesses and promoting sustainable growth within Malaysia (Yun, 2021).

The Malaysia Digital Economy Blueprint provides a structured approach to achieving nationwide digitalization in long run. By addressing diverse objectives through targeted initiatives and financial support, the government aims to create a sustainable and globally competitive digital economy.

However, achieving this vision will require sustained efforts to overcome existing challenges and ensure inclusive growth for all stakeholders including the involvement from the private sectors.

Figure 1.1: MyDIGITAL’s Objectives Related to Digitalization

MyDIGITAL’s objectives related to digitalisation

| STRATEGIES | LEAD |
|--|--|
| Provide a tailored Digital Compass | Ministry of Entrepreneur Development and Cooperatives (Medac) and Ministry of Communications and Multimedia (KKMM) |
| Grow local digital champions that are capable of solving social and environmental issues and becoming regional players | Ministry of Science, Technology and Innovation |
| Nurture a dynamic intellectual property system to encourage innovations | Ministry of Domestic Trade and Consumer Affairs and KKMM |
| Adopt an agile regulatory approach to meet the needs of digital economy businesses | Malaysia Productivity Corporation |
| Streamline pro-competition measures with digital economy policy | Malaysia Competition Commission |
| Stimulate investment through digital industry clusters | Ministry of International Trade and Industry (MITI) and KKMM |
| Incorporate comprehensive digital economy elements in international trade arrangements and cooperation | MITI |
| Introduce a fit-for-purpose tax framework to capture revenue from digital economy growth | Ministry of Finance |
| Promote an electronic payment onboarding programme for both merchants and consumers towards a cashless society | Bank Negara Malaysia |
| Provide an online platform to facilitate better access for vulnerable groups | Medac |

Note. From “Government should enable a conducive environment for digitalization” by Yun (2021). <https://theedgeMalaysia.com/article/government-should-enable-conducive-environment-digitalisation>. Copyright 2021 by The Edge Malaysia.

In its efforts to drive business digitalization in Malaysia, the government has allocated several digitalization grants, as detailed in Figure 1.2. These grants are managed and executed by the respective ministries and agencies responsible for implementing the digitalization agenda. The Malaysian Investment Development Authority (MIDA), an agency under the Ministry of Investment, International Trade,

and Industry (MITI), oversees three of the four grants. The remaining grant falls under the purview of the Malaysia Digital Economy Corporation (MDEC), an agency under the Ministry of Communications and Digital.

The grants administered by MIDA include the Industry4WRD Intervention Fund, the Industry4WRD Domestic Investment Strategic Fund, and the Automation Capital Allowance (ACA). Meanwhile, the Digital Transformation Acceleration Programme is managed by MDEC.

Despite commendable government initiatives, Malaysian enterprises face significant challenges in achieving digital maturity. According to Yun (2021), over 80% of businesses are still in the early stages of digital transformation, with low employee digital competency being a key obstacle. This gap highlights the urgent need to address foundational issues such as upskilling the workforce and improving digital literacy.

To bridge this gap, the government is intensifying its efforts in capacity-building programs tailored to industry needs. Collaboration between public and private sectors can enhance these initiatives, ensuring employees are equipped to leverage digital technologies effectively. Additionally, raising awareness about the benefits of digital transformation and fostering a culture of innovation within organizations can accelerate progress.

The Malaysian government has demonstrated a strong commitment to driving business digitalization through comprehensive strategies and financial support, including various digitalization grants managed by key agencies such as MIDA and MDEC. These efforts aim to enhance industrial capabilities, foster innovation, and accelerate digital transformation across sectors.

However, challenges persist, particularly in achieving digital maturity among enterprises, as the majority remain in the early stages of their transformation journey. This highlights the need for sustained government intervention, targeted capacity-building initiatives, and broader engagement with stakeholders to ensure that Malaysia fully realizes its digital economy potential and achieves inclusive, long-term growth.

Figure 1.2: Examples of Digitalization Grants from the Government

Examples of digitalisation grants from the government



| GRANT | IMPLEMENTING AGENCY | DETAILS |
|---|---------------------|---|
| Industry4WRD Intervention Fund | Mida | <ul style="list-style-type: none"> Financial support for SMEs in manufacturing and related services sector to implement intervention projects, with a focus on the shift factors of people, process and technology. 70:30 matching grant on a reimbursable basis up to RM500,000 Last date of application: Dec 31, 2021 |
| Industry4WRD Domestic Investment Strategic Fund | Mida | <ul style="list-style-type: none"> Assist manufacturing companies to migrate into IR 4.0 Grant is outcome based and for the purpose of R&D and training activities, modernisation and upgrading of facilities and equipment, among others Company has to adopt an enabling technology in Mida's list 60:40 matching grant on a reimbursable basis Last date of application: Dec 31, 2021 |
| Automation Capital Allowance (ACA) | Mida | <ul style="list-style-type: none"> To encourage automation in industries ACA of 200% on the first RM4 million (labour-intensive industries) or RM2 million (other industries) expenditure incurred within 8 years of assessment from 2015 to 2023 |
| Digital Transformation Acceleration Programme | MDEC | <ul style="list-style-type: none"> Assist companies with minimum revenues of over RM20 million to digitalise, leveraging on the expertise of Digital Transformation Labs 1:1 matching grant to implement a digital transformation pilot |

Note. From “Industry 4.0: Getting SMEs on the IR4.0 train” by Yun (2021).
<https://theedgeMalaysia.com/article/industry-40-getting-smes-ir40-train>. Copyright 2021 by The Edge Malaysia.

1.1.1 The Need to Digitalize

Digital Transformation is a process comprised of digital technology, organization transformation and strategy, the purpose is to create competitive advantage for better performance. Nonetheless, digital transformation cannot be realized without the leverage on the technology advancement which provides the tool for transformation and acts as the agent of change.

On the other hand, Vial (2019) defined Digital Transformation as: “digital transformation as a process where digital technologies create disruptions triggering strategic responses from organizations that seek to alter their value creation paths while managing the structural changes and organizational barriers that affect the positive and negative outcomes of this process”.

Digital Transformation is a multifaceted process that involves the use of digital technology, organization transformation, and strategy to create a competitive advantage and improve performance. The process requires the leverage of technology advancements, which act as an agent of change.

Vial (2019) emphasizes that digital transformation process also involves managing the structural changes and organizational barriers that may arise during the process. Overall, organizations need to adopt a holistic approach to digital transformation to effectively respond to disruptions and alter their value creation paths.

The process of Digital Transformation was defined as using the operational data to analyze and come up with a business model for the Digital Transformation strategy (APEC Small and Medium Enterprises Working Group, 2020). Before the emergence of the COVID-19 pandemic in the Asia Pacific region, the Asia Pacific Economic Cooperation (APEC) which consists of 21 member countries including the USA, China, and Australia, had formed SME working committees to focus on digitalization.

In March 2020, they published a study report which emphasized the importance of digitalization for both businesses and governments (APEC Small and Medium Enterprises Working Group, 2020).

The APEC SME working committee discussed and reported on the general setbacks faced by SMEs in digitizing, which are summarized in Table 1.1.

Table 1.1: Business Digitalization Report

| No. | Findings | Discussion |
|-----|------------------------------------|--|
| 1 | Lack of resources | Such as budget, talented staff, skill workers and lack of infrastructure and technology. |
| 2 | Technology | Lack of knowledge, usefulness/experience on adoption and adaptation. |
| 3 | Innovation culture of organization | New business model & new information structure acceptance depends very much on the organization culture which most SME lack. |
| 4 | Manpower | Lack of manpower to handle the new technology, small organization usually lack manpower. |
| 5 | Barriers | Lack of appropriate Technology or I.T. Solution. |

Note. SME= Small and Medium Enterprise, I.T.= Information Technology

Besides identifying the limitation of SME, the regional organization also recommended that the governments of the member countries play their roles in the following manners:

- 1) Digitalization of the public sector to lead the way.
- 2) Formulate relevant policy in promoting digitalization such as:

- Provide Loans: soft loan & hardware subsidy/technical support.
- Lead by example and promote ideas in their countries.
- Encourage more digital products or business models.
- Collaborate with experts/organizations to assist in business digitalization, training and seminars.
- Review regulation and policy towards friendly digitalization.
- Enhance awareness of the SME players, like highlighting success stories.

The committee had also proposed some Digital business models and technologies for the member countries to look into, among others as listed in Table 1.2.

Table 1.2: Business Digitalization Model and Technology

| No. | Model & Technology | Discussion |
|-----|--------------------------|--|
| 1 | M-Commerce | This involved social media & internet which is a pull traffic method, as an example; e-commerce comprised 44.7% of M-Commerce in USA, it is estimated to hit 50% in 2021. |
| 2 | Sharing economy | Create a platform to share idle resources, such as Bike Sharing & charge sharing. |
| 3 | Internet of Things (IoT) | IoT devices transaction volume reached 7 billion in 2017 and surged to 14.2 billion in 2019, it is estimated to reach 25 billion in 2021 (est.), the IoT market size will reach 1.1 trillion in 2025 (est.). APEC is advised to tap into the market as soon as possible. |