

Journal Objectives

RMUTT Global Business Accounting and Finance Review (GBAFR) has objectives as follows:

1. To be a source of academic works regarding to business management, accounting and finance for scholars as well as any interested persons from both public and private sectors who can utilize them to reference and apply the knowledge obtained from this journal for both individual and organizational benefits either in national or international level.

2. To be a medium for exchanging knowledge in business management, accounting and finance in aspects of theories, related concepts, modern business management, research techniques and methodology, application of knowledge as well as research experiences among faculty members, academicians, researchers, executives, business persons, students and general people who can bring the knowledge from the journal to create benefits and development to the country.

3. To enhance academic ability of faculty members, academicians, researchers, executives, business persons, students and general people about creative researches and knowledge development for benefiting individual, business, industrial and social demands.

4. To develop the potentials of Rajamangala University of Technology Thanyaburi to have been widely recognized for academics, researches, and academic publication in the international standards and recognition.

Possible Fields

RMUTT Global Business Accounting and Finance Review (GBAFR) has opened to accept academic and research articles in the following areas:

- Businesses aspects including economics, marketing, management, logistics and supply chain management, business administration, international business administration, and other related fields,
- Accounting aspects including accounting principles, concepts and theories, accounting execution, accounting system, corporate accounting, accounting laws and regulation, accounting auditing, taxation and other related fields,
- Financial aspects including financial, concepts and theories, financial market, instruments, and financial management Investment and other related fields.

Piracy

Articles will be published in this journal must not be ever presented and published or in the evaluation processes in any other journals. Any piracy occurred will be only under the responsibility of the author (s). The journal will not be responsible for such consequences.

Evaluation Process

RMUTT Global Business Accounting and Finance Review (GBAFR) employs double-blinded peer review method which the authors and expert reviewers do not know and are able to track each other's. At least two expert reviewers from related fields will be cordially invited to assess the articles submitted to the Journal.

Period of Issued Journal

RMUTT Global Business Accounting and Finance Review (GBAFR) will be issued thrice a year with 5-10 academic or research articles. The periods are as follows:

- 1st Issue: January – June
- 2nd Issue: July – December

Contact

Doctor of Philosophy Program Office, the Faculty of Business Administration,
Rajamangala University of Technology Thanyaburi (RMUTT)

39 Moo 1, Rangsit-Nakhonnayok Rd. Klong 6,

Thanyaburi, Pathum Thani, 12110 Thailand

Website: <http://www.journal.rmutt.ac.th>

Phone: +66 2 5494819, +66 2 5493235, +66 2 5494809

Fax: +66 2 5493243

Email: gbafr@rmutt.co.th

Board of Directors

Assoc. Prof. Dr.Chanongkorn	Kuntonbutr	Faculty of Business Administration, RMUTT
Asst. Prof. Dr.Kusuma	Dampitakse	Faculty of Business Administration, RMUTT
Asst. Prof. Dr.Nartraphee	Tancho	Faculty of Business Administration, RMUTT
Asst. Prof. Dr.Santikorn	Pamornpathomkul	Faculty of Business Administration, RMUTT
Asst. Prof. Dr.Supa	Tongkong	Faculty of Business Administration, RMUTT
Dr.Krisada	Chienwattanasook	Faculty of Business Administration, RMUTT

Editorial Board

Prof. Dr.Anya	Khanthavit	Thammasat University, Thammasat University, Kingdom of Thailand
Prof. Dr.Manfred	Kulkens	University of Applied Sciences, Fachhochschule Gelsenkirchen, Germany
Prof. Dr.Sak	Onkvisit	Department of Marketing, One Washington Square, San Jose, United States
Prof. Dr.Taweesak	Theppitak	Faculty of Logistics, Burapha University
Assoc. Prof. Dr.Kanthana	Ditkaew	Faculty of Business Administration and Liberal Arts, Rajamangala University of Technology Lanna Tak
Assoc. Prof. Dr.Chantana	Watanakanjana	Faculty of Management Science, Nakhon Pathom Rajabhat University
Assoc. Prof. Prem	Yapa	RMIT University, Commonwealth of Australia
Asst. Prof. Dr.Chaimongkon	Pholkaew	Faculty of Business Administration, RMUTT
Asst. Prof. Dr.Petcharut	Viriyasuebphong	Faculty of Management and Tourism, Burapha University
Asst. Prof. Dr.Napaporn	Nilapornkul	Faculty of Business Administration, RMUTT
Dr.Ayu Chairina	Laksmi	Universitas Islam Indonesia, Indonesia
Dr.Sang Ho	Kim	International Business School Suzhou (IBSS), Xi'an, People's Republic of China

Editor-in-Chief

Asst. Prof. Dr.Sukontip Wongpun

Assistant Editors

Dr.Thitima Pulpetch

Journal Secretary

Ms.Thanaporn Meesilp

External Peer Reviewers

1. Prof. Dr.Kittisak	Jermsittiparsert	College of Innovative Business and Accountancy, Dhurakij Pundit University,
2. Prof. Dr.Mohamad Hanapi	Mohamad	UUM College of Law, Government and International Studies University Utara, Malaysia
3. Prof. Dr.Piyachat	Jarutirasarn	Rhamkhumhaeng University
4. Assoc. Prof. Dr. Kanthana	Ditkaew	Faculty of Business Administration and Liberal Arts, Rajamangala University of Technology Lanna
5. Assoc. Prof. Dr.Panarat	Panmanee	Faculty of Accountancy, The University of Thai Chamber of Commerce
6. Assoc. Prof. Dr. Sombat	Thamrongsinthaworn	Faculty of Management and Tourism, Burapha University
7. Assoc. Prof. Dr.Tatre	Jantarakolica	Faculty of Economics, Thammasat University
8. Assoc. Prof. Dr.Thanida	Chitnomrath	Faculty of Business Administration, Dhurakij Pundit University
9. Assoc. Prof. Wai	Chamornmarn	Faculty of Commerce and Accountancy, Thammasat University
10. Asst. Prof. Dr. Amarin	Tawata	Faculty of Management Science, Silpakorn University
11. Asst. Prof. Dr.Jantima	Banjongprasert	Silpakorn University International College
12. Asst. Prof. Dr.Jirapa	Phungbangkruay	Faculty of Management and Tourism, Burapha University
13. Asst. Prof. Dr. Kittiphod	Charoontham	Faculty of Business Administration and Accounting, Khon Kaen University
14. Asst. Prof. Dr.Kriengkrai	Boonlert-U-Thai	Faculty of Commerce and Accountancy, Chulalongkorn University
15. Asst. Prof. Dr.Krit	Jarinto	Faculty of Administration and Management King Mongkut's Institute of Technology Ladkrabang
16. Asst. Prof. Dr.Palanuch	Kongka	Faculty of Business Administration, Rajamangala University of Technology Isan
17. Asst. Prof. Dr. Pattarika	Maneepun	Faculty of Business Administration, Mae jo University

18. Asst. Prof. Dr. Prapassorn	Wareesri	Mahasarakham Business School , Mahasarakham University
19. Asst. Prof. Dr. Sungworn	Ngudgratoke	Sukhothai Thammathirat Open University
20. Asst. Prof. Dr. Suteera	Puangpronpitag	Department of Economics, Mahasarakham Business School, Mahasarakham University
21. Asst. Prof. Dr. Teerachai	Arunruangsirilert	Thammasat Business School, Thammasat University
22. Asst. Prof. Teeradaj	Racharak	Japan Advanced Institute of Science and Technology
23. Asst. Prof. Dr. Vichit	U-on	Graduate College of Management, Sripatum University
24. Asst. Prof. Nongnit	Chancharat	Faculty of Management Sciences, Khon Kaen University
25. Dr. Arirat	Chueabunkoet Noth	Faculty of Business Administration and Information Technology, Rajamangala University of Technology Isan Khon Kaen Campus
26. Dr. Chalermsak	Lertwongsatien	Director of Information and Communication Technology, Ministry of Finance
27. Dr. Comtas	Tassawa	Faculty of Management Science, Ubon Ratchathani University
28. Dr. Le	Hieu Hoc	Hanoi University of Science and Technology, Vietnam
29. Dr. Mazurina Mohd	Ali	Universiti Teknologi MARA (UiTM), Malaysia
30. Dr. Nalin	Simasathien Sophon	International College , Suan Sunandha Rajabhat University
31. Dr. Narit	Kerdvimaluang	Faculty of Business Administration, Rajamangala University of Technology Rattanakosin
32. Dr. Naritphol	Boonyakiat	Silpakorn University International College
33. Dr. Natthaorn	Mahathamnuchock	Faculty of Management Sciences, Phetchaburi Rajabhat University
34. Dr. Nuttakit	Iamsomboon	Faculty of Liberal Arts, Rajamangala University of Technology Thanyaburi
35. Dr. Orawee	Sriboonlue	Faculty of Business Administration, Kasetsart University
36. Dr. Paweena	Kongchan	Faculty of Management Sciences, Khon Kaen University

37. Dr.Phoommiphat	Mingmalairaks	School of Management, Mae Fah Luang University
38. Dr.Sawat	Wanarat	Faculty of Business Administration, Kasetsart University
39. Dr.Sookchok	Thongsook-Ularn	Silpakorn University International College
40. Dr.Sorawadee	Srivetbodee	Thammasat Business School, Thammasat University
41. Dr.Supawita	Intarapanich	Faculty of Business Administration, Rajamangala University of Technology Isan
42. Dr. Supasit	Lertbuasin	Graduate School of Commerce, Burapha University
43. Dr.Tenzin	Rabgyal	School of Environment, Resources and Development, Asian Institute of Technology
44. Dr. Tiawan Siricharoen	Kanha	Faculty of Management Sciences, Phetchaburi Rajabhat University
45. Dr. Weerasak	Sawangloke	Mahasarakham Business School, Mahasarakham University

Internal Peer Reviewers: Faculty of Business Administration, (RMUTT)

1. Assoc. Prof. Dr. Panisa	Mechinda
2. Asst. Prof. Dr.Kusuma	Dampitakse
3. Asst. Prof. Dr.Salitta	Saributr
4. Dr.Kanok-On	Kaewprapa
5. Dr.Suraporn	Onputtha

Editorial Note

RMUTT Global Business Accounting and Finance Review (GBAFR) is an academic journal prepared by Graduate Studies (Ph.D. Program), Faculty of Business Administration, Rajamangala University of Technology Thanyaburi (RMUTT). The GBAFR journal aims to disseminate good academic outputs related to business administration, accounting, and finance aspects of individuals from both within and outside the university. It is an intermediate for exchanging academic views as well as a source for promoting and developing research competency of faculty staffs, academicians, researchers, students, and any persons in terms of business administration, accounting, and finance fields.

This journal published five research and academic papers, and one book review. In addition, each of the research and academic articles presented such interesting concepts, for employees' motivation, customer's satisfaction, financial planning for retirement, sustainability reporting and competitive advantage strategy, leading to creating new knowledge to the reader. Therefore, this journal is a channel disseminating the knowledge of business administration, accounting, and finance which related persons could apply it for further benefits.

Lastly, the editorial department and editorial board would like to considerably thank you for supporting and pushing forward this journal to occur and well accomplish. We are hopeful of your good cooperation and continuing support in the future.

Asst. Prof. Sukontip Wongpun, Ph.D.
Editor-in-Chief

Table of Content

	page
Journal Objectives/ Possible Fields/ Piracy/	i
Evaluation Process/ Period of Issued Journal	ii
Editor Team	iii
Editorial Note	vi
Table of Content	vii
Research Articles	
❖ RETURN AND RISK ANALYSIS OF HEALTH CARE SERVICE SECTOR IN PRE-COVID-19 PERIOD AND DURING THE OUTBREAK USING THE CAPITAL ASSET PRICING MODEL (CAPM)	1
Chirawat Saengpao & Tharitsaya Kongkaew	
Keywords: Rate of Return, Risk, Health Care Service Sector, Capital Asset Pricing Model (CAPM)	
❖ INTEGRATED MARKETING COMMUNICATION AFFECTING THE PROCESS OF BUYING DECISIONS IN THAI CUISINE RESTAURANTS IN BANGKOK PRIOR AND DURING COVID 19	14
Patranit Weerachaleepat & Watit Intuluck	
Keywords: Integrated Marketing Communication, Buying Decision, Thai Cuisine Restaurants, COVID 19	
❖ FACTORS INFLUENCING CONSUMER REPURCHASE DECISION: A CASE STUDY OF SUKI TEE NOI	35
Phatthira Satitpakeekul, Chomphunut Chothuang, Rattika Koranee & Krisada Chienwattanasook	
Keywords: Brand Equity, Service Marketing Mix Factors, Repurchase Decision, Suki Tee Noi	
❖ EXPLORING THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND TOURIST BEHAVIORS: AN EMPIRICAL STUDY IN PATHUM THANI THAILAND	47
Katawoot Jeambua & Duangporn Puttawong	
Keywords: Correlation Analysis, Pathum-Thani Province, Socio-Demographic Characteristics, Tourist Behavior	
Academic Articles	
❖ DIGITAL ACCOUNTING FOR THE NEXT FUTURE: STIMULUS, TRANSITION AND JOURNEYS	63
Pongsiri Kamkankaew, Darinee Tantavichet, Siriphan Churimas, Sukrit Limphothong, Vachiraporn Phattarowas, Surakit Khumwongpin & Nateetip Sanpatanon7	
Keywords: Accountant, Digital Accounting, Transition, Industry 4.0, Digital Technology	

Table of Content

	page
Book Review	
❖ Introduction to MEDIATION, MODERATION, AND CONDITIONAL PROCESS	83
ANALYSIS A Regression-Based Approach 3rd Edition	
Author: Andrew F. Hayes	
Reviewed by: Supa Tongkong	

RETURN AND RISK ANALYSIS OF HEALTH CARE SERVICE SECTOR IN PRE-COVID-19 PERIOD AND DURING THE OUTBREAK USING THE CAPITAL ASSET PRICING MODEL (CAPM)

Chirawat Saengpao¹

Tharitsaya Kongkaew^{2*}

Received 6 September 2022

Revised 30 October 2022

Accepted 11 November 2022

ABSTRACT

The purpose of this research was to compare the rate of return with the investment risk in health care service sector listed on the Stock Exchange of Thailand. This study was divided into 2 periods; pre-COVID-19 (2016-2018) and during the COVID-19 pandemic (2019-2021). The sample group of this study is 16 firms in health care service sector listed on the Stock Exchange of Thailand. The research tools included the calculation of return rate and investment risk. To compare the return rate and the risk from investment, this study used the capital asset pricing model (CAPM) before creating the security market line (SML). The results revealed that in the pre-COVID-19 period, there were 9 securities that were recommended to invest as they were undervalued. During the COVID-19 pandemic, there were 10 securities that were recommended to invest in as they were undervalued. Between the two periods, 5 securities: BCH, CMR, PRINC, RAM, and SKR were recommended to invest in since they were above SML, reflecting that the securities were undervalued. Thus, the actual return of these securities was more than the expected rate of return. The findings of this study can be used as a guideline for those looking to invest in health care service securities.

Keyword: Rate of Return, Risk, Health Care Service Sector, Capital Asset Pricing Model (CAPM)

^{1,2} Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Thailand.

E-mail: ¹Chirawat_sa@rmutt.ac.th

*Corresponding author email: Tharitsaya@rmutt.ac.th

Introduction

To make an investment decision, investors need to focus on the rate of return and investment risk. The commonly used model for describing the relationship between rate of return and risk is the capital asset pricing model (CAPM) by Sharpe (1964) developed on portfolio theory by Markowitz (1952). The model emphasizes systematic risk and unsystematic risk which are the two risks in the portfolio theory. According to the CAPM, it is assumed that a return of a security is directly proportional to its systematic risk, which cannot be mitigated by diversification, such as interest rates, inflation, the economy. Moreover, the rate of return of a security is assumed to be equal to the risk-free rate plus a market risk premium or excess returns are proportional to systematic risk, which is indicated by the beta coefficient. Thus, this model is used to analyze the risk-return implications of holding securities.

The COVID-19 pandemic has been critical in several countries around the world, including Thailand. The outbreak still continues and affects the economy in all sectors. The COVID-19 pandemic is one of the major factors that have accelerated and make a huge change in the world with the ability to spread easily, and many people are unknowingly spreading the virus during the period when the infected person does not have symptoms. As a result, economic activity around the world faces stagnation. The first round of the COVID-19 pandemic in Thailand started in 2019 and continued through 2020 and 2021 throughout the year. The vast number of relief measures offered by the government to treat the majority of low-income cardholders and other groups in general has forced the State to borrow money to cover all sectors in need, and now more than 1.5 trillion baht has been spent (Chalamwong, 2021).

The Securities Exchange of Thailand (SET) index, which represents the Thai stock market, became 35% lower since the beginning of the year to its lowest point on 23 March 2020, led by petrochemicals, banks, real estate developers, hospitals, and tourism-related groups. During the same period, foreign investors had accumulated sales volumes of more than 100 billion baht. This amount was more than double the sales traded on the stock exchange in 2019 despite the COVID-19 pandemic (The Securities Exchange of Thailand, 2021). However, it is said that health care service securities are one of the industries that have gained benefit from this pandemic. Due to the public demand of getting treatments, the share price and operating performance have moved in a great direction. The clarity of vaccine allocation and COVID-19 prevention measures of the government create confidence in the ability to control the pandemic and the reduction of the infected patients after vaccination has started. The restrictions would eventually be loosened and later allow foreigners to receive treatment in Thailand. In addition, the demand for public health services in Thailand is driven by the mega-trend factors of an aging society, an increase in middle-income class, an increase in the number of patients with complex diseases, and a promotion of health tourism. The proportion of health expenditures to the gross domestic product could still grow from 3.8% to nearly the world average of 9.9% (Kritniphat, 2021). Since the beginning of 2022, securities in the health care service sector had been the most prominent. As of 17 March 2022, health care service stocks rose by 9.8%. Considering the pandemic

situation in the 2021 period, health care service sector securities were the 4th largest growth with an increase of 24.8% (Kenganantan, 2022). Therefore, it can be assumed that the securities in the health care service sector would still be attractive and are expected to grow in the future.

Hence, the researcher conducted a comparative study of the rate of return and risk of investing in health care service securities by using CAPM, which can predict the desired rate of return on investment relative to the actual rate of return regardless of the circumstances. The securities during the pre-COVID-19 period and during COVID-19 pandemic were analyzed and compared to find the ones that should be invested in and to find the ones with undervalued prices. The results of this study can be used as a guideline for those who desire to make investment decisions in health care service securities. Likewise, companies in the health care sector can also use the data to improve their future performance.

Research Objectives

To compare the rate of return and the risk from health care service sector in the pre-COVID-19 period and during the COVID-19 pandemic by using CAPM.

Literature Review

Rate of Return

The return from investment is usually expressed as a percentage relative to the beginning investment and often calculated per year, or sometimes calculated per period. This is known as “rate of return”, which is the return that investors would obtain or expected to obtain from a particular investment.

Security return refers to the realised return and expected return. Realised return arises after an event occurred, while expected return is the return that the investors expect to receive in the future. Therefore, expected return, including dividend and the capital gain, can be referred to as the return that arises before the event occurred.

The equation of rate of return from securities i is presented as follows:

$$R_i = \left(\frac{D_t + (P_t - P_{t-1})}{P_{t-1}} \right) \times 100$$

where:

R_i	=	Rate of return from securities “ i ”
D_t	=	Dividend of securities “ i ” at trading day t
P_t	=	Closing price of securities “ i ” at trading day t
P_{t-1}	=	Closing price of securities “ i ” at before trading day t

Risk of Investment

Risk of investment refers to the opportunities of not getting the return as expected. Such risk can be divided into two types: systematic risk and unsystematic risk. Several causes make securities

result with different yields, and one of the causes is the impact of the factors that have occurred towards all the securities.

Risk can be measured by measurements that are widely used are as follows:

1) Standard deviation (σ) is the characteristic of the distribution of the return rate. σ is used to indicate the fluctuation of the expected return of investment. The high value of σ reflects the high level of risk of that particular security. The low value of σ reflects the low risk of that particular security.

The equation of standard deviation is presented as follows:

$$\sigma_i = \sqrt{\frac{\sum_{i=1}^n (R_i - \bar{R}_i)^2}{n-1}}$$

where:

σ_i = Standard deviation from securities "i"

R_i = Rate of return from securities "i"

\bar{R}_i = Average rate of return from securities "i"

n = Number of data

2) Beta coefficient (β) is the measurement of the systematic risk. The beta value refers to the change in rate of return of the security relative to the one unit change of the market return. Moreover, β indicates the relationship between the rate of return and market return. The value of beta can be interpreted in three cases as follows:

If $\beta > 1$, the change in the rate of return is higher than the change in the market return. When the relationship between the rate of return and market return is positive, the rate of return will move in the same direction as the change in the market rate of return.

If $\beta = 1$, the change in the rate of return of a security equal to the change in market return.

If $\beta < 1$, the change in the rate of return of a security is lower than the change in the market return. When the relationship between the rate of return and market return is negative, the rate of return will move in the opposite direction from the change in the market rate of return.

The equation of beta coefficient is presented as follows:

$$\beta_i = \frac{\text{COV}_{i,m}}{\sigma_m^2}$$

where:

β_i = Beta coefficient from securities "i"

$\text{COV}_{i,m}$ = Covariance between rate of return from securities "i" and market return

σ_m^2 = Variance of Market

Capital Asset Pricing Model (CAPM)

CAPM, invented by Sharpe (1964), has been widely used till the present. This model focuses on the systematic risk or beta coefficient as it is an unavoidable external risk of every business that impacts the price of all securities in the market. The equation of this model is presented as follows:

$$E(R_i) = R_f + \beta_i(R_m - R_f)$$

where:

$E(R)_i$	=	Expected return of securities "i"
R_m	=	Market rate of return
R_f	=	Risk-free rate of return
β_i	=	Systematic risk or the beta coefficient of securities "i"

Security market line (SML) presents the relationship between the expected rate of return and the risk of security. SML is crucial for evaluating the value of securities at equilibrium. The securities that yield at SML indicates the desired level of return by investors, which is the expected rate of return. Those lying under SML indicate a lower return rate than the market return, and reflect that the price of the security is overvalued. However, those lying above SML indicate a higher return rate than the market return, and reflect the undervalued stock price.

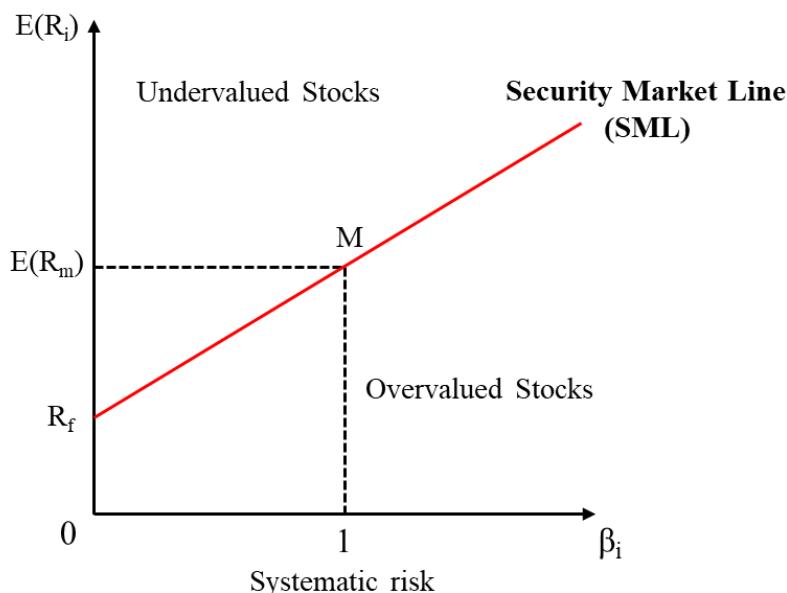


Figure 1 The relationship between the desired rate of return and the risk of security

Related Research

Usman (2022) conducted a study to compare the optimal portfolio composition with the capital asset pricing model (CAPM) of securities in the liquid-45 index (ILQ-45) before and during COVID-19 on the Indonesia Stock Exchange from May 2018 to December 2021. The results showed that in -pre-COVID-19 period, 8 stocks with a realised return were at a higher level than the expected

return. During the COVID-19 period, 14 stocks with a realised return were at a higher level than the expected return.

Khampheng and Pastpipatkul (2019) conducted a study on the estimation of capital asset pricing model of health care services sector in the Stock Exchange of Thailand from January 2009 to December 2014, which was combined with a market uptrend (bullish state) and a market downturn (bearish state). The instruments used in their study were Markov-Switching Model and the two-regime Markov-switching model. According to the result presented with the securities market line (SML), the expected returns of BDMS, BH, SVH, RAM, and BCH securities were over the SML when the market was up-trending, reflecting undervalued securities. Only the expected return of RAM stocks was found to be over the SML when the market was down-turning.

Chanthong (2015) analysed the rate of return and risk of health care service securities listed on the Stock Exchange of Thailand by using the capital asset pricing model (CAPM) in the period January 2006 to December 2015. The results showed that the healthcare sector held 15 stocks: ACH, BH, BCH, CHG, CMR, KDH, NEW, NTV, RAM, SRK, SVH, VIBHA, and VIH. The return was above the equilibrium level, and the stocks were undervalued.

Research Methodology

Population and Sample Group

The securities in the health care service sector listed on the Stock Exchange of Thailand (SET) were used in this study. The study periods were the pre-Covid 19 (2016-2018) and during the COVID-19 pandemic (2019-2021). In total, there were 16 securities with complete information presented in both periods.

Data Collection

The variables in this study were collected from SET database and Aspen database. For example, the monthly closing prices of securities were collected to calculate the rate of return (R_i), the data on SET TRI Index were used to calculate the market rate of return (R_m), and the rate of return of the 10-year government bonds from the Thai Bond Market Association (ThaiBMA) were used as the risk-free rate of return (R_f).

Methods

1. Calculate the rate of return, realised return, standard deviation, and beta coefficient of the securities in the health care service sector,
2. Calculate the expected rate of return of the securities in the health care service sector by using the CAPM, and
3. Compare the expected rate of return and the realised return of the securities obtained from the calculation and draw security market line (SML).

Results

Table 1 Analysis rate of return from securities in health care service sector

Securities	Average Annual Rate of Return (Ri) (Percent)	
	pre-COVID-19	during the COVID-19
AHC	-21.31	1.24
BCH	29.12	13.60
BDMS	7.69	4.14
BH	-1.66	-2.43
CHG	-2.76	24.82
CMR	24.98	18.31
KDH	7.90	-1.05
LPH	1.23	11.27
NEW	1.93	6.72
NTV	15.69	-8.77
PRINC	15.31	10.57
RAM	13.04	20.66
SKR	7.85	43.80
SVH	17.61	0.43
VIBHA	2.55	16.05
VIH	10.32	24.75
SET TRI INDEX	10.17	5.70

Table 1 presents the analysis of the return rate in health care service sector. In the pre-COVID-19 period, the average annual market rate of return was 10.17%, and there were 7 securities: BCH, CMR, NTV, PRINC, RAM, SVH, and VIH that had higher return than average market return. The security with the highest rate of return was BCH with 29.12%, while ACH was the security with the lowest rate of return of -21.31%.

During the COVID-19 pandemic, the average annual market return was 5.70% and there were 10 securities that yield higher than the average market return, including BCH, CHG, CMR, LPH, NEW, PRINC, RAM, SKR, VIBHA, and VIH. The security with the highest rate of return was SKR with 43.80%, while NTV was the security with the lowest rate of return of -8.77%.

Table 2 Total risk and systematic risk of securities in health care service sector

Securities	Total Risk (σ)		Systematic Risk (β)	
	pre-COVID-19	during the COVID-19	pre-COVID-19	during the COVID-19
AHC	4.04	5.58	0.28	0.35
BCH	7.70	9.18	1.23	0.55
BDMS	5.91	6.89	0.46	0.94
BH	6.54	9.20	0.55	1.03
CHG	8.44	7.60	0.91	0.38
CMR	15.51	12.24	0.96	0.77
KDH	6.75	7.08	0.49	0.63
LPH	6.39	9.36	0.70	0.92
NEW	7.44	12.10	0.04	0.31
NTV	5.22	4.12	0.94	0.50
PRINC	9.27	12.08	0.63	1.18
RAM	7.28	5.64	0.40	0.31
SKR	6.33	5.71	0.38	0.50
SVH	5.23	3.32	0.30	0.38
VIBHA	6.72	9.49	1.43	0.63
VIH	10.22	10.28	1.37	0.66
SET TRI INDEX	3.12	6.19	1.00	1.00

Table 2 presents the total risk analysis (σ). In the pre-COVID-19 period, it was found that the total risk of the market was at 3.12%. All of the 16 securities in the health care service sector had a higher risk than the market risk. CMR was the security with the highest total risk of 15.51%, and AHC was the security with the lowest total risk of 4.04%. During the COVID-19 pandemic, the total risk of the market was at 6.19%, and the total risk of 11 securities: BCH, BDMS, BH, CHG, CMR, KDH, LPH, NEW, PRINC, VIBHA and VIH, was higher than the market average. CMR was presented as the security with the highest total risk of 12.24%, while SVH was presented as the security with the lowest total risk of 3.32%.

According to the analysis of systematic risk or beta coefficient (β), all of the 16 securities were found to be positive. This reflects the same direction of change in return rate as the change of the market. In the pre-COVID-19 period, there were 3 securities: BCH, VIBHA and VIH with the $\beta > 1$. VIBHA was the security with the highest beta coefficient at 1.43. During the COVID-19 pandemic, BH and PRINC were the two securities with the $\beta > 1$. PRINC was the security with the highest beta coefficient at 1.18. This reflects the higher return from the security investment over the market return.

Table 3 Comparison of realised return and expected return of securities in health care service sector

Securities	Pre-COVID-19			During the COVID-19		
	Realised Return (R_i)	Expected Return $E(R_i)$	Decision	Realised Return (R_i)	Expected Return $E(R_i)$	Decision
AHC	-21.31	4.20	Overvalued	1.24	3.23	Overvalued
BCH	29.12	12.08	Undervalued	13.60	3.97	Undervalued
BDMS	7.69	5.67	Undervalued	4.14	5.48	Overvalued
BH	-1.66	6.43	Overvalued	-2.43	5.80	Overvalued
CHG	-2.76	9.39	Overvalued	24.82	3.33	Undervalued
CMR	24.98	9.81	Undervalued	18.31	4.81	Undervalued
KDH	7.90	5.96	Undervalued	-1.05	4.29	Overvalued
LPH	1.23	7.71	Overvalued	11.27	5.39	Undervalued
NEW	1.93	2.20	Overvalued	6.72	3.09	Undervalued
NTV	15.69	9.63	Undervalued	-8.77	3.78	Overvalued
PRINC	15.31	7.10	Undervalued	10.57	6.40	Undervalued
RAM	13.04	5.24	Undervalued	20.66	3.06	Undervalued
SKR	7.85	5.07	Undervalued	43.80	3.81	Undervalued
SVH	17.61	4.35	Undervalued	0.43	3.33	Overvalued
VIBHA	2.55	13.73	Overvalued	16.05	4.29	Undervalued
VIH	10.32	13.21	Overvalued	24.75	4.39	Undervalued

In Table 3, when the CAPM was taken into consideration, the realised return (R_i) of the invested securities must be higher than the expected return $E(R_i)$. In pre-COVID-19 period, 9 securities: BCH, BDMS, CMR, KDH, NTV, PRINC, RAM, SKR, and SVH, had higher realised return over the expected return, which reflects undervalued stock price. During the COVID-19 pandemic, there were 10 securities: BCH, CHG, CMR, LPH, NEW, PRINC, RAM, SKR, VIBHA, and VIH, with higher realised return over the expected return, which reflects undervalued stock price.

The securities in the pre-COVID-19 period and during the COVID-19 pandemic were compared, and 5 securities: BCH, CMR, PRINC, RAM, and SKR were found to be undervalued when compared with their expected return at the same level of risk. Since the price of these 5 securities tended to increase both in pre-COVID-19 period or during the outbreak, it was suggested to invest in the securities.

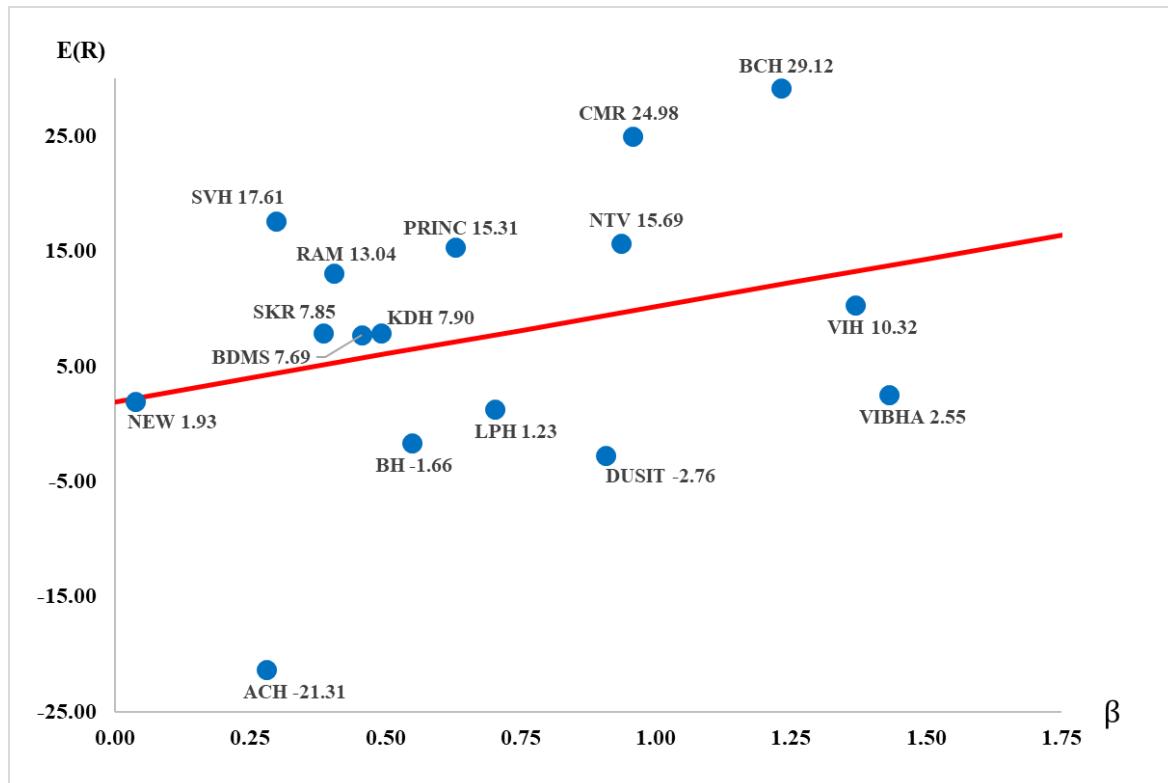


Figure 2 Investment decisions of securities in health care service sector by using security market line (SML) in pre-COVID-19 (2016-2018)

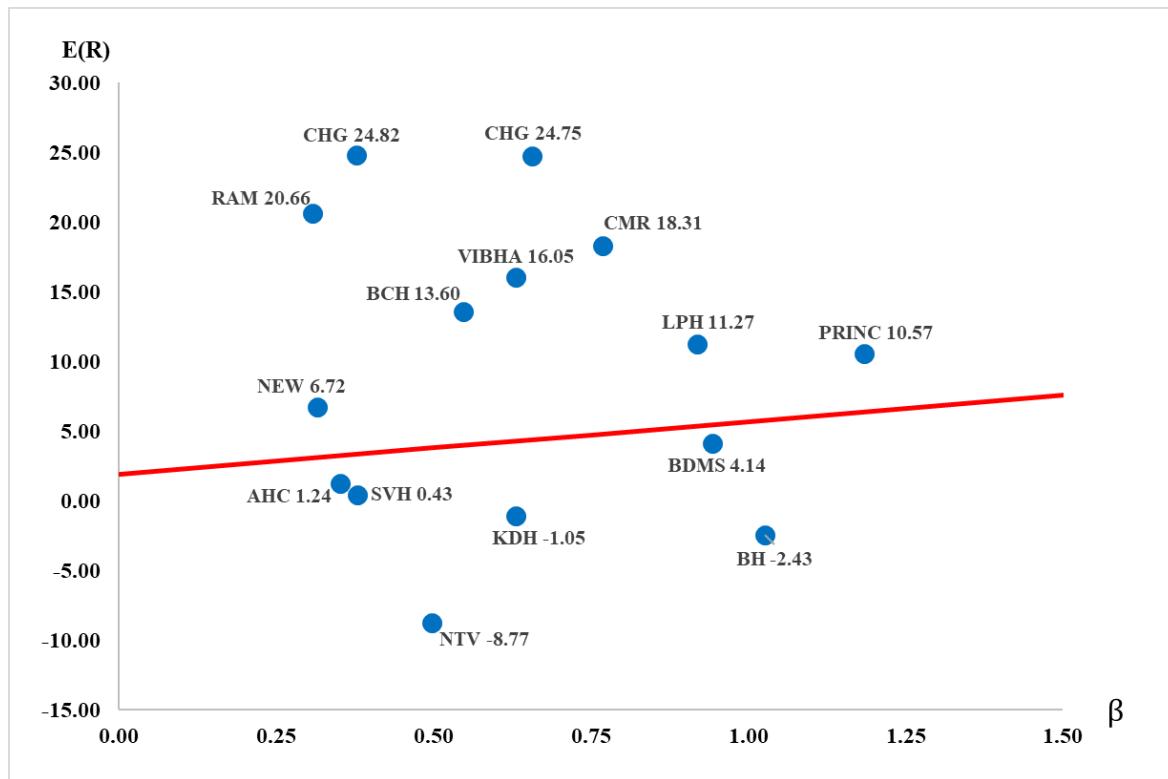


Figure 3 Investment decisions of securities in health care service sector by using security market line (SML) during the COVID-19 (2019-2021)

Security Market Line (SML)

In the pre-COVID-19 period, the positions of the 9 securities: BCH, BDMS, CMR, KDH, NTV, PRINC, RAM, SKR, and SVH were above the SML as shown in Figure 2.

During the COVID-19 pandemic, the positions of the 10 securities: CMR, LPH, NEW, PRINC, RAM, SKR, VIBHA and VIH were above the SML as shown in Figure 3.

When the securities in the pre-COVID-19 period and during the COVID-19 pandemic period were compared, 5 securities: BCH, CMR, PRINC, RAM and SKR yielded above the SML. It indicates that these securities yield a higher return than the expected return and can be considered as undervalued shares. When comparing the expected return with the same level of risk, these shares were suggested for investment. The reason is that the price of these shares would gradually increase in both pre-COVID-19 period and during the COVID-19 pandemic.

Summary and Discussion

For the rate of return during the pre-COVID-19, BCH was presented as the security with the highest annual rate of return, while AHC was presented as the lowest. 7 securities: BCH, CMR, NTV, PRINC, RAM, SVH, and VIH demonstrated a higher annual rate of return than the market rate of return. During the COVID-19 pandemic, SKR was the security with the highest annual rate of return, while NTV was the lowest. During this period, 10 securities: BCH, CHG, CMR, LPH, NEW, PRINC, RAM, SKR, VIBHA, and VIH, demonstrated a higher annual rate of return than the market rate of return.

For the total risk of investment during the pre-COVID-19 period, there were 16 securities with higher levels of risk than the market level, and CMR was the security with the highest level of risk. During the COVID-19 pandemic, 11 securities: BCH, BDMS, BH, CHG, CMR, KDH, LPH, NEW, PRINC, VIBHA, and VIH, had a higher level of risk than the market level, and CMR was still the security with the highest level of risk. Obviously, CMR was the security with the highest total return in the two periods. However, based on the CAPM, CMR was the security with the higher rate of realised return than the expected return, reflecting that the price was undervalued. Therefore, it was suggested to invest in CMR.

The systematic risk or beta coefficient was positive for the 16 securities. During the pre-COVID-19 period, it was found that BCH, VIBHA, and VIH were the 3 securities with $\beta > 1$. VIBHA was presented as the security with the highest beta coefficient. During the COVID-19 pandemic, BH and PRINC were the only two securities with $\beta > 1$. PRINC was the security with the highest beta coefficient. Moreover, all the health care service sector had a positive beta coefficient, indicating that health care service sector had changed in the same direction as the change of market according to Pupusson (2009), and Chanthong (2015).

In terms of the realised return and the expected return during the pre-COVID-19 period, it was recommended to invest in these 9 securities: BCH, BDMS, CMR, KDH, NTV, PRINC, RAM, SKR, and SVH. During the COVID-19 period, it was suggested to invest in these 10 securities: BCH, CHG,

CMR, LPH, NEW, PRINC, RAM, SKR, VIBHA, and VIH. The result of this study is in accordance with Usman (2022), who found that there were a number of stocks with a higher realised return than the expected return during the COVID-19 period. However, disregarding the COVID-19, there were 5 securities: BCH, CMR, PRINC, RAM, and SKR with higher realised returns than the expected return, and were located above SML. In other words, the securities were undervalued compared with the expected return at the same level of risk. Therefore, it was suggested to invest in these securities since their prices were expected to increase. The result of this study is in accordance with Khampheng and Pastpipatkul (2019), who stated that the price of RAM was undervalued. Furthermore, the result also supports the findings of Chanthong (2015), who stated that the prices of BCH, CMR, RAM, and SKR were undervalued and considered as aggressive stocks since the return from the investment of these securities were higher than the market return.

Recommendations

Recommendations from the study

This study presents the efficient ways to make an investment decision, which would benefit analysts working relevant to return and risk of stocks, as well as investment on securities in health care service sector. Furthermore, the number of undervalued stocks during the COVID-19 pandemic are more than pre-Covid period. This fact would benefit the investors whose favourite stocks are in health care service sector. Moreover, this can be used to analyse the risk-return implications of holding securities since beta represents systemic risk while the graphical analysis and regressions were used to provide evidence for a sloped SML on the SET in this study.

Recommendations for future research

1. This study focused on the change of market in the pre-COVID-19 and during the outbreak, and only used the information for making investment decisions in the medical securities. The study on securities in other business sectors on the Stock Exchange of Thailand should also be conducted to provide a guideline for making an investment decision, diversifying investments into other sectors, and providing alternatives for investors.

2. This study only used the CAPM to determine the return and risk of investment. For future studies, it is suggested to consider other factors, such as economic conditions and government policies by using technical analysis, qualitative analysis, and the Fama-French 3 Factor Model or 5 Factor Model in order to obtain more efficient investment guidelines.

References

Chalamwong, Y. (2021). *The impact of COVID-19 epidemic round 2, continuous round 3 with the direction of the Thai labor market*. Retrieved from <https://tdri.or.th/2021/04/covid-19-2-3-affected-thai-labor-market/>

Chanthong, N. (2015). *Analysis rate of return and risk of of health care service securities listed on the Stock Exchange of Thailand by using the translated securities valuation model (CAPM)*. (Master's degree, University of the Thai Chamber of Commerce, Thailand).

Kenganantanon, S. (2022). *Hospital stocks surged, benefiting from 3 factors supporting THG, up 100% from the previous year*. Retrieved from <https://thestandard.co/hospital-stock>.

Khampheng, N., & Pastpipatkul, P. (2019). *The Estimation of Capital Asset Pricing Model of Health Care Services Sector in the Stock Exchange of Thailand Using Markov-switching Model*. (Master's Degree, Chiangmai University, Thailand).

Kritniphat, S. (2021). *Hospital stocks, the future is bright*. Retrieved from <https://www.setinvestnow.com/th/knowledge/article/165-the-recovering-future-of-medical-service-stocks-after-covid19-crisis>

Markowitz, H. M. (1952). Portfolio Selection, 1959. *Journal of Finance*, 7(1), 77-91.

Pupusson, W. (2009). *CAPM Model of Medical Group Securities in the Stock Exchange of Thailand*. (Bachelor's degree, Silpakorn University, Thailand).

Sharpe, W. F. (1964). Capital asset prices: A theory of market equilibrium under conditions of risk. *The journal of finance*, 19(3), 425-442.

The Securities Exchange of Thailand, S. (2021). *COVID puts companies on the stock exchange on how to change*. Retrieved from <https://www.setinvestnow.com/th/knowledge/article/203-covid-company-change>

Usman, U. (2022). Comparison Analysis of optimal portfolio with The Capital Asset Pricing Model (CAPM) before and during the COVID-19 pandemic. *AJIRSS: Asian Journal of Innovative Research in Social Science*, 1(3), 89-97.

INTEGRATED MARKETING COMMUNICATION AFFECTING THE PROCESS OF BUYING DECISIONS IN THAI CUISINE RESTAURANTS IN BANGKOK PRIOR AND DURING COVID 19

Patranit Weerachaleepat¹

Watit Intuluck^{2*}

Received 11 September 2022

Revised 14 December 2022

Accepted 21 December 2022

ABSTRACT

This paper studied the influence of integrated marketing communication on the process of buying decisions in Thai cuisine restaurants, specifically in department stores among customers in Bangkok prior to and during COVID 19. Convenience sampling was employed, and the total sample size was 239 customers who bought food and services from Thai Cuisine restaurants prior to and during the COVID 19 pandemic in Bangkok. In quantitative research methods, the data is collected by a questionnaire and analyzed by statistical techniques including percentage, standard deviation, a paired-sample t-test, F-test, and multiple regression. The findings revealed that there were no statistically significant differences in the level of importance in the process of buying decisions, in terms of purchase decisions made in the case of prior to COVID 19 and direct marketing in the case of during COVID 19. There was no difference between genders in the integrated marketing communication in both periods. Moreover, advertisement only had a statistical influence on information search prior to COVID 19 and had no statistical influence on the process of buying decisions during the crisis. Personal selling had a statistical influence on purchase decisions and post-purchase behavior prior to COVID 19, whilst it also had a statistical influence on the alternative evaluation stage, purchase decisions and post-purchase behavior during COVID 19. Direct marketing had a statistical influence on information search, alternative evaluation, and post-purchase behavior prior to COVID 19, and it only had a statistical influence on information search and alternative evaluation during COVID 19. The suggestion is that restaurant owners might ensure that their customers make more confident purchasing selections by enhancing the aforementioned factors, including public relations and sales promotions before COVID 19 and only sales promotions during the COVID 19 crisis.

Keywords: Integrated Marketing Communication, Buying Decision, Thai Cuisine Restaurants, COVID 19

^{1 2} Faculty of Hospitality Industry, Dusit Thani College, Thailand

* Corresponding author email: watit.in@dtc.ac.th

Introduction

The coronavirus situation leads to many challenges for marketing, in terms of marketing mix, marketing communication, and consumer behavior (Murphy, Naert, & Strong, 2020). Policymakers need to understand this situation has been leading to the effect of financial problems and behavior modification will still have enormous social and economic impacts, such as in the affected areas of radical changes in consumer behavior, like a sudden increase in changes to consumption patterns. The authors also mentioned that most of the marketing theories assumed that everything was constrained or could not be interrupted by any virus. Although the situation is still ongoing, a few researchers are trying to study the issue of the spread of the coronavirus (COVID 19) that affects various factors, such as Tucker and Yu (2020), who are studying the first impact of social constraints from the Coronavirus. The authors studied the effect on consumer brands in the United States in a retail trade survey in the first three weeks of March 2020 and found that the nation's overall demands declined markedly from various restrictive policies. However, there are only a few data sets about the restaurant trade that focus specifically on delivery because of that limited scope. Finally, large retailers are affected by government restrictions, especially full-service stores. The study of the impact of the Coronavirus on Husanat's Malaysian e-business and team (2020) found that the country's economic growth has diminished, and the broader e-commerce business is suffering as major retailers have temporarily closed their stores. Aside from that, small and medium-sized retailers are struggling with the situation due to low footfall in their stores. In addition, online businesses are not yet on the list of research.

In Thailand, there are more than 320,000 restaurants around the country. In 2019, there were 70,419 new restaurants opened, which was double the amount from 2018. Bangkok is the city that has the most restaurants opened in Thailand (Wongnai.com cited in Rotchana, 2020). The restaurant business is particularly important in Thailand's hospitality industry and economic system. Because there are a lot of players in this industry, from small businesses such as street food stalls to international chain companies, this creates a linkage to several business sectors in the country. The volume of the restaurant industry was calculated as 4.7% of Thailand's GDP. The restaurant industry in Thailand has been estimated to be expanded at 1.4–2.4% in 2019, which means that the volume could be up to 437,000–441,000 million baht (MarketingOops, 2020). This is because the players in the market have seen that food is a main physiological need for humans. Everyone needs to eat food to survive, and therefore, in this industry, there are always new players who enter the industry. Also, according to the results from the "Economy and Society of Thai Family Survey" (2008-2018), Thai families have increased their average spending on eating out and buying takeaway food by up to 6.5%, which is more than is spent on cooking at home, which expanded by only 2.1%. This is because of changes in customers' lifestyles in that they want speed and convenience when consuming food (GSB Research, 2019), including newly developed technology that assists customers to easily receive relevant information from businesses to make informed choices and helps businesses to reach potential customers (Department of Business Development, 2019).

From the new normal trends above, business and marketing teams must adjust the communication methods to promote their business, as the new normal lifestyle creates new normal marketing trends (Brand Buffet, 2020). The first of these trends is experimental marketing, which focuses on providing customers with emotional benefits from the company's products and services, such as having staff provide extra services for tailoring the customers' dining experience to create more value in the products and services. Due to COVID 19, people are afraid of joining group activities, and therefore they do not want to get closer to other people as a result, meaning that customers will have more interest in contactless (touch-free) actions when consuming. Therefore, marketers need to adjust marketing strategies to support the changes in customers' lifestyles and behavior. Secondly, from a collectivism and individualist standpoint, Thai people favored social gatherings and enjoyed engaging in other people which are behaviors that go against individualism. However, COVID 19 is making people change their lifestyles and behaviors, and one of the important changes is working from home or online studying, which makes people less focused on self-image because they do not have to present a good self-appearance as they did when they attended social activities. As a result, any marketing initiatives that emphasize consumers' social status and self-image will need to modify their business model and marketing strategies. Thirdly, the end of the new-oriented - People, especially Gen Y, who will change their behaviors from their current "happy now" mentality in that they are willing to pay a high price in exchange for a once in a lifetime experience. This generation has not normally been focused on saving money because they are in the period of life where they are earning money, so they spend money just for today. However, due to COVID 19, a crisis that has caused some individuals to lose their jobs or have lower incomes, they will start to worry more about saving and will seek out several sources of income to carry out their long-term plans. As a result, people's lifestyles will increasingly require goods and services that have long-term advantages, such as conserving money, life insurance, health items for enhancing the immune system, eating for good health rather than merely happiness, good flavor, and being attractive (instragrammable). Marketers will need to keep an eye on new normal trends and develop marketing strategies to support customers' insights.

Even though COVID-19 will end, there will be an economic crisis that is a result of the Coronavirus outbreak (MarketingOops, 2020). People will therefore be more concerned about their money and spending, and as a result, will switch from dining out 3–4 times a week to instead relying more on cooking at home or choosing individual menu items that are easy to consume rather than multiple dishes when dining out, which is likely to be another coming trend. Makro Horeca Academy (2020) stated that consumers' new lifestyles that are concerned with healthy living would create new trends in the foodservice industry, which are: 1) Ongoing consumers still worry about their health and safety, so it will be the owner's responsibility to communicate with them about the positive action they have taken; 2) Smart Consumers will become more important as people would like to know the transparency of the product offered; and 3) Local Consumption - People will tend to consume more local or neighborhood products from businesses located near their home or workplace. Food Institute (2020), apart from

developing online communication channels and conducting business partnerships, food service businesses will need to establish customers' "trust and confidence" in their brands by conducting food safety checks and providing information about their products and venues. Food safety and hygiene will be one of the most important decision-making factors for customers when deciding to buy any foodservice products (Kasikorn Research Center, 2020). Searching through several relevant documents, we have found that effective behavioral interventions, which are effective crisis communicators, involve speed, honesty, credibility, attention, and the promotion of helpful individual actions. As such, this research aims to study the impact of demographic and integrated marketing communication on the process of buying decisions in restaurants among customers in Bangkok. The anticipated result might help restaurants better understand what customers want from them as they make purchasing decisions once their lifestyles and behaviors change as a consequence of COVID 19.

Literature Review

Demographic Factors and Buying Behaviors after the COVID 19

Mitchell, Yang, Behr, Deluca and Schaffer (2020) who studied "Self-reported food choices prior to and during the COVID 19 lockdown" found that stressful situations like the outbreak of COVID 19 can lead to changes in food choices, especially high-yield food choices that are high in fat or sugar. Food data from a digital behavioral weight loss program with a meal recording interface were analyzed to assess self-reported food choices from March 5 to March 11 (Pre-COVID) and during the first week of COVID 19 restrictions (March 12-March 18 (During COVID)). The authors also found that fresh fruit and vegetable consumption was lower than prior to and during the COVID pandemic, while the consumption of red meat and starchy vegetables increased. There were more men than women who increased their consumption of red and processed meat. The overall amount of fruit and vegetable intake changed less in participants aged 66 and over compared to younger participants. A percentage of older participants reported that their consumption of lean meats and starchy vegetables had increased. However, these groups have little change in those who are of a younger demographic. More participants aged 18–35 had reduced their consumption of caffeine, desserts, lean meats, and salads compared to older participants. Therefore, it can be concluded that the consumption of certain groups changed during the outbreak of COVID restrictions. This result was consistent with the findings implied by the work of Elmer, Mepham and Stadtfeld (2020), who studied "Students under lockdown: Comparisons of students' social networks and mental health prior to and during the COVID-19 crisis in Switzerland." The authors found that students' social networks and mental health before and at the time of the COVID-19 pandemic changed in multiple dimensions concerning social networks (interaction, friendship, social support, co-studying) and mental health indicators (depression, anxiety, stress, loneliness) within two cohorts of Swiss undergraduate students experiencing a crisis and made additional comparisons to an earlier cohort which did not experience a crisis. The authors also found that interaction and co-studying networks had become sparser and that more students were studying alone. Furthermore, students' levels

of stress, anxiety, loneliness, and depressive symptoms got worse, compared to measures taken before the crisis. Stressors shifted from fears of missing out on a social life to worries about health, family, friends, and their future. Moreover, female students appeared to have worse mental health trajectories when controlling for different levels of social integration and COVID 19 related stressors. In conclusion, there were differences in the behavior of people prior to and during the COVID-19 lockdown according to demographic factors. Therefore, this study will propose the following hypothesis:

Hypothesis 1: There are differences in the process of buying decisions in restaurants among customers prior to and during COVID-19 according to the differences in demographic factors.

Integrated Marketing Communications (IMC)

The integrated marketing communications (IMC) selection criteria, which marketers can use to assess how effectively and efficiently they have put together their IMC programs, will see an increase in the variety of new digital options that will be added to the traditional media and communication options already available to marketers in the future of advertising and marketing communications. In order to capture consumer demands and communication goals at various stages of the consumer choice process, IMC attribution must therefore make use of several variables (Mihartm, 2012).

Witoowinit and Intuluck (2020) studied demographic factors and integrated marketing communications on buying decisions among 388 customers in Bangkok towards halal products based on different generations. The investigation of Witoowinit and Intuluck (2020) was a binary logistic regression analysis to test the hypotheses, and the result indicated that personal selling and direct marketing had a positive impact on buying decisions of halal products. Similarly, Ratchavieng (2019) studied the integrated marketing communication model towards health among 697 elderly care businesses in Thailand. The exploratory and confirmatory methods were employed to confirm the determinants which were appropriate to communicate with the participants. The study of Ratchavieng (2019) found that using electronic media, combined with other promotions, and employing personal selling to share the information, was responsible for more than 10 percent of the variance in the integrated marketing communication model to communicate with the participants. Furthermore, Rodplang and Pathomsirikul (2017) investigated the integrated marketing communication model of hotel businesses in Thailand based on 600 Thai and 600 foreign tourists. Structural equation modeling was employed to explain the impact among the variables, with the result showing that the integrated marketing communication model had a positive influence on brand value and success in the marketing of hotels directly and indirectly. The studies of Witoowinit and Intuluck (2020), Ratchavieng (2018), and Rodplang and Pathomsirikul (2017) were aligned with Uthaiwan, Thongrawd, Thianthai and Gun (2017) and investigated the demographic factors which influenced the integrated marketing communications based on 385 consumers of the Central Plaza department store. The t-test and ANOVA were employed as the techniques to test the impact of these factors. The results found that the differences in demographic factors such as gender, age, and income indicate a significantly different influence on the perception of integrated marketing communications, and integrated marketing

communications also changed the consumer's behaviors in terms of purchasing products, selecting the brand, and amount of buying (Uthaiwan et al., 2017).

Potjanajaruwit (2017) also researched the impact of an integrated marketing communication strategy on decision-making behavior towards education at Rajabhat University in Thailand among 400 students. The result of this study implied that the integrated marketing communication strategy had an influence on the decision-making behavior to choose education at Rajabhat University both positively and significantly. The investigation of Laopasae and Pasunon (2015), who studied the integrated marketing communication which related to 350 customers in terms of decision-making in deciding to use the Bank of Ayudhya Public Company Limited Kanchanaburi credit service, The study employed ANOVA, based on LSD, and indicated that advertising, public relations, personal selling, direct marketing, and sales promotions had a positive influence on decision making in terms of credibility, service process, service charge, and service of employees significantly. Similarly, Wongsala (2013) explored the impact of integrated marketing communication on the decision to buy pizza among 400 end-users in Bangkok. Wongsala (2013) remarked that the result found in this study was that advertising, personal selling, sales promotion, public relations, direct marketing, word of mouth, and event marketing were the factors that encouraged a buying decision among customers. According to the literature review based on the service industry, the author found that the demographic factors and the impact of integrated marketing communication had a positive impact on buying decision behavior among consumers. A few scholars studied the process of buying decisions based on demographic and integrated marketing communications, especially the comparison between pre and current COVID-19 trends. Therefore, this study will propose the following hypothesis:

Hypothesis 2: Integrated marketing communication has an impact on the process of buying decisions prior to and during the COVID 19 situation.

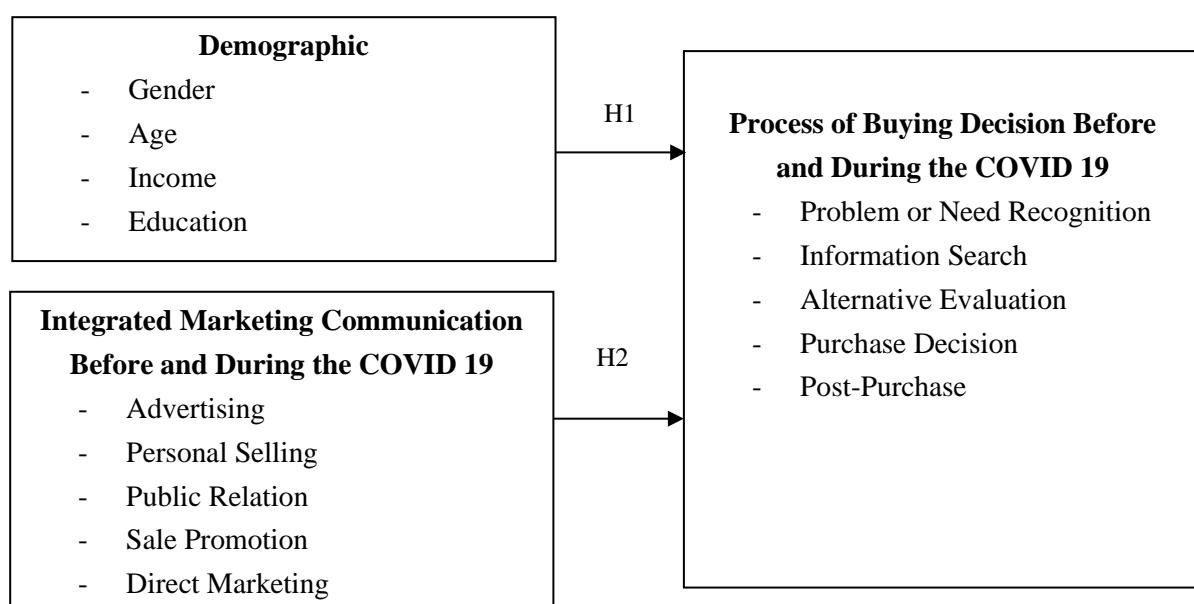


Figure 1 Conceptual Framework for this study

Objective

This investigation primarily aims to study the influence of integrated marketing communication on the process of buying decisions in Thai cuisine restaurants in department stores among customers in Bangkok prior to and during COVID 19.

Method

This research is designed to do surveys by choosing the right tool for this project and aims to employ the t-test to explain the impact of demographic and integrated marketing communication on the process of buying decisions. Furthermore, ANOVA is used to compare the various factors of demographics, integrated marketing communications, and the process of buying decisions prior to and during COVID 19, as well as the influence of integrated marketing communication on the process of buying decisions in restaurants among customers prior to and during COVID 19. This study relies primarily on the collection and analysis of primary data, which comes from all tested measurements. To determine whether the desired relationships exist, the derived data are analyzed using statistical techniques such as frequency, percentage, mean, standard deviation (SD), a paired-sample t-test, F-test and multiple regression analysis. In the process of testing the accuracy of the tool (Content Validity), the draft of the questionnaire was tested to find the directness of the tool according to the content. The main purpose was to check the suitability of the language used in the questionnaire with the method of finding the Index of Item-Objective Congruence (IOC) in which three research experts or people who are specialized in the regarding topic were invited to check the content accuracy to adjust and improve the developed questionnaire according to their recommendations. The construct and items of variables Porcu, Del Barrio-García, and Kitchen (2017) and Wang, Wu, and Yuan (2019) and Dahiya and Gayatri (2018) including:

Table 1 Construct and items of variables

Construct (Developers)	Items number	α
Advertising	5 items	.750
(Porcu et al., 2017;	- You are aware of advertisements for Thai restaurants in department stores.	
Wang et al., 2019)	- You are aware of advertisements for Thai restaurants in department stores via mass media such as radio and television	
	- You are aware of advertisements for Thai restaurants in department stores via print media such as newspapers, magazines, and brochures.	
	- You are aware of advertisements for Thai restaurants in department stores via personal channel such as famous people, celebrities, and other people.	
	- You are aware of advertisements for Thai restaurants in department stores via social media such as Facebook, Line program, Instagram, and Twitter.	

Table 1 Construct and items of variables (Cont.)

Construct (Developers)	Items number	α
Personal Selling (Porcu et al., 2017; Wang et al., 2019)	5 items <ul style="list-style-type: none">- You decided to use the service of a Thai restaurant in a department store because of sales staff at the point of purchase.- You decided to use the service of a Thai restaurant in a department store from the staff who provided good service and polite.- You decided to use the service of a Thai restaurant in a department store from staff who can recommend products of the restaurant.- You decided to use the service of a Thai restaurant in a department store from staff who serve with fast service.- You decided to use the service of a Thai restaurant in a department store from staff who are appropriately dressed.	.803
Public Relation (Porcu et al., 2017; Wang et al., 2019)	4 items <ul style="list-style-type: none">- You decided to use the service of a Thai restaurant in a department store that uses public relation through various media.- You decided to use the service of a Thai restaurant in a department store because of product display.- You decided to use the service of a Thai restaurant in a department store with a product or service launched by a reputable presenter.- You decided to use the service of a Thai restaurant in a department store with publicity that the product has a standard and safety in products and services.	.807
Sale Promotion (Porcu et al., 2017; Wang et al., 2019)	5 items <ul style="list-style-type: none">- You decided to use the service of a Thai restaurant in a department store because of an interesting product presentation.- You decided to use the service of a Thai restaurant in a department store because of its locations and convenience for purchase.- You decided to use the service of a Thai restaurant in a department store because of its modern and novelty.- You decided to use the service of a Thai restaurant in a department store because of a well-known restaurant's brand.- You decided to use the service of a Thai restaurant in a department store because of a special discount.	.806
Direct Marketing Promotion (Porcu et al., 2017; Wang et al., 2019)	3 items <ul style="list-style-type: none">- You decided to use the service of a Thai restaurant in a department store that provides information to customers in various online communication channels such as Facebook, Line, etc.- You decided to use the service of a Thai restaurant in a department store. That offers food services over the phone.	.700

Table 1 Construct and items of variables (Cont.)

Construct (Developers)	Items number	α
Direct Marketing (Porcu et al., 2017; Wang et al., 2019)	- You decided to use the service of a Thai restaurant in a department store with delivery of brochures to customers.	
Problem or Need (Dahiya & Gayatri, 2018)	4 items - You want to eat Thai food in a department store. - You use a Thai restaurant in a department store for convenience. - You would like to use a Thai restaurant in a department store that meets your needs. - You want to use the service of a Thai restaurant in a department store that is exotic.	.757
Information Search (Dahiya & Gayatri, 2018)	4 items - You have inquired information about products and services from the restaurants - You asked for information from people who have had experience dining there. - You can find information of the restaurants from various media. - You went to explore the restaurant before choosing to use the service at a Thai restaurant in that department store.	.832
Alternative Evaluation	3 items - You have considered choosing a Thai restaurant in a department store based on all the information that has been collected. - You have brought information that you have consulted with other people in order to consider choosing the service of Thai restaurants in the department store. - You have brought the information obtained in order to consider when choosing a Thai restaurant in a department store to use.	.907
Purchase Decision	5 items - You decide to use the service based on the image of the restaurant. - You decide to use the service because you expect that it will worth spending on the products and services from the restaurant. - You decide to use the service from a restaurant that has a staff that provides detailed information and cares about customers. - You decide to use the service because the shop has systematically organized and fast service. - You decide to use the service because the restaurant has a clean and safety protocol.	.930

Table 1 Construct and items of variables (Cont.)

Construct (Developers)	Items number	α
Post-Purchase	4 items - You are satisfied with the quality of products and services that you received. - You are satisfied with the service of the staff. - You will for sure recommend others to use the service from the restaurant - You will come back to use Thai Cuisine restaurants in department stores in Bangkok again.	.910

The Primary data gathered through the distribution of questionnaires in Thai cuisine restaurants located in Bangkok department stores. As a result, the results were representative of consumers aged 18 and up who purchased foods and services from Thai cuisine restaurants and either visited or had recently visited the targeted sites in Bangkok prior to and during COVID 19. Each research subject was then classified by demographic data. From this data collection, the study collected a total of 400 questionnaires and distributed questionnaires from November 1st to 30th, 2020. Furthermore, this study was distributed according to the Simple Random Sampling from 50 districts of Bangkok and pick up 5 districts from a lucky draw includes Bang Kapi, Bang Na, Khan Na Yao, Din Daeng, and Bang Khen, and then set the quota of 80 participants per each district to be a target sample and collect the data based on convenience sampling. However, due to the spread of COVID 19, a total of 239 questionnaires were returned (59.75 percent of the response rate), which is within the range of an acceptable sample size proposed by Hair, Black, Babin, and Anderson (2018). Prior to the analysis, the data assumptions were tested in terms of normal distribution, outliers, multicollinearity, linearity, and autocorrelation. Due to this, 39 questionnaires were moved from the study due to the outlier problem. In this study, all data assumptions were found to be within the acceptable criteria. A total of 200 questionnaires (50 percent of the data collected) were analyzed in this study.

Population: Consumers who bought food and services from Thai -cuisine restaurants prior to and during COVID 19.

Sample: Consumers of Thai-cuisine restaurants that are located in department stores in Bangkok

Sampling: The sample in this research is the population representative of Thai consumers who have used Thai Cuisine restaurants located in the department stores prior to and during the COVID 19 pandemic in Bangkok. Due to the large population of the capital city, the exact number is 18,000 shops, which fit the criteria throughout Bangkok (Rotchana, 2020). From that, the sample size can be calculated from the formula of Cranmer (Cochran, 1953 cited in Cochran, 2007), with a 95% confidence level. Therefore, the sample size that must be collected is a certain number derived from the calculation (400 samples). First, restaurants are selected using simple random sampling from 50 districts of Bangkok and using the lucky draw to pick up 5 districts from a lucky draw includes Bang Kapi, Bang

Na, Khan Na Yao, Din Daeng, and Bang Khen, and then set the quota of 80 participants per each district to be a target sample. Then, questionnaires were distributed via working-in and collecting the data based on convenience sampling from consumers of Thai-cuisine restaurants that are located in department stores in tarted area from 5 districts. The study followed the ethical guidelines and has been reviewed and approved according to the Standard Operating Procedures by the Ethical Committee of the Research Institute of Rangsit University based on the Declaration of Helsinki and Good Clinical Practice with the Documentary Proof of Exemption Number (DPE.No.) DPE.RSUERB2021-046.

Findings

According to the table 1, the total respondents of 239 who were presented showed that most respondents were female (60.7 percent), from generation Z (72.0 percent), and had an average monthly income of less than 15,000 baht (71.1 percent). The majority of respondents (49.8 percent) had completed their undergraduate education.

Table 2 Demographic Characteristics

Variables	Categories	Frequencies	Percent
Gender	Male	94	39.3
	Female	145	60.7
Age	Gen X	38	15.9
	Gen Y	29	12.1
Income per month	Gen Z	172	72.0
	Less than 15,000 Baht	170	71.1
Income per month	15,001-20,000 Baht	18	7.5
	20,001-25,000 Baht	5	2.1
	25,001-30,000 Baht	10	4.2
	30,001 Baht or more	36	15.1
Educational Level	Primary/intermediary	85	35.6
	Undergraduate	119	49.8
	Postgraduate	30	12.6
	Others	5	2.1

The following part of the descriptive statistics is the analysis of the respondents' attitude towards variables used in this study, including the process of the buying decision (need recognition, information search, alternative evaluation, purchase decision, and post-purchase behavior) and integrated marketing communication (advertising, personal selling, public relations, sale promotion, and direct marketing) prior to and during COVID 19. The findings showed that for the process of the buying decision, The statistics used in the test were a paired-sample t-test and an F-test, and the summary of results is as follows:

Table 3 Summarizes of gender variable differences influencing purchasing decisions prior to and during the COVID 19.

Gender	Need Recognition		Need Recognition		T	sig
	Prior to COVID 19	During COVID 19	\bar{x}	S.D.		
Male	4.76	1.41	4.25	1.55	.107	.915
Female	4.74	1.52	3.88	1.54	1.66	.098
Information Search	Information Search		Information Search		T	sig
	Prior to COVID 19	During COVID 19	\bar{x}	S.D.		
Male	4.51	1.36	4.20	1.41	1.56	.119
Female	4.19	1.45	4.09	1.49	.529	.597
Alternative Evaluation	Alternative Evaluation		Alternative Evaluation		T	sig
	Prior to COVID 19	During COVID 19	\bar{x}	S.D.		
Male	4.50	1.39	4.27	1.34	.622	.535
Female	4.37	1.49	4.20	1.27	.334	.739
Purchase decision	Purchase decision		Purchase decision		T	sig
	Prior to COVID 19	During COVID 19	\bar{x}	S.D.		
Male	5.08	1.46	5.06	1.41	1.01	.314
Female	4.87	1.52	4.72	1.57	1.54	.126
Post purchase	Post purchase		Post purchase		T	sig
	Prior to COVID 19	During COVID 19	\bar{x}	S.D.		
Male	4.85	1.41	4.64	1.40	1.43	.153
Female	4.56	1.39	4.36	1.41	1.36	.176

According to Table 3 found that a paired-sample t-test indicates nonsignificant differences between and female in terms of the process of the buying decision (need recognition, information search, alternative evaluation, purchase decision, and post-purchase behavior).

Table 4 Summarizes of age, income, and education level variable differences influencing purchasing decisions prior to and during the COVID 19.

		Need recognition - Prior to COVID 19					Need recognition - During COVID 19				
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	21.84	2	10.92	5.21	.006**	7.37	2	3.69	1.54	.213
	Within groups	412.84	197	2.10			471.06	197	2.39		
	Total	434.69	199				478.43	199			
Income	Between groups	24.25	4	6.06	2.88	.024*	20.38	4	5.10	2.17	.074
	Within groups	410.43	195	2.11			458.04	195	2.35		
	Total	434.69	199				478.43	199			
Education	Between groups	30.74	4	10.25	4.97	.002**	17.86	4	5.95	2.53	.058
	Within groups	403.95	195	2.06			460.57	195	2.35		
	Total	434.69	199				478.43	199			
		Information search - Prior to COVID 19					Information search - During COVID 19				
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	2.50	2	1.25	.616	.541	8.307	2	4.15	1.99	.140
	Within groups	399.50	197	2.03			412.05	197	2.09		
	Total	402.00	199				420.36	199			
Income	Between groups	9.75	4	2.44	1.21	.307	15.96	4	3.99	1.92	.108
	Within groups	392.25	195	2.01			404.40	195	2.07		
	Total	402.00	199				420.36	199			
Education	Between groups	30.74	4	10.25	4.97	.002**	17.86	4	5.95	2.53	.058
	Within groups	403.95	195	2.06			460.57	195	2.35		
	Total	434.69	199				478.43	199			

Table 4 Summarizes of age, income, and education level variable differences influencing purchasing decisions prior to and during the COVID 19 (Cont.)

		Alternative Evaluation - Prior to COVID 19					Alternative Evaluation - During COVID 19				
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	7.11	2	3.56	1.70	.186	10.07	2	5.04	3.07	.049*
	Within groups	412.94	197	2.10			322.99	197	1.64		
	Total	420.05	199				333.06	199			
Income	Between groups	8.38	4	2.10	.99	.413	18.37	4	4.59	2.85	.025*
	Within groups	411.68	195	2.11			314.69	195	1.61		
	Total	420.05	199				333.06	199			
Education	Between groups	23.97	3	7.99	3.95	.009**	12.55	3	4.18	2.56	.056
	Within groups	396.08	196	2.02			320.50	196	1.64		
	Total	420.05	199				333.06	199			
Purchase decision- Prior to COVID 19						Purchase decision - During COVID 19					
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	24.44	2	12.22	5.70	.004**	28.99	2	14.50	6.68	.002**
	Within groups	422.16	197	2.14			427.71	197	2.17		
	Total	446.60	199				456.70	199			
Income	Between groups	21.52	4	5.38	2.47	.046*	31.39	4	7.85	3.60	.007**
	Within groups	425.08	195	2.18			425.31	195	2.18		
	Total	446.60	199				456.70	199			
Education	Between groups	32.45	3	10.82	5.12	.002**	36.54	3	12.18	5.68	.001**
	Within groups	414.15	196	2.11			420.16	196	2.14		
	Total	446.60	199				456.70	199			

Table 4 Summarizes of age, income, and education level variable differences influencing purchasing decisions prior to and during the COVID 19 (Cont.)

		Purchase decision- Prior to COVID 19					Purchase decision - During COVID 19				
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	24.44	2	12.22	5.70	.004**	28.99	2	14.50	6.68	.002**
	Within groups	422.16	197	2.14			427.71	197	2.17		
	Total	446.60	199				456.70	199			
Income	Between groups	21.52	4	5.38	2.47	.046*	31.39	4	7.85	3.60	.007**
	Within groups	425.08	195	2.18			425.31	195	2.18		
	Total	446.60	199				456.70	199			
Education	Between groups	30.74	4	10.25	4.97	.002**	17.86	4	5.95	2.53	.058
	Within groups	403.95	195	2.06			460.57	195	2.35		
	Total	434.69	199				478.43	199			
		Post purchase- Prior to COVID 19					Post purchase- During COVID 19				
		SS	df	MS	F	Sig.	SS	df	MS	F	Sig.
Age	Between groups	13.60	2	6.80	3.54	.031*	14.95	2	7.48	3.88	.022*
	Within groups	378.02	197	1.92			379.40	197	1.93		
	Total	391.62	199				394.35	199			
Income	Between groups	21.15	4	5.29	2.78	.028*	30.08	4	7.52	4.03	.004**
	Within groups	370.47	195	1.90			364.27	195	1.87		
	Total	391.62	199				394.35	199			
Education	Between groups	34.80	3	11.60	6.37	.000***	23.29	3	7.76	4.10	.008**
	Within groups	356.82	196	1.82			371.06	196	1.89		
	Total	391.62	199				394.35	199			

According to Table 4, it was found that there was significant differences in need recognition. During the information search process, it was discovered that education was the only factor influencing the differences between groups prior to COVID 19. The only alternative evaluation derived prior to

COVID 19 revealed that the only factor that showed a significant difference between groups was education ($F = 3.95$, p-value 0.05), followed by age ($F = 3.07$, p-value 0.05) and income ($F = 2.85$, p-value 0.05). The remaining factors showed a non-significant difference between groups. The process of making a purchase decision both prior to and during COVID 19 indicates that age ($F = 5.70$, p-value 0.05), income ($F = 2.47$, p-value 0.05), and education ($F = 5.12$, p-value 0.05) show significantly different patterns between groups. In addition, the factors of age ($F = 6.68$, p-value 0.05), income ($F = 3.60$, p-value 0.05), and education ($F = 5.68$, p-value 0.05) were taken into consideration. Finally, the post-purchase process discovered that education ($F = 6.37$, p-value 0.05), age ($F = 3.54$, p-value 0.05), and income ($F = 2.78$, p-value 0.05) indicate considerably different between groups for prior to COVID 19 and age ($F = 3.88$, p-value 0.05), income ($F = 4.03$, p-value 0.05), and education ($F = 4.10$, p-value 0.05) suggest significantly different groups for the period during COVID 19.

According to Hair et al. (2018) mentions the three steps that researcher need to examine the data includes the evaluating of missing data, identifying of outliers, and testing of the assumptions the important statistical assumptions. 1) Evaluating of missing data. The reason of evaluating of missing data not only checking the errors in data collection, but also prepare the remedies for dealing with it in the analysis. 2) Identifying of outliers. The outliers represent to the situation that one or more variable tangibly different from the other observations in terms of extreme value. Hair et al. (2018) suggested to detect the outlier based on observing the standardized variable values exceeding ± 2.5 and Mahalanobis value exceeding than 4 to clean the data before testing the important statistical assumptions, and 3) Testing of the assumptions the four important statistical assumptions and indicates that the set of data demonstrates normality, homoscedasticity, linearity, and absence of correlated errors.

Table 5 Summarizes the impact of integrated marketing communications variables on the process of buying decisions prior to and during the COVID 19 (Standardized Coefficients)

Independent variable	(Prior to COVID 19)					(During COVID 19)				
	Need Recognition	Information Search	Alternative Evaluation	Purchase Decision	Post Purchase	Need Recognition	Information Search	Alternative Evaluation	Purchase Decision	Post Purchase
Advertising	.035	.159	.024	-.072	-.007	-.071	.114	-.069	-.032	.016
Personal selling	.094	.013*	.011	.216*	.128*	.107	.098	.165*	.292*	.119*
Public Relations	.218*	.189	.201*	.200*	.285*	.381*	.279*	.126	.198*	.303*
Promotion	.563*	.370*	.458*	.624*	.513*	.412*	.296*	.412*	.499*	.440*
Direct Marketing	.024	.255*	.259*	.022	.082*	-.053	.149*	.153*	.005	.086

(*P < .05),

According to table 5, the summary of the impact of integrated marketing communications variables on the process of buying decisions prior to and during COVID 19 presented that integrated marketing communication had an impact on the process of buying decisions only in case of public

relations and promotion prior to and during COVID 19 in terms of need recognition with a statistical significance at the level of.05. that integrated marketing communication had an impact on the process of buying decisions only in case of the advertising, public relations, sale promotion, and direct marketing prior to COVID 19 in terms of information search with the statistical significance at the level of.05. This also had an impact only in case of the public relations, sale promotion, and direct marketing during COVID 19 in terms of the alternative evaluation with the statistical significance at the level of.05, while it had an impact only in case of the personal selling, sale promotion, and direct marketing during COVID 19 in terms of the alternative evaluation with the statistical significance at the level of.05. Furthermore, this had an impact on the personal selling, public relations, and sales promotion prior to and during COVID 19 in terms of purchase decisions with a statistical significance level of.05. Finally, integrated marketing communication influenced the process of purchasing decisions prior to COVID 19 in terms of post-purchase with a statistical significance of.05. A total of four variables of integrated marketing communication (personal selling, public relations, promotion, and direct marketing) significantly influenced the post-purchase with a statistically significant level of.05, while only three variables of integrated marketing communication (personal selling, public relations, and promotion) significantly influenced the post-purchase behavior during COVID 19.

Discussion

This study had two main hypotheses, which are as follows; H1) there are differences in the process of buying decisions in restaurants among customers prior to and during COVID 19 according to the demographic factors. H2) integrated marketing communication has an impact on the process of buying decisions prior to and during COVID 19. The discussion of the findings is presented in the following section: the first section is to understand the differences in the process of buying decisions in restaurants among customers prior to and during COVID 19 according to the demographic variables, the second section is to understand the direct influence of integrated marketing communication on the process of buying decisions prior to and during COVID 19.

The understanding of the differences in the process of buying decisions in restaurants among customers prior to and during COVID 19 according to the demographic variables gave the following results. According to the study, there were no statistically significant differences between gender on the level of importance in the integrated marketing communications prior to and during COVID 19, while there were statistically significant differences between other demographic variables on the level of importance in the process of buying decisions prior to COVID 19 with the exception information search. There were statistically significant differences between other demographic variables on the level of importance in the process of buying decisions during COVID 19 with the exception need recognition and information search which was partially consistent with the previous studies (Mitchell et al, 2020; Elmer et al, 2020). These previous findings all confirmed that there were differences in the process of

buying decisions in restaurants among the customers prior to and during COVID 19 according to the demographic factors.

The understanding of the direct influence of integrated marketing communication on the process of buying decisions prior to and during COVID 19 gave the following results. In the case of prior to COVID 19, the study found that public relations and promotion had significantly influenced on need recognition. Furthermore, advertising, public relations, promotion, and direct marketing had significantly influence on information search. Moreover, only public relations, promotion, and direct marketing had significantly influenced on alternative evaluation while personal selling, public relations, and promotion had significantly influenced on purchase decision. In case of during COVID 19 the study found that only public relations and promotion had significantly influenced on need recognition. Public relations, promotion, and direct marketing had a significant influence on information search. Personal selling, promotion, and direct marketing had significant influence on alternative evaluation while personal selling, public relations, and promotion had a significant influence on purchase decision. Lastly, personal selling, public relations, and promotion had a significant influence on post-purchase behavior. The results were partially consistent with the previous literature on integrated marketing communication and the process of buying decision (Witoowinit & Intuluck, 2020; Ratchavieng, 2019; Rodplang & Pathomsirikul, 2017; Uthaiwan et al., 2017; Potjanajaruwit, 2017; Laopasae & Pasunon, 2015; Wongsala, 2013).

Recommendations

The study has offered some recommendations regarding the findings of the study, which can be divided into two sections: recommendations for business implications and for future studies. The details are presented as follows: 1) The current study was conducted with consumers who bought food and services from Thai cuisine restaurants prior to and during COVID 19. Therefore, the study can be theoretically used to expand the understanding of decision-making behavior among consumers in Bangkok, and the results are expected to generalize from this sample to the target population of the study.

In the field of marketing research, the findings have made a significant contribution to customer's decision behavior theory as well as the study of integrated marketing communication, especially in the case of Thai cuisine restaurants. According to a series of empirical tests and the research hypotheses, the findings suggested that public relations and promotion had a statistical influence on the level of importance in all five stages of the buying decision process in the case of COVID 19, while only promotion had a statistical influence on the level of importance in all five stages of the buying decision process in the case of COVID 19.

Moreover, advertising only had a statistical influence on information search prior to COVID-19 and had no statistical influence on the process of buying decisions during the crisis. Personal selling had a statistical influence on purchase decisions and post-purchase behavior prior to COVID 19, while

it had a statistical influence on the alternative evaluation stage, purchase decisions, and post-purchase behavior during COVID 19. Direct marketing had a statistical influence on information search, alternative evaluation, and post-purchase behavior prior to COVID 19, and it only had a statistical influence on information search and alternative evaluation during COVID 19. This means that public relations and sales promotions are the main marketing communication tools to drive buying decision processes prior to COVID 19. Public relations from various media, product displays, and reputable presenters must be used to convey the messages about the standards and safety of products and services in the case of COVID 19. In terms of sales promotion, an interesting product presentation, store locations, and special discounts should be considered both prior to and during COVID 19. In conclusion, restaurant owners could ensure their consumers' buying decisions by improving the mentioned variables, namely public relations, and sale promotion, in the case of prior to COVID 19, and only sale promotion during COVID 19. Based on the derived findings, this research expands the understanding of the causal relationship between the selected variables.

Yet the explanatory power is theoretically limited to the effects of these variables in Thai cuisine restaurants, especially in Bangkok during the spread of COVID 19 and the sample size was not equally weighted between the two generations. As a result, the study must be retested after COVID 19 to confirm the results using different settings because the study aims to investigate a series of connected correlations among a set of variables and the data collection procedure must be well-planned to ensure the balance of the targeted sample. Moreover, other distinctive research settings can be added to improve the explanatory power of the study. According to the findings, the study explored only the direct relationships among the variables. The way to improve the study would be to employ distinctive research techniques such as qualitative research methods. While the cross-sectional technique is theoretically appropriate now, further study should pay attention to a wide variety of research methods, such as qualitative research with an in-depth understanding of the topic. Nevertheless, gathering data from a single or key informant in the same period might emerge a common method variance in which affects the interpretation (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Thoumrungroje, 2018).

References

Brand Buffet. (2020). *COVID-19 Disruption Destruction of Original Theory Creating New Normal World Marketing*. Retrieved from https://www.brandbuffet.in.th/2020/04/covid19-disruption-change-marketing-new-normal/?fbclid=IwAR0GTRTSrBd-feoLSDr0mcVDbZ1rzIQ_Q7E43ewhWBzgC4cwaJNKN1ZaipA

Cochran, W. G. (2007). *Sampling techniques*. John Wiley & Sons.

Dahiya, R., & Gayatri. (2018). A research paper on digital marketing communication and consumer buying decision process: An empirical study in the Indian passenger car market. *Journal of Global Marketing*, 31(2), 73-95.

Department of Business Development. (2019). *Restaurant Business*. Retrieved from https://www.dbd.go.th/download/document_file/Statisic/2562/T26/T26_201902.pdf

Elmer, T., Mepham, K., & Stadtfeld, C. (2020). Students under lockdown: Comparisons of students' social networks and mental health before and during the COVID-19 crisis in Switzerland. *Plos one*, 15(7), e0236337.

Food institute. (2020). *Covid-19, factors that change new consumer behavior Takeout food and hit your own food*. Retrieved from https://www.smartsme.co.th/content/237119?fbclid=IwAR2Yeflfmr2WSYgYre4JbTw_AytT3kHvPAac5oH5wiZJqNoW565w4JEveEQ

GSB Research. (2019). *Restaurant business*. Retrieved from https://www.gsbresearch.or.th/wp-content/uploads/2019/10/IN_restaurant_10_62_detail.pdf

Hair, J. F., Black, W. C., Babin, B., & Anderson, R. E. (2018). *Multivariate data analysis*. Cengage.

Husanat, M. W., Hoque, A., Shikha, F. A., Anwar, M., Hamid, A. B. A., & Tat, H. H. (2020). The Impact of Coronavirus (Covid-19) on E-Business in Malaysia. *Asian Journal of Multidisciplinary Studies*, 3(1), 85-90.

Kasikorn Research Center. (2020). *Challenges ... after the crisis, Covid Driving restaurant business to New Normal*. Retrieved from <https://kasikornresearch.com/th/analysis/k-social-media/Pages/RestaurantFB-1505.aspx>

Laopasae, A., & Pasunon, P. (2015). Integrated Marketing Communication relates to decision making in using Bank of Ayudhya Public Company Limited Kanchanaburi credit service. *Veridian E-Journal, Slipakorn University*, 8(2), 1977-1991.

Makro Horeca Academy. (2020). *Tips for Online Marketing for Restaurants in the New Normal Era by Digital Tips*. Retrieved from <https://makrohorecaacademy.com/en/articles/tips-marketing-online-new-normal-by-digitaltips>

MarketingOops. (2020). *2020 years of challenges "Restaurant business", small and medium players will be able to compete, must increase access channels - different - flexible*. Retrieved from <https://www.marketingoops.com/reports/>

Mihart, C. (2012). Impact of integrated marketing communication on consumer behaviour: Effects on consumer decision-making process. *International Journal of Marketing Studies*, 4(2), 121.

Mitchell, E. S., Yang, Q., Behr, H., Deluca, L., & Schaffer, P. (2020). *Self-reported food choices before and during COVID-19 lockdown*. medRxiv.

Murphy, C., Naert, S., & Strong, C. (2020). *CORONAVIRUS & BEHAVIOR CHANGE: What does this mean for brands?*. Retrieved from <https://www.ipsos.com/en-us/knowledge/consumer-shopper/coronavirus-behavior-change-what-does-this-mean-for-brands>

Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *Journal of applied psychology*, 88(5), 879.

Porcu, L., Del Barrio-García, S., & Kitchen, P. J. (2017). Measuring integrated marketing communication by taking a broad organisational approach: The firm-wide IMC scale. *European Journal of Marketing, 51*(3), 692-718.

Potjanajaruwit, P. (2017). The integrated marketing communication strategy affecting to student decision making behavior to study at Rajabhat University in Thailand. *Academic Journal Phranakhon Rajabhat University, 8*(2), 121-133.

Ratchavieng, A. (2019). Factor Analysis Of Integrated Marketing Communication Model To Health For Elderly Care Business In Thailand. *Journal of Graduate Studies Valaya Alongkron Rajabhat University, 13*(2), 230.

Rodprang, P. & Pathomsirikul, Y. (2017). Communication model for integrated marketing of hotel business in Thailand. *Veridian E-Journal, Silpakorn University (Humanities, Social Sciences and arts), 10*(1), 1804-1822.

Rotchana, N. (2020). *Look at the statistics of restaurants in 2019 that the cooks need to know to open 70,000 restaurants but closed only 10%*. Retrieved from <http://www.brandage.com/article/16993/Food-2019>

Thoumrungroje, A. (2018). A cross-national study of consumer spending behavior: The impact of social media intensity and materialism. *Journal of International Consumer Marketing, 30*(4), 276-286.

Tucker, C. E., & Yu, S. (2020). *The early effects of coronavirus-related social distancing restrictions on brands*. Available at SSRN 3566612.

Uthaiwan, N., Thongrawd, C., Thianthai, C. & Gun, P. (2017). Personal Factors Affecting Integrated Marketing Communications in Case Study Central Plaza Department Store at Phitsanulok. *Ph.D. in social Science Journal, 7*(2), 44-58.

Wang, Y. J., Wu, C., & Yuan, J. (2009). The role of integrated marketing communications (IMC) on heritage destination visitations. *Journal of quality assurance in hospitality & tourism, 10*(3), 218-231.

Wongsala, W. (2013). Integrated Marketing Communication of Pizza Business in Bangkok. *Journal of Business Administration: The Association of Private Higher Education Institutions of Thailand, 2*(2), 10-20.

Witoowinit, W. & Intuluck, W. (2020). The Effect of Integrated Marketing Communication on the Buying Decision of Halal Products View of Different Generation Customers in Bangkok. *Dusit Thani College Journal, 14*(1), 349-363.

FACTORS INFLUENCING CONSUMER REPURCHASE DECISION: A CASE STUDY OF SUKI TEE NOI

Phatthira Satitpakeekul¹

Chomphunut Chothuang²

Rattika Koranee³

Krisada Chienwattanasook^{4*}

Received 15 November 2022

Revised 22 December 2022

Accepted 26 December 2022

ABSTRACT

The objectives of this research were to find how personal factors, brand equity, and service marketing mix factors influence consumer decision to repurchase Suki Tee Noi. The sample consisted of 400 consumers who experienced dining-in at Suki Tea Noi in Pathum Thani. Questionnaires were used to collect data. The obtained data were analyzed by using frequency, percentage, mean, and standard deviation. T-test, One-Way ANOVA, and multiple linear regression analysis (MRA) were used to test the hypotheses.

The study shows that 1) personal factors: age, occupation, and average monthly income differently affected consumer decision to repurchase Suki Tee Noi products in Pathum Thani, 2) Brand equity factors: brand loyalty and brand awareness influenced consumers' decision to repurchase Suki Tee Noi in Pathum Thani, and 3) Service-marketing mix factors: service process, price, and marketing promotion influenced consumers' decision to repurchase Suki Tee Noi in Pathum Thani at a statistically significant level of .05. The brand equity and service-marketing mix factors together explained 65 percent of the variance in the repurchase decision.

Keywords: Brand Equity, Service Marketing Mix Factors, Repurchase Decision, Suki Tee Noi

^{1 2 3 4} Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Thailand
* Corresponding author: email: krisada_c@rmutt.ac.th

Introduction

Nowadays, Thai people's lifestyle, especially in big cities with large populations, has been rapidly changing. People's hectic lifestyle caused by their commute and work with high competition leads to changes in society, livelihoods, consumption, culture, and values among people living in the city and suburban. Such lifestyle also affects their food consumption behavior. Due to the fact that cooking requires time and place, people tend to dine out which is more convenient while they can experience new atmosphere to relieve stress and spend time with their family and friends. Despite slow economic growth, Thai people still prefer dining out several times a month (Positioning, 2017).

Japanese-style restaurants that provide suki-shabu buffets are available in large numbers corporate and family business. Obviously, the growth is among Asian restaurants. Suki and shabu restaurants have increased equally by 15 percent. At present, the shabu market has completely entered the Red Ocean. Even though this market has high business opportunities, high competition among entrepreneurs becomes more intense (Klomdang & Suthisanont, 2019). Thus, entrepreneurs have to develop their products and services while presenting positive brand image to impress consumers and meet the ever-growing and changing needs of customers. A restaurant named 'Suki Tee Noi' with 41 branches throughout Bangkok and its vicinities serving 30,000-40,000 customers per day has been popular among consumers. Its popularity has generated over 3,000 million baht as the income of this business. Besides the food itself that meets the taste of customers, technology is also used for booking, queuing, serving, and payment processes. Suki Tee Noi plans to enter the stock exchange within 2022-2024. Thus, it has been speeding up the expansion of branches to 60 (The Standard, 2022). Despite the COVID-19 pandemic, Suki Tee Noi was able to adjust the strategy for survival by offering a la carte sukiyaki and delivery in various areas by food trucks (Brand Buffet, 2021).

In addition to the intense competition in the suki business, also compete to present marketing promotion strategies also compete to gain market share. Therefore, various suki businesses try to find approaches and strategies to win the hearts of customers and make them use the service again as often as possible. So that the company can earn continuous profits and be able to forecast sales and commodities effectively. Several studies have shown that repeat purchase decisions are caused by various factors, including individual differences (Tusakunee & Inkaew, 2016), service marketing mix (Namsaeng et al., 2020), brand equity (Thiengmak, Jinpha, Inkum, & Chienwattanasook, 2022). Brand equity and marketing mix factors are therefore important variables for the study of consumer repurchases.

According to the fact as mentioned, it is essential to examine the factors affecting consumer repurchase decision by using Suki Tee Noi as a case study and a guideline to enhance the efficiency of the service to meet the needs of consumers.

Research Objectives

1. To examine the personal factors of consumers that affect the decision to repurchase Suki Tee Noi in Pathum Thani,
2. To examine the brand equity that affects the decision to repurchase Suki Tee Noi in Pathum Thani
3. To examine the factors of service marketing mix that affect the decision to repurchase Suki Tee Noi in Pathum Thani.

Hypothesis

1. Different personal factors influence consumers' decision to repurchase Suki Tee Noi in Pathum Thani Province,
2. The brand equity factors have a positive influence on consumers' decision to repurchase Suki Tee Noi in Pathum Thani province
3. The service marketing mix factors have a positive influence on consumers' decision to repurchase Suki Tee Noi in Pathum Thani province.

Literature Review

Concepts and theories related to brand equity

Brand equity refers to the value of a brand with a unique reputation accepted by consumers, including the assets and liabilities of the company (Aaker, 1991; Schiffman, Kanuk & Wisenblit, 2010). Brand value is divided into five aspects: 1) brand awareness, which means that customers can remember the name of the company's brand or service, 2) brand association, which means outstanding characteristics, features, or benefits of the brand, 3) perceived quality, which means that consumers are aware of the quality of goods and services, 4) brand loyalty, which means customer's love and faith in the brand, and 5) other proprietary brand assets, which means the assets of the brand such as patents, trademarks, or distribution channel relationships.

Concepts and theories related to service marketing mix factors

Marketing mix factors are used to motivate consumers to purchase products and services of the company to achieve organizational objectives. They are recognized as important marketing variables that should be applied to meet the needs of customers. Originally, marketing mix factors consisted of product, price, place, and promotion (Kotler & Armstrong, 2012). However, process, people, and physical evidence were also added as the key factors (Kar, 2016).

Concepts and theories related to repurchase decisions

Repurchase refers to the intention to purchase goods or services from the same brand due to the satisfying result of the previous experience. Repurchase can also lead to word of mouth among close family members, colleagues, and others (Karjaluoto, Munnukka & Tikkanen, 2014). In fact, repurchase decisions are driven by internal and external impulses, which can be categorized into three types: habitual decision making, limited decision making, and extended decision making (Song, 2016).

Brand equity and service marketing influencing repurchase decisions

Previous studies have highlighted the relationship between brand equity and marketing mix factors that influence repeat purchase decisions in the context of food-related businesses:

Nangam and Phothongsaengaro (2019) examined the influence of causal factors on repurchase intention of clean food products. Perceived quality of products and services, customer expectation, and perceived value of products and services indirectly influence repurchase intention of clean food. through intermediary variables such as satisfaction in addition, social factors influence customer expectation and repurchase intention statistically significantly. Thiengmak et al. (2022) investigated the influence of brand equity and marketing mix on the decision of cooked-to-order restaurant operators to repurchase Thai chili paste. The research found that brand equity has a positive influence on the decision to repurchase Thai chili paste. Porndechdecha and Booranavitayaporn (2022) investigated the marketing mix factors influencing repeat purchases of Japanese Izakaya restaurants in Bangkok. Marketing mix service, process, customer value perceived by customers, cost, convenience, staff support, and success in responding to demand, this influences the intention to make repeat use of service at Japanese izakaya restaurants in Bangkok.

Conceptual Framework

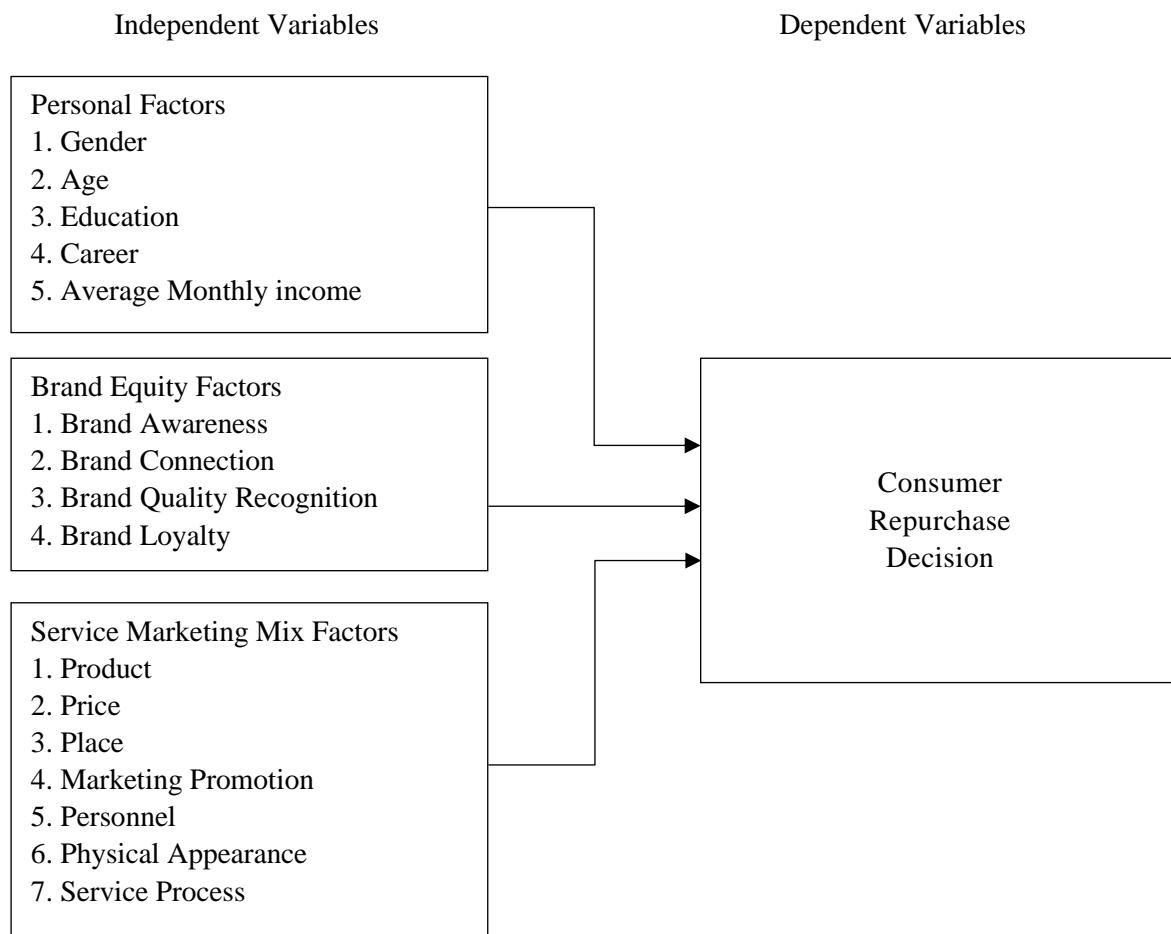


Figure 1 Conceptual Framework

Research Method

1. The population and sample group used in the study were consumers who had visited Suki Tee Noi branches in Pathum Thani: Lam Luk Ka Klong 2 branch and Thanyaburi Klong 4 branch. Only two branches of Suki Tee Noi are open in Pathum Thani province. Since the exact population was not known, the formula of Cochran (1977) was used to calculate the sample size. Thus, 384 samples and 16 additional samples, for a total of 400 samples, were collected. Based on purposive sampling, the data were collected from consumers who were being served at Suki Tee Noi restaurants in Pathum Thani.

2. The instrument used in this study was a questionnaire developed based on relevant concepts and theories. The study consisted of four parts: 1) general information about respondents, 2) brand equity factors, 3) service marketing mix factors, and 4) repurchase decisions. A five-point rating scale was used. Scores were interpreted on an interval scale. The item-objective congruence (IOC) index was greater than .6. For the Cronbach's coefficient alpha, the sample size for the pre-tests of the questionnaire was 30 people with similar characteristics of the sample group. The reliability value was .80 in all aspects. The results of the reliability tests for each aspect were as follows: (1) Brand Awareness ($\alpha = .763$), (2) Brand Connection ($\alpha = .815$), (3) Brand Quality Recognition ($\alpha = .849$), (4) Brand Loyalty ($\alpha = .838$), (5) Products/Services ($\alpha = .843$), (6) Price ($\alpha = .877$), (7) Place ($\alpha = .870$), (8) Promotion ($\alpha = .878$), (9) Personnel ($\alpha = .900$), (10) Physical Appearance ($\alpha = .913$), (11) Service process ($\alpha = .913$), and (12) Repurchase decision ($\alpha = .891$) (Vanichbuncha & Vanichbuncha, 2015).

3. Descriptive statistics, such as frequency, percentage, mean, and standard deviation were used to analyze general characteristics of the samples. To test the hypothesis, inferential statistic, such as t-test, One-Way ANOVA, and Multiple Linear Regression Analysis (MRA) were used.

Results

1. The results show that most of the consumers were male (53.5%), aged between 26 to 30 years (36.8%), holding an undergraduate degree (71.3%), employees of private companies (39.5%), and had 15,001 – 20,000 baht as average monthly income (39.2%).

2. In terms of Suki Tee Noi consumer's behavior, most of the consumers went to the restaurant with their families (34%). The frequency of their visits was once a month (37.5%). Most of the consumers found the price reasonable (60.8%). They preferred to visit on weekdays (46.5%), between 16:00 and 18:00 (26.5%). Most of them came to Suki Tee Noi to dine in (94.3%), and were influenced by their family members to visit the restaurant (32%).

3. Hypothesis Test Results

Table 1 Results of hypothesis test on personal factors affecting repurchase decisions

Personal Factors	Statistics	Values	Sig.
Gender	t-test	-1.168	.243
Age	F-test	2.299	.034*
Education	F-test	0.643	.526
Occupation	F-test	3.141	.005*
Average Monthly Income	F-test	2.868	.015*

*Statistically significant at .05

Table 1 presents that age, occupation, and average monthly income had an influence on consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani with statistical significance at the .05.

Table 2 Results of hypothesis test on brand equity and 7Ps affecting repurchase decision

Repurchase Decision	b	t	Sig.
Constants	-0.463	-2.605	.010*
Brand equity			
Brand Awareness	0.152	2.792	.006*
Brand Connection	0.012	0.219	.827
Brand Quality Recognition	0.018	0.294	.769
Brand Loyalty	0.167	2.738	.006*
Service marketing mix (7Ps)			
Products/Services	0.039	0.614	.540
Price	0.180	2.351	.019*
Place	-0.009	-0.118	.906
Promotion	0.123	1.967	.050*
Personnel	0.085	1.321	.187
Physical Appearance	0.063	0.936	.350
Service Process	0.240	3.475	.001*

$R^2 = 0.650$, $F = 63.453$, $p = .000^*$

*Statistically significant at .05

Table 2 shows the results of the hypothesis test, which revealed that brand equity in the form of brand loyalty ($b = 0.167$, $t = 2.792$, $Sig. = .006$) and brand awareness ($b = 0.152$, $t = 2.792$, $Sig. = .006$)/ and Service marketing mix factors in term of service process ($b = 0.240$, $t = 3.475$, $Sig. = .001$), price ($b = 0.180$, $t = 2.351$, $Sig. = .019$), and marketing promotion ($b = 0.123$, $t = 1.967$, $Sig. = 0.050$) influencing consumers' decision to make a repeat purchase at Suki Tee Noi restaurant in Pathum Thani

province. All 5 variables were able to explain 65% of the variance in the decision to repurchase ($R^2 = 0.650$), with statistical significance at the .05 level.

Discussion

1. In the aspect of personal factors, the results show that ages, occupations, and average monthly incomes affected consumers' decision to repurchase products and services of Suki Tee Noi in Pathum Thani at a statistically significant level, which supports the hypothesis. This is due to the fact that most consumers were still in the working age and fond of the taste of food. They preferred gathering up in a restaurant. Moreover, consumers with different occupations had different concepts, attitudes, and values in choosing a restaurant service. Interestingly, dining out was found to be a normal behavior of certain occupations. In addition, the average monthly income was also another factor that differentiates the decision. In other words, those with higher incomes tend to pay for more expensive food. This is consistent with the research by Weerayuthbancha and Dharma (2013), who studied factors affecting the repurchasing of Starbucks coffee's client: case study of the client in Bangkok. Their results also show that ages, occupations, incomes, educations, and marital status affected repurchase behavior of Starbucks' consumers in Bangkok. In addition, Khumhome, Juntarukka, and Zheng (2021), who conducted a study on Customers' Buying Behavior of Safe Food in Ubon Ratchathani Province, found that genders, ages, and occupations affected their buying decisions differently.

2. In the aspect of brand equity factors, brand loyalty, and brand awareness respectively affected the decision to repurchase products and services at Suki Tee Noi in Pathum Thani. Thus, the hypothesis was supported. The results are discussed as follows:

2.1 Brand loyalty affected consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani the most, which supported the hypothesis. The consumers were likely to visit Suki Tee Noi in the future, and also recommend this restaurant to others. Despite the increase in price due to the economic situation, Suki Tee Noi has still been recognized by consumers. One of the reasons is that there are several branches located in various places near the community, which is convenient for consumers to visit. Moreover, the food and the management system are satisfying. Similarly, Sangsuphan and Chienwattanasook (2020), who studied brand equity and service marketing mix factors affecting repurchase decision-making of Café Amazon coffee consumers at department store in Pathum Thani Province, found that brand loyalty significantly affected repurchase decision of Café Amazon coffee consumers at department stores in Pathum Thani Province. This is also consistent with Siriwongnam and Rammanust (2019), who conducted a study on organizational factors and brand value as factors linking integrated marketing communications that affect frozen food purchasing decisions of consumers in Bang Khae, Bangkok. They found that brand equity factor significantly affected consumers' decision to purchase frozen food in Bang Khae, Bangkok.

2.2 Brand awareness affected consumers' decision to repurchase products and services at Suki Tee Noi restaurant in Pathum Thani Province, which supported the hypothesis. Since Suki Tee

Noi is well-known and its logo is well-recognized, most consumers are more familiar with this brand than others. People tend to think of Suki Tee Noi first when they think about Suki and Shabu restaurant. This is in line with Sangsuphan and Chienwattanasook (2020), who studied brand equity and service marketing mix factors affecting repurchase decision-making of Café Amazon coffee consumers at department store in Pathum Thani Province, found that brand awareness significantly affected repurchase decision of Cafe Amazon coffee consumers at department stores in Pathum Thani Province. In addition, Thiangmak et al. (2022) also found that brand awareness significantly affected the decision to repurchase Thai chili paste products of a la carte restaurant operators in Mueang District and Khlong Luang District, Pathum Thani Province.

In addition, the researcher would like to further discuss the reasons for the variable of brand loyalty and brand awareness, which does not affect repeat purchase decisions because Tee Noi Suki has the potential to create brand awareness and also create loyalty towards the product as well. However, in the buffet business, packaging is not used to connect the brand. Moreover, most of the activities that take place only in the stores. In addition, consumers do not rate the quality level of the brand as high as that of the market leaders in the industry. Therefore, these two variables do not influence the repeat purchase decision.

3. In the aspect of service marketing mix factors, service process, price, and promotion were found to affect consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani respectively. Thus, the hypothesis was supported. The results are discussed as follows:

3.1 Service process was found affected consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani the most. The consumers were satisfied by the efficient booking process, store management system, food ordering process, serving process, and a variety of payment systems and decided to repurchase the products and services at the restaurant. Likewise, Prapasongsit, Bilmanoch, and Saenjit (2022) found that process affected consumers' decision to visit Sweet Shine Coffee, a slow bar coffee shop with Moka Pot brewing method the most.

3.2 Price the affect consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani in the second place. The price of the Suki Tee Noi product is clearly stated and reasonable for their product quality. This is in line with Mangalasut (2013), who found that price significantly affected consumer satisfaction. Similarly, Yuwannasri and Chienwatthanasook (2017) found that price was the factor that highly affected customer loyalty to purchase coffee at Doi Chang and Starbucks in Bangkok. Furthermore, Weerayuthbancha and Dharma (2013) also revealed that price was corelated with consumers' behavior to repurchase coffee at Starbucks in Bangkok.

3.3 Marketing promotion was found the affect consumers' decision to repurchase products and services at Suki Tee Noi in Pathum Thani in the last place. Suki Tee Noi is advertised through various channels, provides promotions with business partners in various channels, and offers seasonal discounts. Suki Tee Noi also provided fun activities on its social media channel. Its advertisements and communication on a regular basis affected consumers' decision to repurchase products and services at

Suki Tee Noi. This is in line with Weerayuthbancha and Dhama (2013), who found that marketing promotion was correlated with consumers' behavior to repurchase Starbucks Coffee in Bangkok. Additionally, Sangsuphan and Chienwattanasook (2020) also revealed that marketing promotion significantly affected consumers' decision to repurchase Cafe Amazon coffee at the department stores in Pathum Thani.

In addition, the researcher would like to further discuss the reasons for the product/service variables, location, employees, and physical characteristics. This does not affect the repurchase decision, although it is not according to the concept and theory. But empirical evidence shows consumer desire for a more diverse menu. Moreover, the current branches in Pathum Thani are still few. In addition, the employees and physical characteristics of the Tee Noi store are generally similar to those of Suki restaurants and do not differ from consumer sentiments, so this does not affect repurchase decisions.

Suggestions

1. According to the results that different in ages, occupations, and average monthly income affected consumers' decision repurchase products and services at Suki Tee Noi branches in Pathum Thani, entrepreneurs or those involved in marketing should concentrate on behaviors of consumers in different ages, and occupation that prefer consuming sukiyaki at the restaurant by collecting various numerical data in order to formulate a marketing strategy that corresponds to these differences.

2. According to the results of the study of brand equity factors affecting consumers' decision to repurchase Suki Tee Noi branches in Pathum Thani Province, there are suggestions as follows:

2.1 Brand loyalty affected consumers' decision to repurchase and consume products at Suki Tee Noi the most. Even though the price rose due to the economic situation, the consumers tend to visit and dine in the restaurant continuously. Thus, entrepreneurs should take the advantages of brand loyalty to create satisfaction and build confidence among customers to positively increase the brand image.

2.2 Brand awareness affected consumers' decision to revisit buffet restaurants that provide tastier food with higher quality than others. Suki Tee Noi product quality is worth the price paid. Thus, entrepreneurs should develop the quality of products and services, the marketing media plan, advertisement, and public relations through online media. This plays a very important role to attract consumers and stimulate more demand.

3. According to the results of the study of service marketing mix factors affecting consumers' decision to repurchase Suki Tee Noi branches in Pathum Thani Province, there are suggestions as follows:

3.1 Service process was found to affect consumers' repurchase decision since the customers were satisfied with the service of Suki Tee Noi restaurant. Thus, entrepreneurs or those involved in marketing should be continually advertised and publicized, as well as marketing activities

through various media to convey messages and connect with consumers. In addition, a membership system is also recommended since it provides consumers who regularly visit to receive benefits, such as discounts or rewards, etc. Furthermore, there should be seasonal promotional activities on a regular basis to provide a choice for consumers.

3.2 Price was obviously found to affect consumers' repurchase decision. The price was reasonable for the quality and the variety of the food, as well as the atmosphere in the shop. Thus, Entrepreneurs should focus on the value of their products and set the price to suit the quality and quantity since consumers always compare the value of the product with the price prior to making a purchase decision.

3.3 Marketing promotion in the forms of membership or activities to receive special privileges was found to affect consumers' repurchase decision. Marketing promotion is an important factor that motivates and drives the target group to choose the service. Moreover, entrepreneurs should focus on advertising and public relations through various online media to boost sales. Offering gifts and special privileges to members can also create long-term relationship between the brand and consumers as well.

Suggestions for Future research

1. It is necessary to conduct a comparative study on economic factors and values influencing consumer's decision to purchase Suki Tee Noi and other type of shabu restaurants in order to analyze the advantages and disadvantages for developing a guideline for shabu business.

2. The behavior and demand for Suki Tee Noi and other shabu restaurants in Pathum Thani should be comparatively studied. The results can be used to improve and develop strategies in accordance with the market share of each business and to satisfy consumers, which lead to an increase in market share.

3. A qualitative study, especially in-depth interviews on the types of services that consumers prefer, should also be conducted to get clearer and useful insights in developing a service model to meet the needs of customers. The problems or limitations in using the service at Suki Tee Noi should also be considered in order to obtain comprehensive information for planning a business strategy to achieve the goals.

References

Aaker, D. A. (1991). *Managing brand equity*. New York: Free Press.

Brand Buffet. (2021). *Penetrating the strategy of "Suki Tee Noi", turning to sell A-la-cart sukiyaki Price according to weight. Fight with covid. Shop is closed but business can still go on.*
Retrieved from <https://www.brandbuffet.in.th/2021/09/suki-teenoi-sell-a-la-carte-sukiyaki-price-by-weight/>

Cochran, W. G. (1977). *Sampling techniques* (3rd ed.). New York: John Wiley and Sons Inc.

Kar, B. (2016). Service quality and servqual model: a reappraisal. *Amity Journal of Operations Management*, 1(2), 52-64.

Karjaluoto, H., Munnukka, J., & Tikkanen, S. (2014). Are Facebook brand community member really loyal to the brand?. In *BLED 2014 Proceeding* (pp.429-439.). Bled: Association for Information Systems.

Khumhome, B., Juntarukka, S., & Zheng, C. J. (2021). Customers' buying behavior of safe food in Ubon Ratchathani province. *Journal of Management and Development Ubon Ratchathani Rajabhat University*, 8(1), 137-149.

Klomdang, M., & Suthisanont, A. (2019). The effect of brand image on customer's brand loyalty of shabu buffet in Bangkok case study: Two shabu restaurants occupy the most market share. *EAU Heritage Journal Social Science and Humanity*, 9(2), 194-204.

Kotler, P., & Armstrong, G. (2012). *Principles of marketing* (11th ed.). New Jersey: Pearson Prentice Hall.

Mangalasut, J. (2013). *Behaviors and factors that influence complacence to consume Starbucks case study: Central Landprao*. (Master's Thesis, Silpakorn University).

Namsaeng, N., Vongkangvan, A., Pungnirund, B., Tridhoskul, P., Champatong, S., Sinarkorn, & Techarattanased, N. (2020). The marketing mix and purchase behaviors influential to customers' repeat purchase of products in superstore via application. *The Journal of Development Administrator Research*, 10(1), 11-20.

Nangam, W., & Phothongsaengaroon, R. (2019). The influence of causal factors effect to the intention to re-purchases of clean food. *Journal of Suvarnabhumi Institute of Technology*, 5(1), 81-95.

Porndechdecha, N., & Booranavitayaporn, S. (2022). Marketing mix factors affecting the repeat purchases of Japanese Izakaya restaurants consumers in Bangkok. *Interdisciplinary Social Sciences and Communication Journal*, 5(4), 22-35.

Positioning. (2017). *Eating is a big issue. Thai people eat often. Nielsen penetrates 4 trends. Behavior of Thai people eating out*. Retrieved from <https://positioningmag.com/1143088>

Prapasongsit, E., Bilmanoch, S., & Saenjit, K. (2022). Marketing communication factors affecting consumers' decision to use the service of slow bar type coffee shop the uses a moka pot brewing method: A case study of sweet shine coffee. *Siam Communication Review*, 21(1), 165-181.

Sangsuphan, B., & Chienwattanasook, K. (2020). Brand equity and service marketing mix factors affecting repurchase decision-making of coffee of Café Amazon customer at department stores in Pathum Thani province. *Journal of Humanities and Social Sciences*, 11(1), 47-59.

Schiffman, L. G., Kanuk, L. L., & Wisenblit, J. (2010). Consumer behavior. Global edition. *Pearson Higher Education, London*, 12(2), 113-120.

Siriwongnam, S., & Rammanust, S. (2019). Organization and brand equity as mediating factors between integrated marketing communication and buying decision on frozen foods of consumers in Bang Khae district Bangkok. *Romphruek Journal*, 37(3), 71-81.

Song, G. (2016, July). The Research on Consumer Decision Process and Problem Recognition. In *2016 2nd International Conference on Humanities and Social Science Research (ICHSSR 2016)* (pp. 50-53). Atlantis Press.

The Standard. (2022). *'Owner of Suki Tee Noi' insists 'not selling the business', only negotiating for cooperation This year, it is preparing to open 4 more branches*. Retrieved from <https://thestandard.co/suki-teenoi/>

Thiangmak, W., Jinphra, K., Inkum, A., & Chienwattanasook, K. (2022). Influence of brand equity and marketing mix on cooked-to-order restaurant operator's decision to repurchase Thai chili paste products in Muang district and Khlong Luang district in Pathum Thani province. *Journal of Interdisciplinary Research: Graduate Studies*, 11(2), 1-12.

Tusakunee, K., & Inkaew, S. (2016). Factors influencing the repurchase intentions of female customers of Wacoal lingerie at department stores in Bangkok. *EAU Heritage Journal Social Science and Humanities*, 6(2), 54-65.

Vanichbuncha, K., & Vanichbuncha, T. (2015). *SPSS for Windows*. Bangkok: Rongphim Samlada.

Weerayuthbancha, L., & Dharma, N. (2013). Factors affecting the repurchasing of Starbucks Coffee's client: Case study of the client in Bangkok metropolitan region. *Journal of marketing and communication*, 1(2), 851-870.

Yuwansri, Y., & Chienwattanasook, K. (2017). Marketing service mix factors affecting customers' loyalty: A case study of Doi Chang Coffee and Starbucks Coffee consumers in Bangkok. In *International Conference in Innovative Business and Entrepreneurship* (pp. 104-117). Pathum Thani: Rangsit University.

EXPLORING THE RELATIONSHIP BETWEEN SOCIO-DEMOGRAPHIC CHARACTERISTICS AND TOURIST BEHAVIORS: AN EMPIRICAL STUDY IN PATHUM THANI THAILAND

Katawoot Jeambua¹
Duangporn Puttawong^{2*}

Received 6 November 2022

Revised 26 December 2022

Accepted 29 December 2022

ABSTRACT

In the past few years, the Covid-19 pandemic has affected consumption and tourism activities in Thailand's special area of Pathum Thani. The pandemic has had a significant impact on travel volume within Thailand and there has been a marked decrease in the arrivals of domestic tourists to various tourist attractions. This paper found that domestic tourist decision making mainly responds to the individual intrinsic characteristics and tourist behavior. The paper presents the socio-demographic characteristics of tourists. Most tourists have different travel behaviours according to socio-demographic characteristics factors, both in terms of behaviour in tourism expenses and travel purpose. In addition, the study also found that socio-demographic characteristics of tourists including gender, marital status, education level, occupation, income, and domicile related to the tourism behaviour of Thai tourists in Pathum-Thani province. The findings from this study can be used to provide clearer recommendations for the tourism market development plan, responding to the behaviour of self-traveling domestic tourists.

Keywords: Correlation Analysis, Pathum-Thani Province, Socio-Demographic Characteristics, Tourist Behavior

¹ Faculty of Management Science, Silpakorn University Petchaburi Information Technology Campus, Thailand
Email: katawoot.j@gmail.com

² Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Thailand.

* Corresponding author email: duangporn_p@rmutt.ac.th

Introduction

Over the past few years, the Covid-19 pandemic has resulted in enormous financial losses, creating a global health and economic crisis (Anderson et al., 2020). The pandemic has severely affected the tourism and hospitality industry, resulting in tourists canceling their travel plans because of the fear of infection due to the inability to avoid spreading the virus during travel (Mamirkulova et al., 2020). Travelers by air are also at increased risk of infection if there is no effective vaccine (Su et al., 2021). The previous studies have indicated that travel restrictions are the most effective intervention in reducing the spread of disease and controlling the rate of transmission between people and communities around the world (Mamirkulova et al., 2020; Meadows et al., 2019).

The outbreak of Covid-19 has temporarily halted economic activity in tourism around the world. Many governments have implemented measures to control foreign travel in the form of travel restrictions, including the Government of Thailand, which closed the country by temporarily suspending the arrival of foreign tourists to control the epidemic. This has resulted in a decrease in the arrivals of foreign tourists and led to a decrease in the confidence of Thai tourists. The fall in the number of Thai tourists traveling within the country is a result of changing tourism behavior as well as the taking into account of the health and safety and hygiene issues. However, the behavior of Thai tourists since Covid-19 has changed in three ways, namely: 1) traveling within the home country; 2) traveling short distances by private car; and 3) traveling to places that are not crowded (Saenkam, 2021).

Thus, the Thai tourism industry has come to rely primarily on the local tourist market. Government agencies may have to consider creating measures to stimulate the domestic tourism market from time to time to help tour operators during the period when the foreign tourist market has not yet to recover. In addition, tourism promotion campaigns are organized through various advertising media both online and offline. Additionally, organizing events to promote various attractions on a monthly basis will help stimulate the constant demand for travel. Therefore, preparing support the new business context, is necessary to adjust the service model to take into account the pandemic. The understanding of the changing market characteristics and tourist behavior is essential for the planning of tourist operators to meet the needs of tourists in choosing tourist attractions. Ultimately, factors that come into the decision to choose a tourist destination include demographic, facilities, geographic, social, economic, political, media, and technological (Waewkaew, 2014).

Therefore, a review of the literature on tourist behavior to apply research concepts to help suggest clear guidelines for the development of the tourism market is essential. This research targets Pathum Thani province because it is located in the central region of Thailand and is the area that faces the problem of decreased tourism more so than any other province. Pathum Thani is part of the Bangkok Metropolitan Region and has a variety of tourist attractions that are suitable for tourists from the nearby populated areas, for example, lifestyle marketing (Sathish & Rajamohan, 2012), leisure tourism (Arch, Roberta & Marion, 2004), and geotourism (Dowling & Newsome, 2018). Therefore, this research aims to study Thai tourist's behavior in Pathum Thani province as well as to investigate the socio-

demographic characteristics that are related and influence the behavior of these tourists. The tourism business sector in Pathum Thani has a guideline for making decisions and planning appropriate business operations. In addition, local governments and stakeholders have ways to enhance the competitiveness of business operators and ways to connect the tourism industry with other sectors. This has also resulted in Thailand being able to develop the country's overall capability to compete at the international level eventually (Ministry of Tourism and Sports, 2022). The guidelines can help to prepare for the future pandemic outbreaks.

Research Objectives

In this study, the main objective was to investigate socio-demographic characteristics and examine 6 factors – the context of gender, marital status, education level, occupation, income, and domicile— that related and influence the behavior of domestic tourists in Pathum Thani, Thailand. This study aims to provide guidelines for making decisions and planning appropriate operations to improve the Thailand tourism policy.

Benefits

This study contributes to knowledge in Thailand tourism by proposing the impact of the socio-demographic characteristics on tourist behaviors. Due to the phenomenon of population aging occurring across the globe; demographic alterations are likely to have an effect on tourism behaviors. Therefore, this research suggests that Thailand's tourism is going to be required to adapt itself to this situation. However, this research is also essential to enhance the competitiveness of business operation in the Thailand tourism industry. Thus, policymakers and community organizations can also benefit from the findings in this work when developing and implementing policies and practical strategies for achieving Thailand's tourism development goals.

Literature Review

Based on the review of the literature related to this study, the following theories and related research are described in this section as follows.

Tourism behavior

Hundreds of theories have been developed to explain human behavior. Three main theories are related to human behavior: 1) The Theory of Planned Behavior (TPB); 2) Value Belief Norm Theory (VBNT); and 3) Habit Theory (MacInnes, Grün, & Dolnicar, 2022). TPB is a widely used theory for the study of attitudes and the influence of attitudes on behavior change in everyday human contexts including tourism behaviors (Ajzen, 2005). While Value Belief Norm Theory also aims to predict and explain behavior, but with a specific focus on environmentally significant behaviors (Stern, 2000). Moreover, Habit is known to be a strong predictor of human behavior (Wood, Quinn, & Kashy, 2002)

Tourism behavior is the action of tourists, whether the tourists are aware of it themselves, or whether other people notice the action. Tourist behavior is intention to respond to something in a particular situation. The external behavior of tourists (tourist's overt behavior) is the behavior that others observe through the senses. In contrast, tourist's covert behavior is the function of the body's various organs, including feelings, thoughts, and emotions that are regulated within. Finally, inner behaviors largely determine external behaviors (Yamjamaung & Jetanon, 2016). Moreover, behavior of tourists related to the use of services in the tourism industry consisting traveling expenditure, the reasons for traveling, the number of members joining the trip, traveling time, interest in tourism, and knowing the sights (Yoosub, 2012).

Therefore, the behavior of tourists arises due to various reasons as each individual has different ideas or reasons of their own (Santos et al., 2021; Scott, Girish & Miguel, 2014). According to (Blackwell, Miniard, & Engel, 2001) definition of consumer behavior, consumer behavior is the behavior that people participate in to obtain services and spend costs, including the decision making process before consumption. Therefore, this research study identifies six indicators of consumer demand in terms of Thai tourist behaviors in Pathum Thani province, namely: 1) tourism expenses, 2) reason for travel, 3) travel purpose, 4) travel mode; 5) travel time, and 6) travel decision making.

Relationship between socio-demographic characteristics and tourism behavior

Socio-demographic characteristics factors affecting tourism behavior (Manpao, 2016; Samerjai & Wareewanich, 2008; Song & Zhang, 2014; Timchareonsuk & Pattanasampan, 2016). Most of these researchers found that gender, age, status, education level, occupation, average monthly income, and different family incomes affect different travel decision-making behaviors. It was also found that socio-demographic characteristics such as age, gender, education, occupation, income, religion, ethnicity are fundamental aspects that marketers tend to consider in order to segment the market. This is linked to consumer demand, preference, and consumption rate (Hanna & Wozniak, 2001; Gonzalez, & Bello, 2002; Goryushkina et al., 2019; Kattiyapornpong & Miller, 2009; Zhang & Marcussen, 2007).

According to the principles of behavioral psychology, human behaviors are driven by external forces. That is, people with different socio-demographic features will exhibit different behaviors. Marketers can apply the research on socio-demographic characteristics to their products strategy, for example, the study of differences in psychological characteristics between family and single people. This helps marketers to understand the sales opportunities for different groups. Past research has also found that overall domestic travel decisions are affected by different statuses. For example, those with single status travel more than those with marital/divorced status because singles do not have the burden of taking care of a family (Pizam & Calantone, 1987; Sirirak & Kulis, 2011).

Cohen, Prayag and Moitard (2014) studied the nature of tourism differences between males and females. They found that males were more adventurous than females, while females were more sensitive and prudent in thought, preferring culture attractions more than males. Therefore, the gender

factor is related to tourism behavior (Kaosa-ard, 2002). Furthermore, occupational factors are employed in market segmentation in order to make attractions suitable across a range of occupations. It was found that different occupations had an effect on Thai tourist behavior in terms of the length of stay per trip (Huang & Xiao, 2000; Sirirak & Kulis, 2011).

In addition, the domicile or current place of residence is a factor related to tourist behavior (Huang & Xiao, 2000; Kanittinsutitong et al., 2022; Samerjai & Wareewanich, 2008; Thirachaya & Patipat, 2019). Tourists who share the same culture and are from the same environment will also have similar behavior and preferences. However, tourists with different cultures and from different environments have different behaviors and preferences. For example, income was reported to be among the demographic factor is related to tourist behavior. (Hudson & Ritchie, 2001; Koosol & Petcharanon, 2018). Furthermore, level of education was seen to be a significant factor related to tourist behavior as well. (Kastenholz, Carneiro, & Eusébio, 2005; Koosol & Petcharanon, 2018).

Therefore, it can be seen that each group has different behavioral characteristics and has different factors related to tourist behavior. There are six socio-demographic characteristics factors related to behavior of Thai tourists, namely: 1) gender, 2) marital status, 3) education level, 4) occupation, 5) income, and 6) domicile. Based on the literature review, the research conceptual framework is shown in Figure 1.

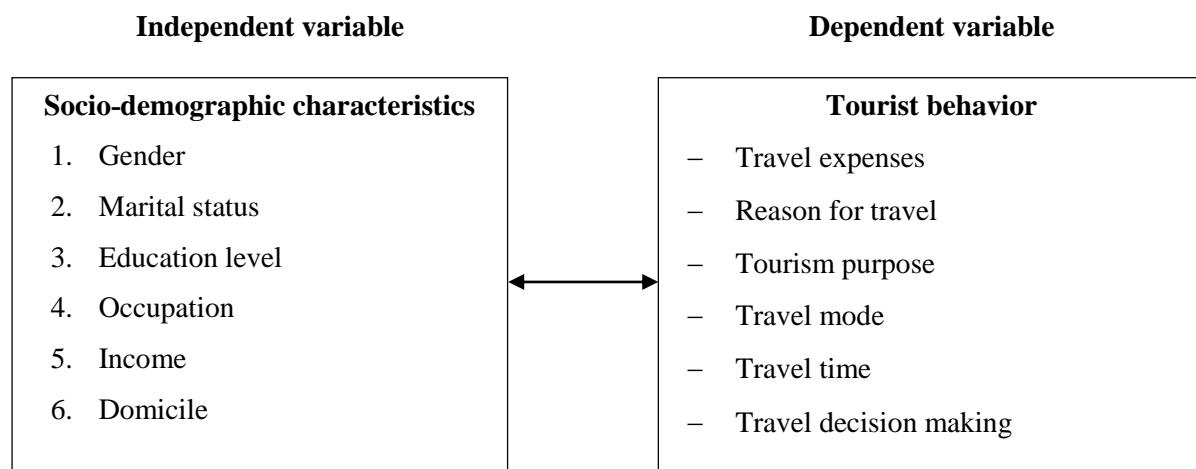


Figure 1 Research Conceptual Framework

Research Methodology

Instrument

The research instrument was the questionnaire and self-administered questionnaire (Hanafiah et al., 2016). The questionnaire consisted of three main parts. The first part covered general information about respondents including socio-demographic characteristics such as gender, marital status, income range, education level, occupation, and domicile. This section was composed of six questions. The second part comprised information related to tourist behaviors in Pathum Thani province that also

contained close-ended questions in the form of nominal and ordinal scales. The third part was open-ended questionnaires related to recommendations and solutions for tourism in Pathum Thani province.

The quality of the questionnaire was tested using content validity and reliability. It was determined through the use of a consistency index (IOC) that is greater than 0.5 (Turner & Carlson, 2003) and the confidence of the entire questionnaire, Cronbach's alpha, was 0.958, which was at the high level of acceptance. The researcher then selected the sample to distribute the questionnaire.

Sampling design

The population used in this research was Thai tourists visiting tourist attractions in Pathum Thani province. The sample group used in the research from the statistics of Thai tourists who come to Pathum Thani province Tourist database system (Office of Tourism and Sports, Pathum Thani Province, 2018) at the number of 92,196 people. The researcher used Taro Yamane Yamane's formula (1973) to determine the tolerance of 0.05 to 398. Finally, a total of 400 questionnaires were collected for flexibility in data collection.

A convenience sampling technique was adopted to select the appropriate sample for the study. Ferber (1977) noted that convenience sampling as one form of nonprobability sampling that can reduce the impact of nonrandom convenience sampling by ensuring that the generated findings are a true representative of the population. Additionally, convenience sampling is one among the appropriate sampling techniques to be used when collecting data from actual tourist settings (Madrigal & Kahle, 1994).

Data collection

This study employed a quantitative approach and survey strategy as the research design. Before collection of data, the survey instrument was pretested by distributing the questionnaire to 30 Thai tourists visiting tourist attractions in Pathum Thani province. Respondents were randomly and conveniently selected to take part in the study. The pretesting exercise was conducted to assess the survey suitability, readability, eliminate any vague items, and determine the response rate. After ensuring a clear understanding for the respondents, an online survey method via the google form instrument was conducted. As a result, Thai tourists participant completed surveys between August 2019 and December 2019. During this time, 400 Thai tourists who traveled alone for a day trip to tourism destinations in Pathum Thani province completed the survey.

Data analysis

The collected data was analyzed using the statistical analysis program. The study used descriptive statistics such as frequency and percentages, in order to ascertain the demographic characteristics of the respondents. In addition, Pearson's chi-square test was used to test the relationship between demographic characteristics and tourism behaviors. Data was first checked to determine whether there was missing data or outliers and determine the data distribution pattern before analysis.

Results

Respondent's demographic characteristics

This study presents the results of data analysis in three table. First, the results of the study of socio-demographic characteristics are shown in Table 1. Second, behavior of Thai tourists in Pathum Thani Province are shown in Table 2. Third, the conclusions of the research hypothesis testing are shown in Table 3.

Table 1. Socio-demographics characteristics of the Thai tourists

Socio-demographics characteristics	Frequency	Percentages
Gender		
Male	160	40.0
Female	240	60.0
Marital status		
Single	271	67.8
Married	108	27.0
Separated	21	5.3
Education level		
No educational qualification	17	4.3
High school	126	31.6
Bachelor's degree	185	46.3
Master's degree	50	12.5
Doctoral degree	22	5.5
Occupations		
Agriculturist	23	5.8
Entrepreneur	45	11.3
State enterprise employee	81	20.3
Private cooperate employee	110	27.5
Student	47	11.8
Freelance	45	11.3
Other	49	12.3
Income ranges		
Less than 15,000 baht/month	113	28.3
15,001 – 20,000 baht/month	131	32.8
20,001 – 25,000 baht/month	56	14.0
25,001 – 30,000 baht/month	68	17.0
More than 30,000 baht/month	31	7.8

Table 1. Socio-demographics characteristics of the Thai tourists (Cont.)

Socio-demographics characteristics	Frequency	Percentages
Domicile		
Bangkok Metropolitan Region	193	48.3
Middle	109	27.3
East	18	4.5
Northeast	15	3.8
North	14	3.5
South	51	12.8
Total	400	100.0

The overall descriptive statistics from Table 1 shows the demographic characteristics information. Most of the tourists are female which accounted for 60.0% and the remaining 40.0% were males, most aged between 26-35 years or 37.8%. Tourists had the highest frequency of holding bachelor's degrees at 46.3%. They were most frequently employees of private companies, accounting for 27.5%. They most frequently earned 15,001 – 20,000 baht per month, representing 32.8%. Regarding the marital status of tourists, most were single, 67.8%. Meanwhile, 48.3% were residents of Bangkok.

Table 2. Results of tourist's behaviors toward tourism at Pathum Thani province

Tourist's behaviors	Frequency	Percentages
Frequency of travel		
First time	96	24.0
More than one time	304	76.0
Travel expense		
Less than 1,000 baht	93	23.3
1,001 – 2,000 baht	151	37.8
2,001 – 3,000 baht	117	29.3
More than 3,000 baht	39	9.8
Reason for travel		
Convenient to travel	259	64.8
Budget savings	12	3.0
Public relations	25	6.3
A variety of products and attractions	98	24.5
Others	6	1.5

Table 2. Results of tourist's behaviors toward tourism at Pathum Thani province (Cont.)

Tourist's behaviors	Frequency	Percentages
Tourism purpose		
Relaxation	189	47.3
Visiting relatives	32	8.0
Learning	8	2.0
Shopping	103	25.8
Worship and practice dharma	45	11.3
Others	23	5.8
Method of Traveling (Travel mode)		
Private car	312	78.0
Public bus	63	15.8
Tour agency's bus	16	4.0
Others	9	2.3
Traveling Preferences		
Individual travel	56	14.0
Group tours	167	41.8
Family trips	177	44.3
Travel time		
Weekday	160	40.0
Weekend	177	44.3
Holiday	43	10.8
Vacation	20	5.0
Travel to decision making		
Own decision	203	50.8
Family/relative	116	29.0
Couple/lovers	21	5.3
Friend/colleague	36	9.0
Total	400	100.0

From Table 2, the behavioral analysis of Thai tourists in Pathum Thani province, shows that most tourists traveled to Pathum Thani province more than one time, representing 76.0%, with most frequent total tourism expenditures between 1,001 – 2,000 baht, or 37.8%. Tourists most frequently spent their money on food, accounting for 38.4%.

Tourists most frequently had the main purpose of visiting for relaxation, 47.3%. The majority of tourists came to the area by private car, 78.0%. When traveling to Pathum Thani, tourists most frequently arrived as part of a family trip, 44.3%. The period of time in a week of travel to visit was on weekend, 44.3%. Most decisions to travel to the province were self-determined, 50.8%.

Relationship between socio-demographic characteristics and tourism behavior

Pearson's chi-square tests the relationship between each dependent variable with an independent variable. Chi-square coefficient explains changes in the dependent variable (socio-demographic characteristics including gender, marital status, education level, occupation, income, and domicile) which are related to the independent variables (tourist behavior in terms of tourism expenses, reason for travel, purpose, travel mode, travel time, and travel decision making).

Table 3. Summary of results of relationship between socio-demographic characteristics and tourism behavior in terms of Pearson's chi-square statistics

Independent Variable	Dependent Variable					
	Travel expenses	Reason for travel	Tourism purpose	Travel mode	Travel time	Travel decision making
Demographics information						
Gender	(2.249)	(7.202)	(8.290)	(0.627)	(7.121)	(12.044)*
Marital status	(7.597)	(17.966)*	(32.956)**	(9.848)	(10.364)	(20.078)*
Education level	(19.922)	(54.919)**	(105.383)**	(55.525)**	(32.724)**	(75.808)**
Occupation	(50.807)	(52.531)*	(122.246)**	(100.503)**	(42.445)*	(100.503)**
Income	(29.307)	(49.718)**	(51.779)	(17.564)	(29.175)*	(42.524)*
Domicile	(22.696)	(43.702)**	(77.614)**	(27.908)*	(48.991)**	(33.180)

Note: * Statistically significant at 0.05 ** Statistically significant at 0.01

Values in parentheses (-) are Pearson's chi-square statistics

Table 3 shows the relationship between socio-demographic characteristics and tourist behavior. It was found that the socio-demographic characteristics of tourists were gender, marital status, education level, occupation, income, and domicile were not related to travel expenses. The socio-demographic characteristics of tourists included with education level, income, and domicile, were related to tourism behavior in terms of reason for travel which was statistically significant at the 0.01 level. On the other hand, marital status and the occupation of the tourists were related to the tourism behavior in the reason for travel which was statistically significant at the 0.05 level.

The demographic factors of tourists were marital status, education level, occupation and domicile were related to tourism behavior in terms of tourism objectives which were statistically significant at the 0.01 level.

The socio-demographic characteristics of tourists include education level and occupation related to tourism behavior in terms of travel mode. The statistical significance was at the 0.01 level. Tourists' domiciles were related to tourism behavior in terms of travel time which was statistically significant at the 0.05 level.

The socio-demographic characteristics of tourists were education level and domicile correlated with travel behavior in terms of travel time. The statistical significance was at the 0.01 level. Tourist occupation and income were related to tourism behavior in terms of travel time which were statistically significant at the 0.05 level.

The socio-demographic characteristics of tourists include education level and occupation correlated with tourism behavior in travel decision making at statistical significance at 0.01. Gender, marital status, and income were related to tourism behavior in making travel decisions at the statistically significant 0.05 level.

Discussion of findings

Travel behavior has already changed considerably as lifestyles change during the past two decades, and it will continue to change in the future (Liu & Xu, 2018). Each traveler has a variety of behaviors and current travel behaviors have changed dramatically based on socio-demographic characteristics. It was found that gender and tourism behavior in travel decision making. These findings are consistent with research by Cohen et al. (2014) who found that men and women differed in travel behavior. In deciding to travel in Pathum Thani, most female tourists preferred traveling with family or friends more than male tourists.

Marital status was related to tourism behavior that was the cause of tourism, and travel decisions. However, marital status was related to tourism behavior in terms of tourism purpose. This is consistent with Sirirak and Kulis (2011) who found that people with different statuses were influenced overall in their domestic travel decisions by different factors. The behavior of married tourists in Pathum Thani is more likely to select family vacation destinations more so than solo travelers.

Education level correlated with tourism behavior in terms of the reason for travel, tourism purpose, travel mode, travel time, and travel decision making. This is consistent with Kastenholz et al. (2005) and Koosol and Petcharanon (2018) who found that the level of education was correlated with tourist behavior of tourists in the field of tourism media/resources. The behavior of tourists in Pathum Thani varies according to the educational level and the behavior, which is different in many dimensions: the reason for travel, tourism purpose, travel mode, travel time, and travel decision making, as mentioned above.

Occupation is related to tourism behavior in terms of the reason for travel and the travel time which were statistically significant at the 0.05 level. This was related to tourist behavior in tourism purpose, travel mode, and travel decision making and were statistically significant at the 0.01 level. This is consistent with Huang and Xiao (2000) and Sirirak and Kulis (2011) who found that different occupations affect the tourism behavior of Thai tourists in terms of travel time per trip. Occupation is one of the factors used in market segmentation to ensure attractions are suitable for all occupations. Most of the tourists in Pathum Thani are private company employees and civil servants

or state enterprise employees. These are the group with reasonable spending power, earning regular salary and benefits. Also, they usually spend on travel at the beginning of the month or consecutive long holidays or festivals. This group tends to select places that are convenient to travel to. Pathum Thani is not far from Bangkok, meaning it is an alternative that tourists are interested in visiting.

Income is related to tourism behavior in terms of travel time, and the travel decision which were statistically significant at the 0.05 level. This is related to tourism behavior in terms of the reason for travel which was statistically significant at 0.01 level. These findings are consistent with Hudson and Ritchie (2001) and Koosol and Petcharanon (2018) who found that income was associated with traveler behavior in terms of both travel expenditure and travel time. However, most of the tourists in Pathum Thani were working age with low income and also taking a short trip. The decision on attractions selection, travel times, and travel decisions were primarily related to income.

Domicile is related to tourism behavior in terms of travel mode which was statistically significant at the 0.05 level. This is related to tourism behavior in terms of the reason for travel, tourism purpose, and the time period used to travel which were statistically significant at 0.01 level. These findings are consistent with Huang, and Xiao (2000), Kanittinsutitong et al. (2022), Samerjai and Wareewanich (2008), and Thirachaya and Patipat (2019) who stated that different people have different behaviors and preferences. Most of the tourists in Pathum Thani live in Bangkok and its vicinity and often come to Pathum Thani because of its convenient transportation. However, most travel for different reasons and purposes. These visitors make decisions for different reasons and purposes as well as use different travel mode and take a different travel time.

It can be concluded that the behavior of Thai tourists in Pathum Thani province will be different based on intrinsic and extrinsic motivations, for example, the different social status of each person will affect the decision to choose activities in daily life differently. In particular, tourism-related activities in which individual express different actions, and frequent repetitive activities become behaviors. Therefore, tourist behavior varies according to demographic factors. In most cases, the internal behavior caused by the functions of the body's organs determines the external behavior that tourists exhibit. This is consistent with Kim, Lee and Jung (2020) and Yamjamaung and Jetanon (2016) who found that different population groups have different travel incentives. The variables in the same group were significantly related to tourism behavior in terms of cost allocation per person.

Conclusions and Recommendations

Socio-demographic characteristics of gender, marital status, educational level, occupation, income, and domicile were related to tourism behavior of Thai tourists in Pathum Thani province. Therefore, agencies involved in tourism promotion can use the research results to allocate tourism resources, and develop tourism and marketing strategies that are in line with the local context. These

initiatives can provide stakeholders with ways to increase their competitiveness and propel the tourism industry to steadily and sustainably move beyond changing conditions.

Based on the findings of this study, the guidelines for making decisions and planning appropriate operations to improve in tourism policy in Pathum Thani province are proposed. Firstly, regarding tourism behavior, tourists who have been to Pathum Thani revisit the province because of convenient transportation. Also, most are tourists traveling with family groups of several people. Therefore, marketing should target tourists who come in small groups such as family and friends. Therefore, travel routes should be developed to suit small groups of tourists, and the ready to develop products to be diversified and distributed to tourist attractions. Secondly, the socio-demographic characteristics of tourists include gender, marital status, education level, occupation, income, and domicile which are related to tourism behavior in travel decision making – especially the decision to revisit. Therefore, Pathum Thani province should focus on the development of short-term tourist attractions to attract more tourists from nearby provinces.

Limitations and suggestions for further studies

This study examined tourism behavior of Thai tourists in Pathum Thani who traveled alone for a day trip. It did not cover overnight tourists, and the focus was on domestic tourists who traveled to Pathum Thani. Therefore, the results may not be generalized beyond the selected population. This geographically limited survey may have produced different results and conclusions in terms of the magnitude and the direction of relationships among variables.

Additionally, this study employed nonprobability sampling. Therefore, this may affect the external validity. Other studies should try to adopt probability sampling design so as to avoid this problem. Furthermore, the data collection was conducted over three months during low season. Thus, the findings of this study are limited to this particular period. Therefore, the tourists who travel in different seasons might have different opinions regarding their tourism behaviors.

Further research should conduct similar studies in different factors that affect to the tourism behavior in travel decision making to overcome this limitation, such as, facilities factors, geographic factors, social factors, economic factors, political factors, media factors, and technological factors. The obtained results can then be compared to identify similarities and differences between them. Also, the generated findings can be used to validate the findings of this study.

Acknowledgments

This paper draws, in part, on the results of the “Thai Tourist’s Behavior in Pathum Thani” research project. We are grateful to the Business Administration Faculty of Rajamangala University Technology Thanyaburi (RMUTT) for supporting this research under its research funding program in 2019.

References

Ajzen, I. (2005). *Attitudes, Personality and Behavior*. Open University Press.

Anderson, R. M., s Heesterbeek, H., Klinkenberg, D., & Hollingsworth, T. D. (2020). How will country-based mitigation measures influence the course of the COVID-19 epidemic?. *The Lancet*, 395(10228), 931-934.

Arch, G. W., Roberta, M. & Marion, B. (2004). Grounded Theory of Leisure Travel. *Journal of Travel & Tourism Marketing*, 17(1), 7-39.

Blackwell, R. D., Miniard, P. W., & Engel, J. F. (2001). *Consumer Behavior*. Texas: Harcourt College Publishers.

Cohen, A. S., Prayag, G., & Moital, M. (2014). Consumer behaviour in tourism: Concepts, influences and opportunities. *Current Issues in Tourism*, 17(10), 872-909.

Dowling, R.K., & Newsome, D. (2018). Chapter 1: Geotourism: definition, characteristics and international perspectives. *Handbook of Geotourism*. 1-12.

Ferber, R. (1977) Research by Convenience. *Journal of Consumer Research*, 4, 57-58.

Gonzalez, A. M., & Bello, L. (2002). The construct “lifestyle” in market segmentation: The behaviour of tourist consumers. *European journal of marketin*, 36(1/2), 51-85.

Goryushkina, N. E., Gaifutdinova, T. V., Logvina, E. V., Redkin, A. G., Kudryavtsev, V. V., & Shol, Y. N. (2019). Basic principles of tourist services market segmentation. *International Journal of Economics & Business Administration*, 7(2), 139-150.

Hanna, N. & Wozniak, R. (2001). *Consumer behavior: An applied approach*. New Jersey: Addison Wesley Publishing Company.

Hanafiah, M. H., Azman, I., Jamaluddin, M. R., & Aminuddin, N. (2016). Responsible tourism practices and quality of life: Perspective of Langkawi Island communities. *Procedia-Social and Behavioral Sciences*, 222, 406-413.

Huang, A., & Xiao, H. (2000). Leisure based tourist behavior: a case study of Changchun. *International Journal of Contemporary Hospitality Management*, 12(3), 210-214.

Hudson, S., & Ritchie, J. B. (2001). Cross cultural tourist behavior: An analysis of tourist attitudes towards the environment. *Journal of Travel & Tourism Marketing*, 10(2-3), 1-22.

Kanittisutitong, N., Wang, A. B. A., Taihiam, N., Somwong, S., Nooring, W., & Inkaew, A. (2022). Guidelines for the development of tourism for tourists with different demographic characteristics in Sichon District, Nakhon Si Thammarat Province. *Linguistics and Culture Review*, 6, 40-55.

Kaosa-ard, M. (2002). Development and management of tourism products: the Thai experience. *Chiang Mai University Journal*, 1(3), 289-302.

Kattiyapornpong, U., & Miller, K. E. (2009). Socio-demographic constraints to travel behavior. *International Journal of Culture, Tourism and Hospitality Research*, 3(1), 81-94.

Kastenholz, E., Carneiro, M. J., & Eusébio, C. (2005). The impact of socio-demographics on tourist behavior—analyzing segments of cultural tourists visiting Coimbra. *Atlas Cultural Tourism Research Project*, 1-18.

Kim, M. J., Lee, C. K., & Jung, T. (2020). Exploring consumer behavior in virtual reality tourism using an extended stimulus-organism-response model. *Journal of travel research*, 59(1), 69-89.

Koosol, S. & Petcharanon, T. (2018). Factors affecting tourists decision to visit the royal-initiated Mae Ngon River basin development project in Fang district Chiang Mai. *Suthiparitthat Journal*, 32(101), 134-148.

Liu, T. & Xu, M. (2018). Preparing for the New Era of Transport Policies: Learning from Experience. *Advances in Transport Policy and Planning*, 1, 1-34.

MacInnes, S., Grün, B., & Dolnicar, S. (2022). Habit drives sustainable tourist behavior. *Annals of Tourism Research*, 92(103329), 1-10.

Mamirkulova, G., Mi, J., Abbas, J., Mahmood, S., Mubeen, R., & Ziapour, A. (2020). New Silk Road infrastructure opportunities in developing tourism environment for residents better quality of life. *Global Ecology and Conservation*, 24, 1-19.

Manpao, P. (2016). Agrotourism decision making behavior: a case study of Mahasawas canal in Nakornpatom Province. *Journal of Thonburi University*, 10(22), 104-110.

Madrigal, R. & Kahle, L. (1994). Predicting Vacation Activity Preferences on the Basis of Value-System Segmentation. *Journal of Travel Research*, 32(3), 22-28.

Meadows, C.W., Tang, L., & Zou, W. (2019). Unraveling public health crises across stages: understanding twitter emotions and message types during the California measles outbreak. *Communication Studies*, 70(4), 453-469.

Ministry of Tourism and Sports. (2022). *Thai National Tourism Plan 2021-2022*. Retrieved from <https://nantourism.go.th/>

Office of Tourism and Sports, Pathum Thani Province. (2018). *Tourist attraction in Pathum Thani Province*. Retrieved from <https://pathumthani.mots.go.th/>

Pizam, A., & Calantone, R. (1987). Beyond psychographics—values as determinants of tourist behavior. *International Journal of Hospitality Management*, 6(3), 177-181.

Saenkam, B. (2021). The Behavior of Thai Tourists after COVID 19 Situations. *Journal of Liberal Arts and Service Industry*, 4(1), 160-167.

Samerjai, C. & Wareewanich, T. (2008). *Principle of Marketing*. Bangkok: Se-education.

Santos, V., Ramos, P., Sousa, B., Almeida, N., & Valeri, M. (2021). Factors influencing touristic consumer behaviour. *Journal of Organizational Change Management*, 35(3), 409-429.

Sathish, S., & Rajamohan, A. (2012). Consumer behaviour and lifestyle marketing. *International Journal of Marketing, Financial Services & Management Research*, 1(10), 152-166.

Scott, A. C., Girish, P. & Miguel M. (2014). Consumer behaviour in tourism: Concepts, influences and opportunities. *Current Issues in Tourism*, 17(10), 872-909.

Sirirak, P. & Kulis, N. (2011). Factors influencing on tourist's ecotourism behavior in Phuket Province. *Srinakharinwirot Business Journal*, 2(1), 96–108.

Song, H., & Zhang, N. (2014). Study on consumer decision making in rural tourism based on factor analysis model. *Journal of Chemical and Pharmaceutical Research*, 6(10), 722-726.

Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56(3), 407–424.

Su, Z., et al. (2021). Mental health consequences of COVID-19 media coverage: the need for effective crisis communication practices. *Globalization and Health*, 17(1), 4.

Thirachaya, C., & Patipat, T. (2019). Tourist behaviors and needs corresponding to historical tourism management at Khao Phra Wihan National Park, Sisaket Province, Thailand. *African Journal of Hospitality, Tourism and Leisure*, 8(1), 1-17.

Timchareonsuk, S. & Pattanasampan, A. (2016). *Factors that affect travel behavior of Chinese Tourists Traveling to Koh Larn, Chonburi Province*. (Graduate School of Commerce, Burapha University).

Turner, R. & Carlson, L. (2003). Indexes of Item-Objective Congruence for Multidimensional Items. *International Journal of Testing*, 3, 163-171.

Waewkaew, T. (2014). *Tourism behaviour of Thai tourists travelling to Korea or Japan*. (Master's Thesis, Rajamangala University of Technology Thanyaburi).

Wood, W., Quinn, J. M., & Kashy, D. A. (2002). Habits in everyday life: Thought, emotion, and action. *Journal of Personality and Social Psychology*, 83(6), 1281–1297.

Yamane, T. (1973). *Statistics: An Introductory Analysis*. New York: Harper and Row Publication.

Yamjamaung, B. & Jetanon, S. (2016). *3-Star Hotels in Sukhumvit Area of Bangkok and Potentials Tourism Industry to ASEAN Community*. Bangkok: Suan Sunandha Rajabhat University.

Yoosub, K. (2012). *Thai Tourist's Behaviors and The Marketing Mix for The Historical Tourism in Kanchanaburi Province*. (Master's Thesis, Nakhon Pathom Rajabhat University).

Zhang, J., & Marcussen, C. (2007). Tourist motivation, market segmentation and marketing strategies. In *5th Bi-Annual Symposium of the International Society of Culture, Tourism, and Hospitality Research*, June 4-6, 2007, Charleston, South Carolina USA.

DIGITAL ACCOUNTING FOR THE NEXT FUTURE: STIMULUS, TRANSITION AND JOURNEYS

Pongsiri Kamkankaew^{1*}

Darinee Tantavichet²

Siriphan Churimas³

Sukrit Limphothong⁴

Vachiraporn Phattarowas⁵

Surakit Khumwongpin⁶

Nateetip Sanpatanon⁷

Received 17 July 2022

Revised 4 October 2022

Accepted 3 November 2022

ABSTRACT

As part of the transition to the digital age, accounting has both a substantial role and a responsibility to society, the importance of which is divided between the legal obligation and the managerial obligation. Consequently, the goal of this academic research was to assess the impact of the accountant and technological advancements on the transition to digital accounting. In order to meet the goal of this paper, interpretative methods were employed to obtain data from a review of the relevant literature. According to the debate in this paper, it is decided that the time accountants spend in their everyday work environments providing services necessitates a transformation. Regarding the influence and evolution of automatisms in the profession, the positive effects of automatisms are evident, disproving the idea that the transition to digital accounting poses a threat to the survival of the accounting profession. This article's findings imply that accountants will be able to enter different industries, fostering their intellectual and personal growth. In this way, accounting can continue to show how important it is to society and become an even more respected job.

Keywords: Accountant, Digital Accounting, Transition, Industry 4.0, Digital Technology

^{1 2 3 4 5 6 7} Faculty of Business Administration, North-Chiang Mai University, Thailand
*Corresponding author email: Kpongsiri85@gmail.com

Introduction

Due to a general perception that conformity with accounting standards and their implementation was required to provide high-quality accounting information, traditional accounting remained unchanged for many years (Yigitbasioglu, Green & Decca Cheung, 2022). Therefore, the existence of this assumption raises the question of whether accounting is truly a profession, given that the definition of a profession does not include mere conformity with regulations (Zhang & Chen, 2020). At this juncture, accounting as a profession begins to be questioned, and an emergency shift is proposed before its extinction (Lehner, Leitner-Hanetseder & Eisl, 2019). This transformation must emerge from accounting researchers, stakeholders, and stakeholders with the goal of reversing this decrease and presenting an alternative to conventional accounting (Stefanescu et al., 2019). Recent technological advancements have transformed the corporate paradigm we are currently experiencing and are causing a time of conversion in human culture (Kurtz, Herrera & Moussalli, 2006). In this context, it is claimed that technological advancement may be the answer to the problem of finding an alternative to traditional accounting. Proponents of artificial intelligence contend that the machine can learn these rules and implement them as if it were an expert in fields such as finance and accounting (Biernacki, Krasodomska & Zarzycka, 2019). In light of the fact that accounting is a profession susceptible to change as a result of process automation, it will face greater challenges than any other (Association of Chartered Certified Accountants (ACCA), 2022). Accounting may benefit from technological advancements and be threatened by them (Zhang & Chen, 2020).

Some academics (Faruque, Dinavahi, & Xu, 2005; Kurtz, Herrera, & Moussalli, 2006; Pearson & Singleton, 2008; Troshani et al., 2018; Nodgren et al., 2019; Yigitbasioglu, Green, & Decca Cheung, 2022) are of the perspective that innovation will represent a challenge to the profession, culminating in its extinction of professionals, other academics (Phillips & Halliday, 2008; De Villiers, Rinaldi & Unerman, 2014; Kruskope et al., 2019; Hanetseder et al., 2021) believe that change should be viewed as an opportunity because it will create new job opportunities and lead to the growth of the profession. Accountants are motivated by the possibility of innovating and revitalizing their profession because they wish to be freed from the duties and responsibilities imposed by the government (Lehner, Leitner-Hanetseder & Eisl, 2019). Accountants ought to concentrate on a few fields with a bright future. However, given the unpredictability of the future, more authors and stakeholders in the accounting industry will be required to steer businesses and accountants in the right way (Matt, Hess & Benlian, 2015). This background of change and problems for accountants contributed to the justification of the current study. Given the paucity of research in this area, particularly in Portugal, it is vital to explore accountants' perceptions of the current and future consequences of the shift to digital accounting.

This academic paper's objective is to analyze the accountant and technology evolution confronting the shift to digital accounting. The following is the initial question that this study intends to address: What are the accountant's and technology evolution's perspectives on the move from traditional to digital accounting? In accordance with the purpose, it is planned to study the accountant

and technological evolution in terms of: the impact of the implementation of automatisms and dematerialization on the accounting profession; and the challenges, challenges, and opportunities associated with the transition to digital accounting.

The accountant and evolution of technology

The new age, described as the 4th Industrial Revolution, is the most complete and extensive in human history. This is a historical move in which civilization coexists with the new, as exemplified by new technology and advancements that have revolutionized life as we know it (Chae & Olson, 2022). According to Jiang et al. (2022), the fourth industrial revolution is not a new revolution but rather a continuation of the third industrial revolution, during which the use of process automation to improve autonomous and intelligent systems began. In this new era, uncertainty in the operating environment is present regardless of the sector of endeavor or organizational structure. Over the years, this change has been linked to the future of accounting as a profession, making people wonder what effect it will have on accountants.

The book titled "Professionalism and Accounting Rules" by West (2003) had an unquestionable impact on the accounting profession by highlighting the significance and relevance of accounting as a profession. West (2003) analyzed the consistent emphasis placed, both in practice and in accounting education, on accounting standards and their compliance. According to West (2003), there is a common view that accounting standards and their application are required and sufficient for the production of high-quality accounting information. Still, the quality of accounting is based on how well it explains the event or situation it is meant to show.

Clarke, Dean, and Oliver (1997) noted that compliance with standards neither defines nor is compatible with the general definition of a profession, thereby calling into question whether accountants are truly professionals and whether accounting is truly a profession. According to West (2003), this assumption that compliance with norms, consistency, and precision is adequate for the quality of the profession originates and persists in the teaching profession. From the point of view of Hines (1989), important questions like whether accounting can help build a society are ignored.

According to West (2003), accountants are too concerned with precision, emotionally aloof, conservative, and obsessive with minutiae. However, this is mostly due to their inability to participate in decision-making, which restricts them to the simple fulfillment of regulations. It was confirmed that the accountant is seen as dull, concentrates too much on the short term and on costs, and, as a result, loses sight of the business's goal, which can lead to business failure (West, 2003). However, it was difficult for the accountant to focus on the long term or on other concerns because conventional accounting was defined by the absence of technology, which limited the accountant's time for the technical responsibilities of accounting, preventing him from advancing his abilities and playing a significant part in decision making (Troshani, Locke & Rowbottom, 2019; Kamkankaew, et al., 2022; Khammadee, 2022). The progression of the accountant's job was contingent on the development of technologies in the field of accounting, so that accountants could spend less time on technical chores and devote more time to other

endeavors. Initially, the use of technological systems was not required, and many businesses still opted for the manual method. However, because of its low cost and significant impact, its deployment has become an essential aspect for businesses to thrive in the market. Matt, Hess, and Benlian (2015) viewed the use of technology in accounting as occurring in three phases: the transition from manual accounting to information technology systems (IT), the implementation of integrated business management systems (Enterprise Resource Planning, ERP), and most recently, advanced digital solutions (Jovanoska, 2022). The most modern technological solutions are primarily Artificial Intelligence (AI) and Robotic Process Automation (RPA), posing the greatest challenge to the accounting profession: its automation (Lee & Tajudeen, 2020). However, some scholars, such as Appelbaum & Nehmer (2017), have included other less prevalent notions, such as "dronnovation." This notion combines three different sorts of technology: drones, robots, and bots. Due to their adaptability and ability to collect data that humans cannot, drones are becoming increasingly popular in accounting. Appelbaum and Nehmer (2017) pointed out that robots and bots make it easier to automate accounting tasks and analyze them.

Thus, technological developments are destroying jobs in the most developed economies, exposing professionals to the prospect that their position will be taken over by a computer (Cockcroft & Russell, 2018). Nevertheless, the impact of these technologies on the evolution of organizations has been relatively favorable, leading us to believe that, in the future, it will be necessary for businesses to adopt these technologies in order to survive. It's anticipated that by 2030, more than a third of the vocations that currently exist will be totally automated (Frey & Osborne, 2017). Proponents of artificial intelligence argue that in the fields of finance and accounting, where professionals operate according to a set of norms and rules, the machine may learn these norms and do the tasks of a human, thereby automatically achieving the answer (Dai & Vasarhelyi, 2017). Since the machine can do the most time-consuming duties, the accountant can participate more actively in the creation of reports and support decision-making by keeping up with this technical development (Troshani et al., 2018). Technology is speeding up the evolution of accounting because it lets accountants step in, evaluate data, and work as part of a team (Hanetseder et al., 2021).

According to West (2003), once an accountant perceives that his or her function is growing in significance within an organization, he or she transforms into an extroverted, creative, and forward-thinking professional. Kruskope et al. (2019) Nodgren et al. (2019). Troshani, Locke, and Rowbottom (2019) researched this new stereotype, and their findings indicate that the expansion of the accountant's position transforms his image into that of a more daring, strategy-advising professional. Despite the fact that accountants have recently demonstrated a better capacity to participate in decision-making, management bodies are still hesitant to allocate these responsibilities and authority to them within the organization (Nodgren et al., 2019). Seeing as this new paradigm of the accountant's role is closely tied to the application of sophisticated technological solutions, such as digital accounting, the following section of this study will focus on its characteristics.

What characteristics define digital accounting?

Changes in the economy and the marketplace necessitate a plan of ongoing strategy revision and business focus. Businesses are therefore forced by the current financial environment to increase their profitability and efficiency, opting for technical advancements that have an effect on key performance measures (Zeff, 2012). At present, guiding and encouraging firms towards digital transformation is viewed as a method of salvation for accounting professionals. Digital transformation presents an opportunity for businesses to improve their performance and market competitiveness, as well as to strengthen their interactions with customers. It is essential to recognize that technology provides firms with a resource that enables them to streamline procedures, monitor client behavior, and direct the actions of all departments, thereby helping them to evolve (Gray & Rumpe, 2017).

Digital transformation drives businesses to digital accounting, which is a concept defined by a new digital structure in which the rise of artificial intelligence and the replacement of humans by algorithms facilitate the birth and development of new concepts related to the digital economy (Helberger et al., 2022). This digital economy is viewed as the fourth industrial revolution, the most significant transformation and a historic shift in size, pace, and breadth as it transforms the way individuals live, work, and interact (Nagy & Somosi, 2022). The fourth industrial revolution is based on the digital age and is characterized by the ubiquitous and mobile internet, artificial intelligence, and teaching machines (Xia et al., 2022). Moreover, Kruskope et al. (2019) highlighted ten characteristics that a "future" accounting business might exhibit: decrease in paper support; data quality management; interfaces with other systems; process automation; generating transparency; consolidation of information integrity; big data analysis; real-time reports; visualization tools; and cloud computing.

However, while there are technical hazards associated with installing ERPs and other advanced digital solutions, the greatest risk rests in the degree of human resource expertise, especially that of accounting professionals (Jovanoska, 2022). Zhang and Chen (2020) suggested that accountants must acquire the necessary abilities to shift to digital accounting. In this view, the accountant must develop both hard and soft skills in order for there to be a greater interaction between the jobs performed by artificial intelligence and the tasks performed by humans. This paper will analyze enterprise resource planning (ERP) mentioned by Newman and Westrup (2005), Barna and Igna (2021), Pradhan and Brazel (2021), and Jovanoska (2022), as well as accounting processes and automation as described by Phillips and Halliday (2005). Drum and Pulvermacher (2016) Appelbaum and Nehmer (2017) Al-Htaybat, Alhatabat, and von Alberti-Alhtaybat (2018). Cooper et al (2019); Lee and Tajudeen (2020); Harrast (2020); Kokina et al (2021). Therefore, in order to prepare for this transformation, Korhonen et al. (2021) must develop accountants.

Introduction to enterprise resource planning systems and their value:

Initially, the deployment of Enterprise Resource Planning (ERP) created apprehension and anxiety among accountants, who anticipated a reduction in the requirement for accounting employees (Barna & Igna, 2021). Nonetheless, it simultaneously demanded more from accountants

and presented new prospects, necessitating that accountants rise to the occasion lest they miss an opportunity for progress (Newman & Westrup, 2005). In 1980, accounting professionals held a position isolated from the production process, with limited communication with management and decision-making authority. Accountants' roles evolved as a result of technological advancements; liberated from the more technical parts of accounting, they began to monitor and analyze data, generate reports, and participate in decision-making (Jovanoska, 2022). Accounting reports are at the center of its operations, and frequent changes are occurring. To remain competitive, businesses must provide real-time reports with timely and accurate information. Accountants will be supported by technological tools during this shift (Barna & Igna, 2021). The primary objective of ERP systems is to be present in all company departments in a completely integrated manner, thus facilitating the exchange of information throughout the organization. Accounting benefits from this process because it gets all transactions as they happen, which are then processed by the finance module (Isaid, 2022).

The adoption of the ERP system is not restricted to technology advancements or accounting methods; rather, it focuses primarily on the organization's capacity to adapt to organizational change. According to Pradhan and Brazel (2021), the effective adoption of an enterprise resource planning (ERP) system supports changes in organizational structure, process reengineering, new management methods, and staff skills. If properly implemented, software or a technical instrument adapts better to repetitive activities, tends to make fewer mistakes than humans, and is less susceptible to distractions and forgetfulness (Newman & Westrup, 2005).

ERP facilitated the decentralization of management accounting, allowing non-accountants to perform it at a more operational level. The system features routines that update specific records automatically when data is entered elsewhere in the system. In other words, the employee is responsible for entering data into the system, while the system is responsible for accounting processing (Jovanoska, 2022). Then, accounting professionals must work with these solutions and instruct them to avoid making errors. ERPs' processes have mistakes when they are first set up, but the accountant's help will make sure there are no mistakes in the future and that time is spent in a way that adds value to the entity where the ERP is used (Barna & Igna, 2021).

Pradhan and Brazel (2021) assess the primary benefits of this implementation, applauding, in particular, the decrease of laborious chores, such as invoice posting, which enables a faster balance sheet and income statement. Regarding the negatives, they stress the need for adequate protection and the thought that there is no absolute protection. The system can be corrupted by errors, the simplicity with which data can be modified can facilitate fraud, and the occurrence of a virus can wipe out vital data. Thus, despite the fact that the deployment of new technologies is enticing due to their benefits, it is a time-consuming endeavor that necessitates a thorough investigation. A combination of human error and computer error might cause severe damage during software implementation.

Automation and Accounting Process:

Automation of processes is the defining characteristic of Digital Accounting and is anticipated to have the most immediate effect on businesses. This is connected mostly with artificial intelligence and robotic process automation (RPA) (Appelbaum & Nehmer, 2017; Lee & Tajudeen, 2020). As previously said, artificial intelligence is defined as a group of algorithms capable of simulating a set of human qualities and behaviors in response to specific scenarios (Lee & Tajudeen, 2020). In reality, RPA is a computer software configuration that substitutes humans in specific jobs. The name RPA was developed in the early 2000s and is akin to a physical robot that conducts human operations (Matt, Hess & Benlian, 2015).

The more repetitive the jobs to be replaced by robotic processes, the easier it is to replace or eliminate human labor (Phillips & Halliday, 2008). If automated software is properly implemented, it adapts better to repetitive jobs and, lacking forgetfulness and distractions, tends to make fewer errors than humans (Kruskope et al., 2019). One of the greatest advantages of automation for businesses is increased productivity and effectiveness at a lower cost. Once mistakes made by people are cut down, the process becomes more efficient, so information can be sent quickly and with less work (Lee & Tajudeen, 2020).

Automated technology employs a large labor force with a huge potential to boost organizational capacity and save money and time. The fact that it reduces tiresome and repetitive activities and allows the professional to concentrate on higher-value areas boosts work morale (Korhonen et al., 2021). When the most time-consuming operations are performed by machines, accounting professionals may give more value to their clients while decreasing the cost and time spent on each client. Thus, the automation of operations will allow professionals to concentrate on specific and pertinent concerns (Phillips & Halliday, 2008). Even within the auditing industry, operations can be automated and sophisticated systems can uncover fraud and dangers. Thus, future auditors will be able to concentrate on data analysis rather than spend countless hours collecting data from financial statements (Al-Htaybat, von Alberti-Alhtaybat & Alhatabat, 2018).

Increasingly, software outperforms humans, and especially with automated accounting tools, the accountant is guided toward company analysis, strategic support, and beyond the mere recording of business transactions (Matt, Hess & Benlian, 2015). The profession can then expand its scope of work to include, for instance, the planning and analysis of future strategies due to the need to develop these new abilities. In this setting, the accountant should be more concerned with the utility, transparency, and clarity of information so that managers understand how to incorporate them into the organization's decision-making process (Korhonen et al., 2021).

According to the study by Korhonen et al. (2021), after the adoption of automation technology, the performance of accountants was quite favorable, as evidenced by an increase in their efficiency, a reduction in routines, and an improvement in the quality of their declarations and management analyses. With this approach, a tremendous development of knowledge and skills has

occurred, enhancing professional capacity and skills and so facilitating a more effective response to competitive pressure. According to the findings of Kokina et al.'s study, clients and users of robotic process-based technologies benefited considerably from the findings. Benefits included cost savings, increased accuracy and efficiency in procedures, increased speed, compliance with rules, fewer errors, reliability, and customer satisfaction. According to the inventors, the software is so easy to use that even professionals with no programming knowledge may be trained quickly to automate procedures.

However, not all research indicates that implementing instruments that enable the automation of operations will merely improve the accountant's performance. According to Drum and Pulvermacher (2016), the impact that human mistakes can have on an organization is one of the primary concerns of businesses transitioning to digital accounting and its sophisticated solutions. Even while automation procedures result in changes to work, programs, and routines, not all organizations will be able to deal with these alterations without difficulty and in the same way. According to the findings of Harrast's (2020) study, the accounting profession faces an uncertain future. In other words, they note in their conclusions that accountants tend not to be highly specialized in their field, as they only specialize in the small portion of jobs that cannot be automated. Following this logic, they conclude that employees are searching for jobs that can complement this technology and that they are seeking to specialize in what the tool cannot provide, leaving specialization as the foundation of the actual profession.

From the standpoint of Cooper et al. (2019), this accountant's recommendation that they must comprehend everything that these tools provide in order to supplement everything that they cannot provide is not erroneous. In addition, they state that all professions have subjective criteria and are subject to judgments, and despite the fact that they regard accounting to be based on a set of rules devoid of subjectivity, this is not true and cannot be substituted by machines. In conclusion, the effect of process automation is hard to predict, which can be good or bad for companies or experts in the field. However, it seems that putting this new idea into practice will change the job of an accountant.

As the organization adapts to new workflows as a result of the adopted technology, this has the potential to become increasingly significant in the future (Phillips & Halliday, 2008). As a result of its operational efficacy, artificial intelligence is rapidly reshaping how businesses operate, assuming significant and critical functions at a lower cost (Lee & Tajudeen, 2020). Nevertheless, according to Kruskope et al. (2019), changes in the work process tend to induce sentiments of uneasiness and dread in worker performance. In this approach, a number of authors have urged accountants to learn skills beyond the procedures that will be discussed in detail in the next section. They say that accountants won't be able to make it in this new phase of accounting without these skills (Kruskope et al., 2019).

Digital accounting: professional opportunities or challenges?

Regarding the future of digital accounting, there is a certain degree of unpredictability, which could generate opportunities as well as risks (De Villiers, Rinaldi & Unerman, 2014). Accounting will face greater challenges than any other profession since it is susceptible to change due to process

automation (Association of Chartered Certified Accountants, 2022). For this obstacle to be overcome, there must be external pressure from customers and competent authorities; otherwise, businesses will continue to believe that old methods are sufficient to meet their demands (Troshani, Locke & Rowbottom, 2019). As a result, any manager must address these uncertainties and seize opportunities; otherwise, goals will not be met (Gromling, 2016; Acaranupong, 2022).

Several studies on the impact of new technologies on the future of the professions have been conducted, and several authors and institutions have predicted the loss of several jobs in the next few years, primarily in the fields of finance and accounting. According to the 2015 study conducted by the University of Oxford (quoted in Suleiman et al., 2020), there is a 95% chance that accountants will lose their jobs. In their analysis of 702 occupations, Frey and Osborne (2017) determined that there is a possibility that 95% of the professions may vanish owing to technological advancement. Dissorn and Suwanbamrung (2022) investigated the impact of strategic human resource management on the development of professional accountants' STEP skills in the Thai environment. It can be incorporated into the Thailand-specific small and medium enterprise human resource model for the year 2030. The same analysis also predicted the addition of new employment to the market as well as the elimination of others, indicating that artificial intelligence will make the accounting profession more efficient and productive by eliminating repetitive and laborious activities. Lastly, the World Economic Forum (2020) said that the Future of Jobs Report 2020 predicted that automation will cause more than half of accountants, bookkeepers, auditors, and financial analysts to lose their jobs within five years. These professions are among the top 20 with the lowest demand across industries. Digital skills and the adoption of technology provide obstacles for Thai workers, especially accountants. It has caused accountants to lose their jobs, which is one of the top three jobs whose number of jobs is going down (World Economic Forum, 2020).

Businesses that are unable to keep pace with this technological growth will eventually fail. Some scholars (Fisher, 2004) identify variables that can influence the monitoring of technological advancement, thus making it a threat to the accounting profession and its future. Izzo, Fasan, and Tiscini (2022) suggested that the uneasiness of more seasoned accountants has been an impediment, as they feel overtaken by younger colleagues and unable to adjust to the digital age. However, many believe that corporations do not offer the same training opportunities to enhance the abilities of older individuals, thus excluding them from the digital age. It is crucial that accountants, regardless of age, have sufficient training. According to Nearon (2005), one of the greatest risks associated with the transition is that experts feel competent and grasp these artificial intelligence algorithms too soon. Chiu et al. (2019) believe that accountants will make more mistakes than in the past as a result of these changes to the industry. According to him, organizations are obsessed with transparency, which, due to the need to control the organizational environment, generates a contradiction in which attempts to promote transparency end up increasing opaqueness. According to Biernacki, Krasodomska, and Zarzycki (2019), the digital revolution places accounting in a similar dilemma, in which the revolution

will lead people to assume that once there is a massive database, there will be complete control; in reality, it will simply increase the uncertainty of the choice to be made due to the enormous volume of data to evaluate. But corporations can be held responsible if they don't keep up with technological advancements. For example, smaller businesses tend to be more conservative, and the cost and lack of resources may be one reason for their skepticism and unwillingness to try new things (Braga, 2015).

However, it can be an advantage if accountants are continually aware of the present state of their profession, and as it progresses, they must adapt to the new reality and the changes that accompany it. Accountants are undeniably valuable resources because they can conduct guided analyses and contribute to technological innovation if they are willing to adapt (Phillips & Halliday, 2008). In this manner, firms can collect, process, and review financial data to increase productivity and save expenses (Troshani et al., 2018). They should be aware that artificial intelligence technologies replace tasks, not jobs, and should not respond to change in a dramatic manner (Al-Htaybat, von Alberti-Alhtaybat & Alhatabat, 2018). As much as there are changes in the tasks of accountants, machines will only serve to replace the routine tasks of accountants as they cannot address difficulties such as ambiguity or improvise and employ imagination (Braga, 2015). Thus, the continual dualism of "human vs. machine" is antiquated and short-sighted. Instead of pondering how the machine will replace the human over time and how he will live, it is preferable to consider how individuals can collaborate and what hybrid tasks exist in order to maximize the usefulness of humans within businesses. Lehner, Leitner-Hanetseder, and Eisl (2019) note that, despite the certainty that many tasks will be replaced by automated processes, many have already realized that the future of work in our society will be a combination of human and machine labor. To survive in the sector and become competitive, accountants must therefore aim to produce value through innovation, creativity, and technological adaptability (Matt, Hess & Benlian, 2015). Increasing competition will allow for the emergence of more specialized professions, such as financial and business consultants (Kurtz, Herrera & Moussalli, 2006; Troshani, Locke, & Rowbottom, 2019). Given that accountants do not wish to perform work based on functions imposed by the government, this orientation towards other areas motivates them, adds value, and makes companies more competitive (no longer focusing solely on the short term), and therefore does not risk transmitting uninteresting and ineffective information to the organization (Zhang & Chen, 2020). In this sense, clients and businesses view accountants as business consultants who can give flexible, individualized, and adaptable service at a reasonable cost. Lin, Shih, and Lin (2018) noted that this approach is more important than worrying about how functions and jobs will change or go away.

According to Bowles, Ghost and Thomas (2020), in 2018 and 2019, the demand for accountants and the profit of accounting companies increased in both Australia and New Zealand, but at a slower rate than the economy as a whole. According to Greenman (2017), the profession in the United States is expected to grow by 11%, creating approximately 142,000 new accounting and auditing positions. There are undoubtedly a number of elements that contribute to this rise; however, according to him, a significant portion is attributable to accountants' possessing the necessary skills to adapt to technological advancements.

In Thailand, Pholinhom and Leekpai (2021) investigated the factors influencing the growth of professional skills on the quality of audits conducted by professional accountants in the economic period. To investigate the variables influencing the development of accounting information skills on the audit quality of accountants in the digital economy 4.0 by analyzing the relationship model between the development of professional skills and accounting information skills of accountants in the digital 4.0 era. Accounting data on the audit quality of professional accountants in the digital economy A 4.0 age in Thailand can be categorized into two categories: Professional accounting abilities in the digital age, including professional accounting, corporate taxation, and professional value specialist language; Management and information skills in the digital age include the ability to determine the type and scope of accounting information, the ability to successfully access the information pool, the ability to evaluate accounting information and accounting information sources, and the ability to effectively use accounting information. Furthermore, Chantabutr, Jaensirisak, and Sawettham (2021) observed that blockchain technology plays a crucial role in the creation of business models, particularly in Thai accounting, auditing, and supply chain management. The operational implementation of blockchain technology has both positive and negative effects. Accountants, auditors, managers, and regulators in Thailand should be aware of the use of blockchain technology in their job planning, data management, and risk assessment in order to avoid a variety of potential issues. Kongma (2021) noted that Thai accountants were taught how to use data analytics in bookkeeping or financial reporting, auditing, managerial accounting, accounting systems implementation, tax accounting, accounting education, and technology.

The conclusion is that, in general, a promising and inventive future is anticipated in which the interaction of man and machine will be fundamental, necessitating that humans possess a set of skills and qualities fit for success in this accounting future. Thus, in the next section, some measurements or suggestions from the many authors we've already looked at will be given in an effort to give accountants a starting point for getting the credentials they need to move to the new accounting reality.

Table 1 Evolution of digital technology on the accounting profession

Era	The role of accounting	Technological Change	The impact of digital technology on the accounting profession
1810's	Professional accountants	Technological systems was not required, and many businesses still opted for the manual method.	<ul style="list-style-type: none"> • Accounting manual method
1900's	and professional accounting		
2000-2010		Transition from manual accounting to information technology systems (IT)	<ul style="list-style-type: none"> • Reduction in the requirement for accounting employees

Table 1 Evolution of digital technology on the accounting profession (Cont.)

Era	The role of accounting	Technological Change	The impact of digital technology on the accounting profession
2011- 2019	support business decision-making	the implementation of integrated business management systems (Enterprise Resource Planning, ERP)	<ul style="list-style-type: none"> • Accountant can participate more actively in the creation of reports and support decision-making by keeping up with this technical development. • Non-accountants to perform it at a more operational level.
2020	Digital transformation drives businesses to digital accounting.	Accounting automation	<ul style="list-style-type: none"> • Decreasing in paper support; data quality management; interfaces with other systems; process automation; generating transparency; consolidation of information integrity; big data analysis; real-time reports; visualization tools; and cloud computing • Accountant must develop both hard and soft skills in order for there to be a greater interaction between the jobs performed by artificial intelligence and the tasks performed by humans.

Source: Authors

Strategies and required actions in digital accounting

New accountants will find the move to digital accounting easier given they are unfamiliar with traditional accounting regulations, whereas traditional accountants may have more trouble. Due to the insufficiency of traditional accounting expertise, it may be impossible to hire traditional accountants, necessitating a reorganization of the accounting curriculum (Biernacki, Krasodomska & Zarzycka, 2019). In the studies of Nodgren et al. (2019), Troshani, Locke, and Rowbottom (2019), Lee and Tajudeen (2020), Zhang and Chen (2021) (2020), and Acaranupong (2022), it was stated that once new graduates begin their work experience executing the most fundamental accounting duties, new technology will impede their ability to develop these skills. The academics criticize this situation and emphasize the need to anticipate this challenge by reorganizing instruction, emphasizing that there is no need to teach the essentials because the computer will do it for them. Lin, Shih, and Lin (2018)

noted that a change is needed because students aren't ready for the modern workplace if they don't learn how to use technology.

Interestingly, in the studies by Phillips and Halliday (2008), Matt, Hess and Benlian (2015), Drum and Pulvermacher (2016), Appelbaum and Nehmer (2017) Al-Htaybat, von Alberti-Alhtaybat and Alhatabat (2018) Cooper et al. (2019). Lee and Tajudeen (2020) Harrast (2020) Kokina et al. (2021) Korhonen et al. (2021) stated that academics were the target audience least likely to adopt artificial intelligence, while accountants were most likely to accept this shift. However, both instructors and students must view this transformation as significant, as they are the only ones with the knowledge to create these accounting information systems. Currently, there is a disparity between technological trends and accounting education, and it is crucial for educators to generate future professionals and build a bridge between market demands and recent graduates' curricula (Pholinhom & Leekpai, 2021). The education system must be able to provide Thai students with a set of new abilities that enables them to utilize all emerging technologies, including social networks, big data, cloud accounting, integrated reporting, artificial intelligence, and automated processes, among others (Chantabutr, Jaensirisak & Sawettham, 2021). Accounting professors in Thailand's higher education system will be required to implement new teaching models or units, such as data analytics and cybersecurity. In conclusion, a new way of learning will be needed for accounting to keep up with the ever-changing world (Acaranupong, 2022).

However, innovation is not limited to recent college graduates, and, as previously stated, the belief that older people lack the aptitude or opportunity to obtain training in this field cannot be an impediment to progress. The knowledge and experience of these traditional accountants are crucial for assimilating and developing methods to reconcile human labor with technology. Pholinhom and Leekpai (2021) and Acaranupong (2022) have identified a series of real-world instances that focus on the development of the skills of Thai workers to adapt to the digital evolution.

In the same line as counseling both recent graduates and the most experienced, (Pholkaew & Yapa, 2017) outlined three methods for better preparation for the future: first, they urge students to take courses in technology in order to conduct accounting and finance activities efficiently; and second, they recommend that individuals obtain a bachelor's degree in order to be more prepared for the workforce. Then, they explain that more seasoned employees must be prepared for automation by assessing their potential, enrolling in technology seminars, and volunteering for the company's available initiatives. Finally, they note that accountants should be vigilant and actively seek out opportunities to interact with automation technologies, as well as keep abreast of emerging tools and their effective application. The prospect of acquiring so many abilities can be intimidating, but accountants are not expected to be proficient in all the newly necessary areas. Rather, they are expected to be willing to explore, choose, and specialize in those they find most intriguing and promising for the future. (Pholkaew & Yapa, 2017).

Innovation, sales capabilities, communication skills, and other customer-focused resources are expected to be in greater demand. Thus, accountants should strive to acquire these abilities, as they will be better able to adapt to the new digital world (Chiu et al., 2019). As the profession advances,

clients will no longer view their accountant or auditor as a provider of financial statements but rather as someone who has a thorough understanding of their organization and can provide useful insight. Accountants must seize this chance and not let the strain of this less favorable environment stand in their way. It is anticipated that they would be able to convert pressure into motivation, adjusting and grabbing the opportunity to become experts who can intervene in decision-making while orienting themselves towards the business consulting field (Troshani, Locke & Rowbottom, 2019).

As accountants do not grow and seek to expand their abilities in terms of technologies, automation, and data analysis, they will be less competitive in the market. Organizations are already adopting changes and molding their future potential by educating their present staff and hiring new workers with the necessary skills and competences. Due to the fact that the future is hard to predict, however, there will need to be more accounting writers and stakeholders to point businesses and accountants in the right direction.

What is the next aspects of digital accounting?

The transition to digital accounting is analyzed, and the conclusions are grouped into the following digital accounting aspects: Regarding the influence and development of automatisms in the profession, the positive benefits for the profession are indisputable. On the other hand, it can be stated that the information dematerialization procedure was insufficient or ineffective, having no effect on its performance.

Therefore, it is feasible to conclude that the transformation process has stalled due to the limited conditions created by the relevant authorities. It is emphasized that the performance of organs competent authorities for the regulation of accounting in relation to the transition to the digital era is insufficient as it is time-consuming and difficult. Currently, the criteria for a totally digital file are not realized, and the resulting abandonment of the physical support is slowing the progress of dematerialization. It is believed that this occasion should have been utilized to instill the need for change in accountants and other professionals in business, primarily because of the pandemic crisis posed by the COVID-19 virus that society is currently confronting.

It is deemed vital to inculcate in clients due to the growing reliance on client collaboration, both in terms of the dematerialization of information and the necessity for accountants to exhibit higher credibility in their work. Although the conditions for dematerialization are limited, the notion maintains that customers should be informed and encouraged to innovate, as providing fully dematerialized information helps the adoption of automatisms and the subsequent shift to digital accounting. Nevertheless, the complexity and cost of the digital file are acknowledged, as these features of the move to digital accounting can prolong the process. The Thai economy consists primarily of micro and small businesses, which, due to their size, lack the ability or resources to invest in this area.

Regarding automatisms, the conclusion is that there is an indisputable evolution of the theme's conditions, propagation, and impact. In this regard, the government's provision is praised, as it has

paved the way for the automation of some tax returns, resulting in a more dematerialized tax system. The growing complexity of accounting records and tax returns necessitated the development of technical instruments and the associated automation. According to the aforementioned studies, it is now possible for professionals to record motions and transactions throughout time, which would be physically impossible for humans to do and with a significantly smaller margin of error. It was feasible to determine that since they have been exposed to automation tools, the impact has had both professional and personal ramifications, as they are more driven and satisfied with their work. The conclusions are unconcerned about the extinction of the profession due to the emergence of automation since they strive to do field studies and investigate new software in order to gain a competitive advantage in the market.

In order to remain competitive during the shift to digital accounting, accountants are expected to continuously adapt and pursue knowledge innovation. It is argued that accounting education must be reorganized to reflect the needs of contemporary accounting without abandoning traditional teaching techniques, as the need for core principles will be greater than ever. The conclusion is that they should not adjust too rapidly to this new reality, as it is considered that a joint effort is required in which the accountant is not exempt from validating all of the information that the robot holds. In this strategy, Thai accountants must stay up-to-date and try to build a large knowledge base in order to validate the quality of the machine and get the most out of the transfer.

Traditional accountants are generally confident that it will be the future of accounting, demonstrating an ambitious outlook on the prospect of the accounting profession approaching and exploring new areas closer to the client in the future. Given this scenario, there is a higher impetus, as it would be a career with greater status than it already enjoys, given its lack of credence. Accounting has the best chance of establishing itself and showing that it has more value than what society gives it credit for in order to help people grow intellectually and personally.

Conclusion

The notion that accounting standards and their application are necessary and sufficient for the development of high-quality accounting information has been widespread over time. Contrary to the definition of a profession, this notion jeopardizes the position of accountants as professionals and accounting as a profession. Traditional accounting has been stagnant for many years, but with the declining cost of technology systems and their increasing use, their adoption has become nearly mandatory. As a result of the profession's progress, the accountant now has the freedom to intervene and operate in a team, and is beginning to evaluate data. In this way, accountants have assumed a proactive position, focused on business and decision-making help, with a stereotype regarded as more daring, capable of advising and planning strategies, in contrast to the classic accountant, whose stereotype is regarded as boring and conservative. The accountant's role must change in parallel with the digital revolution.

This digital change might create uncertainty in the accounting profession, which can only be interpreted as either new opportunities or threats. Various scholars believe that innovation constitutes a threat to the accounting profession since it will lead to its extinction if accountants are unable to keep up with technological progress. Other studies consider the transformation as an opportunity because it will create employment opportunities and expand the profession. The function of accountants has changed to become more business-oriented, with time-consuming and repetitive duties becoming automated and future accountants performing higher-value work while altering and specializing in more strategic and management areas. In order to distinguish themselves in the market, accountants must specialize in a small number of industries with a promising future and increase their technological abilities.

Reference

Acaranupong, K. (2022). Changes in the Value Relevance of Accounting Information after TFRS (Revised 2019) Adoption: Evidence from Financial Institutions in Thailand. *Journal of Accounting Profession*, 18(58), 85-115.

Al-Htaybat, K., von Alberti-Alhtaybat, L., & Alhatabat, Z. (2018). Educating digital natives for the future: accounting educators' evaluation of the accounting curriculum. *Accounting Education*, 27(4), 333-357.

Appelbaum, D., & Nehmer, R. (2017). The Coming Disruption of Drones, Robots, and Bots: How Will It Affect CPAs and Accounting Practice? *CPA Journal*, 87(6), 40-44.

Association of Chartered Certified Accountants (ACCA). (2022). *The digital accountant: Digital skills in transformed world*. Retrieved from <https://www.iaasb.org/focus-areas/new-standard-less-complex-entities>.

Barna, L.-E.-L., & Igna, R. D. (2021). The influence of the implementation of ERP systems on the performance of an organization. *Proceedings of the International Conference on Business Excellence*, 15(1), 268-279.

Biernacki, M., Krasodomska, J., & Zarzycka, E. (2019). The Acca Accreditation in Poland - Accounting Educators' Perspective. *Financial Sciences*, 24(4), 1-9.

Bowles, M., Ghosh, S., & Thomas, L. (2020). Future-proofing accounting professionals: Ensuring graduate employability and future readiness. *Journal of Teaching and Learning for Graduate Employability*, 11(1), 1-21.

Braga, G. (2015). COBIT 5 Applied to the Argentine Digital Accounting System. *COBIT Focus*, 1-4.

Chae, B., & Olson, D. (2022). Technologies and applications of Industry 4.0: insights from network analytics. *International Journal of Production Research*, 60(12), 3682-3704.

Chantabutr, P., Jaensirisak, S. & Sawettham, A. (2021). Blockchain Technology: Concept and Its Implications for Accounting, Auditing and Supply Chain Management. *Journal of Accounting Profession*, 17(56), 75-93.

Chiu, V., Liu, Q., Muehlmann, B., & Baldwin, A. A. (2019). A bibliometric analysis of accounting information systems journals and their emerging technologies contributions. *International Journal of Accounting Information Systems*, 32, 24-43.

Clarke, F. L., Dean, G. W., & Oliver, K. G. (1997). *Corporate collapse: Regulatory, accounting and ethical failure*. Cambridge: Cambridge University Press.

Cockcroft, S. & Russell, M. (2018). Big data opportunities for accounting and finance practice and research. *Australian Accounting Review*, 28(3), 323-333.

Cooper, L. A., Holderness, D. K., Sorensen, T. L., & Wood, D. A. (2019). Robotic Process Automation in Public Accounting. *Accounting Horizons*, 33(4), 15-35.

Dai, J. & Vasarhelyi, M.A. (2017). Toward blockchain-based accounting and assurance. *Journal of Information Systems*, 31(3), 5-21.

De Villiers, C., Rinaldi, L. & Unerman, J. (2014). Integrated reporting: insights, gaps and an agenda for future research. *Accounting, Auditing and Accountability Journal*, 27(7), 1042-1067.

Dissorn, A., & Suwanbamrung, P. (2022). Prediction 2030 Human Resource Model for Developing Professional Accountants Abilities of Small and Medium Enterprises in the Lower Central Region, Thailand. *Journal of Management Information & Decision Sciences*, 25(2), 1-13.

Drum, D. M., & Pulvermacher, A. (2016). Accounting Automation and Insight at the Speed of Thought. *Journal of Emerging Technologies in Accounting*, 13(1), 181-186.

Faruque, M. O., Dinavahi, V., & Xu, W. (2005). Algorithms for the accounting of multiple switching events in digital simulation of power-electronic systems. *IEEE Transactions on Power Delivery*, 20(2), 1157-1167.

Fisher, I. E. (2004). On the Structure of Financial Accounting Standards to Support Digital Representation, Storage, and Retrieval. *Journal of Emerging Technologies in Accounting*, 1, 23-40.

Frey, C. B., & Osborne, M. A. (2017). The future of employment: How susceptible are jobs to computerisation?. *Technological forecasting and social change*, 114, 254-280.

Gray, J. & Rumpe, B. (2017). Models for the digital transformation. *Software and Systems Modeling*, 16(2), 307-308.

Greenman, C. (2017). Exploring the impact of artificial intelligence on the accounting profession. *Journal of Research in Business, Economics and Management*, 8(3), 1451.

Gromling, M. (2016). The Digital Revolution - New Challenges for National Accounting? *World Economics*, 17(1), 1-13.

Hanetseder, S.L., Lehner, O.M., Eisl, C. & Forstenlechner, C. (2021). A profession in transition: actors, tasks and roles in AI-based accounting. *Journal of Applied Accounting Research*, 22(3), 539-556.

Harrast, S. A. (2020). Robotic process automation in accounting systems. *Journal of Corporate Accounting & Finance*, 31(4), 209-213.

Helberger, N., Sax, M., Strycharz, J., & Micklitz, H.-W. (2022). Choice Architectures in the Digital Economy: Towards a New Understanding of Digital Vulnerability. *Journal of Consumer Policy*, 45(2), 175-200.

Hines, R. D. (1989). Financial accounting knowledge, conceptual framework projects and the social construction of the accounting profession. *Accounting, Auditing & Accountability Journal*, 2(2), 72-92.

Izzo, M., F., Fasan, M. & Tiscini, R. (2022). The role of digital transformation in enabling continuous accounting and the effects on intellectual capital: the case of Oracle. *Meditari Accountancy Research*, 30(4), 1007-1026.

Jiang, Z., Yuan, S., Ma, J., & Wang, Q. (2022). The evolution of production scheduling from Industry 3.0 through Industry 4.0. *International Journal of Production Research*, 60(11), 3534–3554.

Jovanoska, I. (2022). The Role of the Enterprise (Erp) Resources Planning System in Improving Business Processes. *Economic Development*, 24(1), 120-132.

Kamkankaew, P., Phattarowas, V., Khumwongpin, S., Limpiaongkhanan, P. & Sribenjachot, S. (2022). Increasing Competitive Environment Dynamics and the Need of Hyper-Competition for Businesses. *International Journal of Sociologies and Anthropologies Science Reviews*, 2(5), 9-20.

Khammadee, P. (2022). Shrm Practices, Organizational Resilience, and Sustanaility Performance. *RMUTT Global Business Accounting and Finance Review*, 6(1), 55-64.

Kokina, J., Gilleran, R., Blanchette, S., & Stoddard, D. (2021). Accountant as Digital Innovator: Roles and Competencies in the Age of Automation. *Accounting Horizons*, 35(1), 153-184.

Kongma, E. (2021). Data Analytics in Accounting, Future-ready Accountant's Skills. *Journal of Accounting Profession*, 17(54), 68-83.

Korhonen, T., Selos, E., Laine, T., & Suomala, P. (2021). Exploring the programmability of management accounting work for increasing automation: an interventionist case study. *Accounting, Auditing & Accountability Journal*, 34(2), 253-280.

Kruskope, S., Lobbas, C., Meinder, H., Soderling, K., Martikainen, M., & Lehner, O. M. (2019). Digital Accounting: Opportunities, Threats and the Human Factor. *ACRN Oxford Journal of Finance & Risk Perspectives*, 8, 1-15.

Kurtz, R. D., Herrera, D. K., & Moussalli, S. D. (2006). Digitizing the Accounting Historians Journal: A Short History. *Accounting Historians Journal*, 33(2), 157-168.

Lee, C. S., & Tajudeen, F. P. (2020). Usage and Impact of Artificial Intelligence on Accounting: Evidence from Malaysian Organisations. *Asian Journal of Business & Accounting*, 13(1), 213-239.

Lehner, O., Leitner-Hanetseder, S., & Eisl, C. (2019). The Whatness of Digital Accounting: Status Quo and Ways to Move Forward. *ACRN Oxford Journal of Finance & Risk Perspectives*, 8, I-X.

Lin, I., L., Shih,K., H. & Lin, S., I. (2018). Following the Money- Constructing the Prototype of Digital Evidence Forensic Accounting Standard Operation Procedure for Government Audits. *Journal of Accounting, Finance & Management Strategy*, 13(2), 141-162.

Isaid, L. A. Z. A. (2022). Smart city dynamics and multi-level management accounting: unfolding a case of sustainable enterprise resource planning. *Sustainability Accounting, Management & Policy Journal*, 13(1), 30-54.

Matt, C., Hess, T. & Benlian, A. (2015). Digital transformation strategies. *Business and Information Systems Engineering*, 57(5), 339-343.

Nagy, S., & Somosi, M. V. (2022). The relationship between social innovation and digital economy and society. *Regional Statistics*, 12(2), 3-29.

Nearon, B. H. (2005). Foundations in Auditing and Digital Evidence. *CPA Journal*, 75(1), 32-33.

Newman, M., & Westrup, C. (2005). Making ERPs work: accountants and the introduction of ERP systems. *European Journal of Information Systems*, 14(3), 258-272.

Nodgren, A., Weckstrom, E., Matikainn, M., & Lehner, O. M. (2019). Blockchain in the Fields of Finance and Accounting: A Disruptive Technology or an Overhyped Phenomenon? *ACRN Oxford Journal of Finance & Risk Perspectives*, 8, 47-58.

Pearson, T. A., & Singleton, T. W. (2008). Fraud and Forensic Accounting in the Digital Environment. *Issues in Accounting Education*, 23(4), 545-559.

Phillips, P., & Halliday, S. V. (2008). Marketing/accounting synergy: a discussion of its potential and evidence in e-business planning. *Journal of Marketing Management*, 24(7-8), 751-770.

Pholinhom, C. & Leekpai, K. (2021). Development model of professional skills on auditing quality of professional accountants in the digital economy 4.0 era in Bangkok's. *UMT Poly Journal*, 18(1), 585-597.

Pholkaew, C. & Yapa, P. (2017). Professional Accounting Regulation in the Kingdom of Thailand over the Past Fifty Years. *RMUTT Global Business Accounting and Finance Review*, 1(2), 63–74.

Pradhan, D., & Brazel, J. F. (2021). The Effect of Enterprise Resource Planning System (Erp) Implementations on the Properties of Analyst Forecasts. *Journal of International Business Disciplines*, 16(2), 57-69.

Stefanescu, C., Comanescu, L. E., Buhusi, C., & Bilcan, G. A. (2019). Cyber security for Cyber accounting - Tool for the Digital Enterprise. *Academic Journal of Economic Studies*, 5(3), 138-143.

Suleiman, J., M. Mohammad, A.K.H., Hela, B., Thu, P., A., Muhammad, S., S. & Alhadidi, A., A. (2020). How Artificial Intelligence Changes the Future of Accounting Industry. *International Journal of Economics and Business Administration*, 8(3), 478-488.

Troshani, I., Janssen, M., Lymer, A. & Parker, L. (2018). Digital transformation of business-to-government reporting: an institutional work perspective. *International Journal of Accounting Information Systems*, 31, 17-36.

Troshani, I., Locke, J. & Rowbottom, N. (2019). Transformation of accounting through digital standardisation: Tracing the construction of the IFRS Taxonomy. *Accounting, Auditing & Accountability Journal*, 32(1), 133-162.

Troshani, I., Locke, J., & Rowbottom, N. (2019). Transformation of accounting through digital standardisation: Tracing the construction of the IFRS Taxonomy. *Accounting, Auditing & Accountability Journal*, 32(1), 133-162.

West, B. P. (2003). *Professionalism and accounting rules*. Routledge.

World Economic Forum. (2020). *The Future of Jobs Report 2020*. Retrieved from <https://www.weforum.org/reports/the-future-of-jobs-report-2020/>.

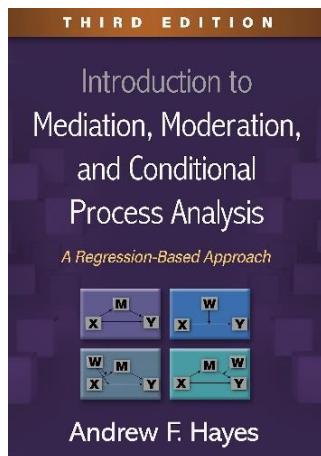
Xia, M., Xie, Z., Lin, H., & He, X. (2022). Synergistic Mechanism of the High-Quality Development of the Urban Digital Economy from Blockchain Adoption Perspective—A Configuration Approach. *Journal of Theoretical & Applied Electronic Commerce Research*, 17(2), 704-721.

Yigitbasioglu, O., Green, P. & Decca Cheung, M-Y. (2022). Digital transformation and accountants as advisors. *Accounting Auditing & Accountability*, 35(9), 1-25.

Zeff, S.A. (2012). The evolution of the IASC into the IASB, and the challenges it faces. *The Accounting Review*, 87(3), 807-837.

Zhang, C., & Chen, Y. (2020). A review of research relevant to the emerging industry trends: Industry 4.0, IOT, blockchain, and business analytics. *Journal of Management*, 5(1), 165-180.

BOOK REVIEW
Introduction to
MEDIATION, MODERATION,
AND CONDITIONAL PROCESS ANALYSIS
A Regression-Based Approach
3rd Edition



Author: Andrew F. Hayes

Reviewed by: Supa Tongkong¹

This book is essential if one wants to do academic research in the field of social sciences, specifically methodology in the social sciences to address the burning research questions: “How?”, “In what way?”, “By which path way?”, and “Under which circumstances?”. A topic, “Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression Based Approach”, is quite interesting in two folds. Firstly, these kinds of questions require accurate applications of mediation and moderation analysis principles. The second is the software called PROCESS and now the R version of PROCESS for testing these kinds of questions are free and user-friendly tool for SPSS, and SAS. This book is a useful tool for beginners to intermediate and advanced researchers. It is also useful for self-study and a good basis for graduate students' advanced studies. In my opinion, it is well written and easy to read. This book used diverse examples from published studies, interpretations and technical details to make it easy to understand and follow.

This book is divided into five parts, covering 14 chapters. The first part is fundamental, containing chapter 1 and 2: introduction to the concepts in mediation and moderation analysis, and

¹ Faculty of Business Administration, Rajamangala University of Technology Thanyaburi, Thailand.
email: supa_t@rmutt.ac.th

fundamental of linear regression analysis to overview ordinary least squares regression analysis. The second part focuses exclusively on mediation analysis, containing chapter 3 to chapter 6. These included the estimation and interpretation of direct and indirect effects, covered simple path analysis of a three variable causal system, models with multiple independent or dependent variables, model with multiple mediators both parallel and serial multiple mediators, and the mediation analysis when independent variable is a multicategory variable. The third part presents the moderation analysis which included 4 chapters, chapter 7 to chapter 10. The contents covered introduction to moderated multiple regression model, the model interpretation, how PROCESS can be applied to make the task easier than the past, and a moderation analysis for models with more than one moderator. The fourth part contains 3 chapters, chapter 11-13, concentrates on conditional Process analysis: fundamental and examples of conditional Process analysis, and conditional Process analysis with a multicategory antecedent. And the last part of the book has only one chapter, chapter 14, it addresses various miscellaneous issues and questions and the author's brief response to each. In addition, this book also provided valuable appendices of how to use PROCESS and an important feature in PROCESS that allows readers to construct their own models.