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SRU International Research Conference 2022

JUNE 6 - 8, 2022

at Suratthani Rajabhat University, Suratthani

The Proceeding of Surat Thani Rajabhat University Conference 2022

SRU International Research Conference 2022

(SRUCon 2022)

"Research and Innovation for Social and Economic Recovery

in the New Normal Society"

Fully Online Conference via Cisco WebEx Meeting

Suratthani Rajabhat University

6 – 8 June 2022

Organized by Research and Development Institute, Suratthani Rajabhat University
Facebook: https://www.facebook.com/SRU-International-Conference-2022-102848122342132
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Organized by	**Research and Development Institute, Suratthani Rajabhat University 272 Moo 9 Surat-Nasan Road Khun Taleay, Muang Surat Thani 84100 Thailand Tel: +66-7791-3333 Fax: +66-7735-5468 E-mail: srucon.sru@gmail.com**
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Year	**2022**

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1. Principle and Rationale

Suratthani Rajabhat University has the vision of becoming the model university to develop the local areas by establishing Research and Development Institute, which is in charge of and conduct any related research for creating body of knowledge to steadily advance our localities. Our Research and Development Institute has cooperated with other academic networks and associates in our country to initiate the system and mechanism for formulating the research from varied kinds of subject field. The goal of the institute also aims to support and disseminate the research in order to extensively apply it in the real world.

In the fiscal year of 2022, Research and Development Institute, Suratthani Rajabhat University, has organized academic activities to exchange the knowledge derived from research findings and research applications by lecturers, researchers and graduate students from our university and from other academic associates via international conference. The conference arrangement is to provide opportunity for those who are interested in exchanging and acquiring sustainable knowledge to utilize them in community foundations

2. Objectives

2.1 to present the findings of research which the body of knowledge in developing the localities is discovered

2.2 to exchange the knowledge and to learn to acquire the concepts of area-based research in sustainable development in local areas among researchers

2.3 to create an international forum for presentation of research findings and to disseminate the research carried out by researchers from our university and from other associates including undergraduates and graduate students

3. Expected outcome

3.1 to gain the body of knowledge and all pertinent opinions from research findings regarding area-based research for local development

3.2 to achieve guidelines for area-based research in local development in order for all participants to apply them in researching and advancing community foundations in each area and in the society as a whole

3.3 to disseminate the research done by researchers from universities, associates, and from other national organizations in institution of higher education, to both academia and the public

4. Responsible Organizer:

Research and Development Institute, Suratthani Rajabhat University

5. Main conference theme:

"Research and Innovation for Social and Economic recovery in New Normal Society"

6. Call for paper

- Research Article
- Academic Article

7. Area of Paper

- Business Administration and Economics
- Art, Humanities and Social Sciences
- Teaching and Education
- Science and Technology

8. Important Dates

- Early Bird Presenters Registration due: 15 Mar 2022
- Early Bird Participants Registration (without paper) due: 15 Mar 2022
- Early Bird Presenters Submission Deadline: 15 Apr 2022
- Regular Presenters Registration and Submission Deadline: 30 Apr 2022
- Regular Participants Registration (without paper) due: 20 May 2022
- Program Announcement before: 20 May 2022

9. Conference Fee

Category	Early Bird	Regular
SRU member	1,500	2,000
Students / Academicians	2,500	3,000
Participants (without paper)	1,000	1,500

10. Presentation Detail:

Registration and Submission of Full Paper >> https://forms.gle/naAu1T7idKGAhTSs7

To download Conference information and Paper format and template:
https://drive.google.com/drive/folders/1btN_H9E25DWw9_REA-vzMOQ54FxuCW7R?usp=sharing

11. More Information:

https://www.facebook.com/SRU-International-Conference-2022-102848122342132

E-mail: srucon.sru@gmail.com

Message from President of Suratthani Rajabhat University

The 17th SRU National and International Conference by the name of "SRU International Research Conference (or SRUCON 2022)" has been organized with the aim of being the forum for lecturers, students and the general public to disseminate the research and to exchange the knowledge in order for individuals to practically apply it for local development. In the fiscal year of 2022, Suratthani Rajabhat University has cooperated with Songkhla Rajabhat University, Yala Rajabhat University, Nakhon Si Thammarat Rajabhat University, Yala Rajabhat University and Rajamangala University of Technology Srivijaya, Trang Campus, to arrange "the 17th National and International Conference". In addition to the virtual research presentation, the forum will furnish the guests with the special talks under the engrossing current topic, "Research and Innovations with the Role of Area-Based University".

I would like to say on behalf of Suratthani Rajabhat University that I am very pleased and grateful to our cooperation network and to all committees for having organized the conference until it is neatly accomplished, showing the efficient collaboration of our uniting network. This especially includes the research that can be empirically utilized in the locality.

Last but not least, may the staff and all stakeholders be happy, and I hope that all guests and participants of this conference will gain the knowledge and make use of it. I hope that all of you will apply the knowledge derived from the forum to develop yourself and the nation respectively.

Sincerely,

Assistant Professor, Wattana Rattanaprom, Ph.D.

Acting President of Suratthani Rajabhat University

Message from Director of Research and Development Institute Suratthani Rajabhat University

Research and Development Institute, Suratthani Rajabhat University, has held the 17th National and International Conference by the name of "SRU International and Graduate Research Conference (or SRUCON 2022)". Our main goal of SRUCON 2022 has been designed to represent the research and innovations to improve economics and society after COVID-19. The forum will include special lectures and talks by national and international scholars and the virtual research presentation via Cisco WebEx Meeting will also be conducted.

The 17th SRU National and International Conference is a key channel to disseminate a body of knowledge, research and innovations carried out by lecturers, researchers and graduate students, that will be publicized for all users and for those on all levels, who are eager to gain complete access to these knowledge assets. This is a worthwhile contribution to move our country forward respectively.

Sincerely,

Assistant Professor, Nara Pongpanich, Ph.D.

Director of Research and Development Institute

Suratthani Rajabhat University

Peer Review

Name	Institute
Professor Dr.Walmik K. Sarwade	Dr.Babasaheb Ambedkar Marathwada University
Assoc. Prof. Dr.Sarawut Kumphune	Chiang Mai University
Assoc. Prof. Dr.Eng Keng Seow	Universiti Teknologi MARA
Assoc. Dr.Bee-Lia Chua	Universitiy Putra Malaysia
Asst. Prof. Dr.Amr alansi	Macau University of Science and Technology
Asst. Prof. Dr.Kiattipoom Kiatkawsin	Singapore Institute of Technology
Asst. Prof. Dr.Mayuree Thawornpat	Mahidol University
Asst. Prof. Dr.Dale Konstanz	Mahidol University International College
Asst. Prof. Dr.Singh Singkhajorn	Bansomdejchaopraya Rajabhat University
Asst. Prof. Dr.Sanpach Jiarananon	Bansomdejchaopraya Rajabhat University
Asst. Prof. Dr.Siyathorn Nakphin	Suratthani Rajabhat University
Asst. Prof. Dr.Kaknokrat Chonsin	Suratthani Rajabhat University
Asst. Prof. Dr.Parussaya Kiatkheeree	Suratthani Rajabhat University
Asst. Prof. Dr.Benjamas Nupan	Suratthani Rajabhat University
Dr.Khanchai Wongchana	Prince of Songkla University
Dr.Utthapon Issara	Rajamangala University of Technology Thanyabur
Dr.Phornsawat Baipaywad	Chiang Mai University
Dr.Nuntipa Pushsapavardhana	Suratthani Rajabhat University
Dr.Sansanee Kiatkiri	Suratthani Rajabhat University
Dr.Pimprae Srisawad	Suratthani Rajabhat University

Conference Program

SRU International Research Conference 2022 (SRUCon 2022)
"Research and Innovation for Social and Economic Recovery in the New Normal Society"
Fully Online Conference via Cisco WebEx Meeting
Suratthani Rajabhat University
6 – 8 June 2022

6 June 2022	
09.00 – 09.3 a.m.	Open Ceremony: Introductory Reported by: **Asst. Prof. Dr.Wattana Rattanaprom** Acting for the President, Suratthani Rajabhat University Welcome remarks by: **Assoc. Prof. Dr.Pasit Lorterapong** The Deputy Permanent Secretary of Ministry of Higher Education, Science, Research and Innovation
09.30 – 10.00 a.m.	Topic **"Research and Innovation with the Role of Spatial Universities"** Keynote: **Assoc. Prof Dr.Pasit Lorterapong** The Deputy Permanent Secretary of Ministry of Higher Education, Science, Research and Innovation
10.00 – 11.00 a.m.	Topic **"Future prospects for spatial innovation development with the future of universities in the era of new research and innovation systems"** Keynote: **Assoc. Prof. Dr.Peeradej Thongampai** Director, Knowledge Network Institute of Thailand
11.00 – 12.00 a.m.	**International Symposium:** "**Research and Innovation for Social & Economic Recovery in the New Normal Society**" 1. Professor Dr.Hossein Olya Head of Marketing and Cultural & Creative Industries (Interim), Sheffield University Management School, United Kingdom. 2. Professor Dr.Chih-Yi Chiu Director of Computer Center, Department of Computer Science and Information, National Chiayi University, Taiwan. 3. Professor Dr.Sarwade W.K. Dean, Faculty of Commerce and Management Dr Babasaheb Ambedkar Marathwada University, India. 4. Asst. Professor Dr.Jutamas Wisansing Managing Director and Consultant, Perfect Link Consulting Group/ Executive Committee, Pacific Asia Travel Association (PATA), Thailand Chapter. 5. ***Moderator***: Ms. Napatsinee Rotkert, Suratthani, Rajabhat University, Thailand.

Note: The schedule is subject to change.

Conference Schedule

SRU International Research Conference 2022 (SRUCon 2022)
"Research and Innovation for Social and Economic Recovery in the New Normal Society"
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Suratthani Rajabhat University
6 June 2022

6th June 2022	
1.00 – 1.30 p.m.	1. Title: **"Factors Encouraging the Happy and Healthy Elderly."** Author(s): Patama Satawedin, Montira Tadaamnuaychai Affiliation: School of Communication Arts, Bangkok University
1.30 – 2.00 p.m.	2. Title: **"Digital Storytelling in Asian Education: How it Works: A systematic Literature Review."** Author(s): Patama Satawedin, Siwat Chawareewong, Sutirapan Sakkrawat Affiliation: School of Communication Arts, Bangkok University
2.00 – 2.30 p.m.	3. Title: **"Future and Trend in Digital Marketing Communications in Thailand: A Strategic Direction for Educational Institutes."** Author(s): Patama Satawedin, Ornanong Prateepaisarn, Rajsak Asawasupachai, Jitirath Supornjirapat Affiliation: School of Communication Arts, Bangkok University
2.30 – 3.00 p.m.	4. Title: **"The Medium (Rang Song): Shamanism in Thailand and South Korea"** Author(s): Patama Satawedin, Peerachai Kerdsint Affiliation: School of Communication Arts, Bangkok University

Note: The schedule is subject to change.

Conference Schedule

SRU International Research Conference 2022 (SRUCon 2022)
"Research and Innovation for Social and Economic Recovery in the New Normal Society"
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Suratthani Rajabhat University
7 June 2022

7th June 2022	
9.00 – 9.30 a.m.	1. Title: **"Comparison of Chemical Profiles and Bioactivities between Fresh and Black Garlic Extracts"** Author(s): Pramekamon Lizam, Yingmanee Tragoolpua, Hataichanok Pandith, Itthayakorn Promputtha Affiliation: Faculty of Science, Chiang Mai University
9.30 – 10.00 a.m.	2. Title: **"Application Development of DNA Sequence Repeats Detection"** Author(s): Jongsuk Kongsen, and Supaporn Chairungsee Affiliation: School of Informatics, Walailak University
10.00 – 10.30 a.m.	3. Title: **"Economic Sustainable Development and Innovation of China's Wealth Management Industry Under The New Normal Society -Based on THE 4I Marketing Theory"** Author(s): Bai Haoyue Affiliation: Jeju National University
10.30 – 11.00 a.m.	4. Title: **"Towards an adaptation SMART model with 7Ps for local restaurants amidst the Coronavirus situation at Koh Samui in Surat Thani"** Author(s): Kessini Tripongpun, Pinyada Sonthong Affiliation: International School of Tourism, Suratthani Rajabhat University
11.00 – 11.30 a.m.	5. Title: **"Evaluation on The Camping Tourism Destination: A New Normal Tourism Product"** Author(s): Jeerati Poon-Ead, Yoksamon Jeaheng, Siyathorn Nakphin, Li Zhirong Affiliation: International School of Tourism, Suratthani Rajabhat University/Tourism Management, Hezhou University
11.30 – 12.00 a.m.	6. Title: **"A Study on Attitude of Thai International Business Management Students Towards Japanese Working Culture"** Author(s): Vajirawit Siripiyaphat Affiliation: Faculty of Business Administration, Bangkok University
1.00 – 01.30 p.m.	7. Title: **"Environmentally Responsible Behavior has A Significant Effect on Destination Decision-Making"** Author(s): Thida Aung Affiliation: Faculty of Hospitality and Tourism Management, Sejong University / Tourism Management, Mandalay University

Proceeding

Oral Presentation

Factors Encouraging the Happy and Healthy Elderly

by

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Factors Encouraging the Happy and Healthy Elderly

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Abstract

There is a greater number of the elderly around the globe and in Thailand. This change positively and negatively influences on political, economic, social, and cultural perspectives. Communication plays an important role to enlighten the elderly's future satisfaction and happiness. This study aimed at studying and examining the factors encouraging the happy and healthy elderly in the digital era. Nineteen theses and independent studies from Bangkok University database, i.e., dspace.bu.ac.th were found and analyzed. The results of the study revealed that there were internal and external factors that help encourage longevity- being happy and healthy, i.e., escape from boredom and loneliness, socialization and friendship, self-representation, letting it be, self-sufficiency, and self-pride- among the elderly people. Those internal variables include personal needs, personal belief, personal health status, and personality. Likewise, general communication and emphatic communication were highlighted as external factors. Moreover, participation and engagement were likely to empower a degree of happiness and healthiness among the elderly people. Future studies need to validate these factors. Also, a communication campaign targeting to strengthening such variables should strategically be created.

Keywords: Happiness, Healthiness, Elderly People, Communication

1. Introduction

Population structure has globally been changed and that means a much larger number of the elderly has been discovered. United Nations, Department of Economic and Social Affairs, Population Division (2019) has launched a report entitled "World Population Prospects 2019" and revealed that in a global scale, approximately in the next century, a number of the older people (65 years and over) will be doubled (United Nations, Department of Economic and Social Affairs, 2019). In Thailand, interestingly, in the case of 60 years and over, "Thailand is currently ranked the third most rapidly ageing population in the world", said AgeingAsia.org (n.d.). As agreed by the United Nations, Department of Economic and Social Affairs, Population Division (2019, in United Nations, Department of Economic and Social Affairs, 2019), Organisation for Economic Co-operation and Development (2018) has defined the dependent / older populations as those whose age is equal and over 65 years old. Particularly, according to Department of Provincial Administration, Ministry of Interior, in 2007, the amount of the older people is approximately 4.7 million or is accounted for 7.47 per cent (in National Statistical Office Thailand, n.d.). Likewise, Statista (2019) showed that Thai people are living longer and longer, i.e., up to now, they can live up to almost 76 years old.

This change gives advantages and disadvantages. Positively, the older people gain a lot of experiences and expertise and have a high level of tolerance. As a result of this, presently, many companies including Tesco Lotus, Central, and IKEA are providing the job opportunity for the elderly people (Prachachart Turakij Online, 2019). In contrast, this phenomenon places economic and social burdens on the government and other stakeholders concerning. Several academic and professional persons remark how the elderly people have a good quality of life (Cheewakriangkrai, 2017). According to the World Health Organization (WHO) (n.d.a), quality of life is explained that "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns. It is a broad ranging concept affected in a complex way by the person's physical health, psychological state, personal beliefs, social relationships and their relationship to salient features of their environment". In our summary, happiness and healthiness can be the two good words. In extent to which an ordinary person is happy and healthy has widely and largely been evaluated and measured by the World Health Organization Quality of Life (WHOQOL) which is firstly introduced about 30 years ago. Later on, currently, the WHOQOL-BREF is established (World Health Organization, n.d.b.).

Staying happy and healthy or in Thai proverb "health is better than wealth" was important and necessary. The current study of Chei and colleagues (2018) confirms "happy older people live longer". This also agreed by several studies including Moeini and colleagues (2016) and Sumngern et al. (2010). HUR USA (2018) additionally addressed the strong relationships and evidences between the happiness and the physical healthiness, i.e., health promotion and health prevention, leading the lower risk of death.

Reviewing from a wide range of previous studies, there are many factors influencing on an ordinary people's happiness and, later on, healthiness. Such variables can be divided into two main parts including "self-related" and "social-related" factors. In terms of "self" factor, personal data and personal direction are included. As for personal data, this covers gender (Kumar & Dixit, 2017; Sumngern et al., 2010); age (Luchesi et al., 2018; Mhaske, 2017; Moeini et al., 2016); socio-economic status (Kumar & Dixit, 2017; Mhaske, 2017; Moeini et al., 2016); family background (Kumar & Dixit, 2017; Nanthamongkolchai et al., 2009); education attainment (Moeini et al., 2016; Mhaske, 2017; Sumngern et al., 2010); marital status (Mhaske, 2017); location (Sumngern et al., 2010); religious and spiritual belief (Mhaske, 2017); a number of friends (Mhaske, 2017); and health status and conditions (Luchesi et al., 2018). At the same time, personal direction includes personality (Kumar & Dixit, 2017; Mhaske, 2017); self-value knowledge, skill, and experience (Kumar & Dixit, 2017; Mhaske, 2017; Nanthamongkolchai et al., 2009; Stoncikaite, 2019); attitude towards one's self or life satisfaction (Luchesi et al., 2018; Mhaske, 2017; Moeini et al., 2016); and positive thinking (Lee et al., 2019). Together with these, "social-related" variables including if the older people are recognized and appraised by other people in society can give an impact on their happiness (Kumar & Dixit, 2017; Mhaske, 2017; Nanthamongkolchai et al., 2009).

Understanding the encouraging and discouraging factors can help the stakeholders concerning to design campaigns and the elderly people themselves to promote the elderly's happy and healthy lives. Without which, they can end up their lives with being alone, weak, and unhappy (Stončikaitė, 2019). Steptoe (2019) further elaborated why happiness should be created in the four interesting perspectives. Happiness per se is very valuable and useful and far beyond a sense of good emotions and feelings reflected. However, happiness can provide good outcomes. Moreover, happiness can be regarded as a guardian protecting and preventing the older people from illness and death. In addition, happiness can be considered in the diverse perspectives when the people are getting older. This was because happiness is connected to a variety of factors, including individuals, economics, risk factors, health behaviors, and the like.

Finally, happiness is adjustable and changeable and that can lead to the elderly's health promotion and wellbeing.

From time to time, the elderly people's physical, psychological, and social needs are unmet. And that is very necessary to develop a model giving cares, concerns, and supports (Abdi et al., 2019). The older people, therefore, should be studied and examined so that, especially, marketing communications strategists can create and develop a strategic communication campaign that can build and create a happy and, later on, healthy elderly people.

2. Objectives of the study

The objectives of the study were to analyzing and examining the variables and determinants for being the happy and healthy elderly.

3. Research methods

Documentary research was employed in this study. These documents included Master's theses and independent studies available in online database of Bangkok University, i.e., dspace.bu.ac.th. The main concerns were about accessibility and full research papers. The authors used a word "P̄hū̂ s̄ūngxāyu" (in Thai, meaning the older people), as the main keyword in this study and this word had to be shown on the research titles. The searches made on 29 December 2019 at 10.05 am (Thailand, local time) were limited to between years 2015 and 2019. Nineteen theses and independent studies were met and displayed below (Table 1). It was important to state that, there was no age limit for samples selection in this study. In other words, if the word "P̄hū̂ s̄ūngxāyu" was employed in the research titles, these theses and independent studies were included.

Table 1 A list of the theses and independent studies used as the study's samples

No	Year	Title	Author	Thesis	IS
1	2019	Business plan for elderly service apartment	Sontanate, J.		x
2	2019	Business plan for ChivaChara private driver service	Porcharoen, M.		x
3	2019	Reflection of thinking through pictures sent via Line application of the elderly	Lhuengusakul, O.		x
4	2019	Business plan for healthy diet innovation elderly and patient 60 plus ways	Anuphan, P.		x
5	2019	Business plan for services for the elderly	Boonprasert, P.		x
6	2018	Identity of Thai elderly in Facebook social network	Sutthipum, F.		x
7	2018	Role of personal media networks affecting participation in the activities of the elderly center for health improvement in senior citizen center in Nonthaburi	Bumrungswad, H.		x
8	2017	Business plan for women's apparel for the elderly	Aupsornpasakorn, W.		x

No	Year	Title	Author	Thesis	IS
9	2017	Business plan for healthy oldies food the business feasibility project on healthy elderly food, "Oldies Food" in Bangkok	Kongraksavech, K.		x
10	2017	The study on usage behavior and effect of Line application on life and mind among the elderly of Ban Pan Rak Association	Intamusik, W.		x
11	2017	The factors positively affecting houses' purchase intention of elder people living in Bangkok	Kleangphrom, S.		x
12	2017	A study of physical factors in residential to reduce risk of falling down in older residents: Case study of Hua Takhe Community, Bangkok	Thongklung, K.	x	
13	2016	Establishment of condominiums for the elderly	Joypan, N.		x
14	2016	Business plan for "Relax Home Spa"	Singh, R.		x
15	2016	The study of relationship between concepts of universal design and FengShui A case study: Houses with older residents	Tangkhawanich, P.	x	
16	2016	A study of action-button size on mobile applications for elderly	Ketchaikosol, V.		x
17	2016	A study of font size for elderly vision on mobile devices	Kanjanayotin, C.		x
18	2015	Social network usage behavior and Bangkok older person's satisfaction	Buntadthong, K.		x
19	2015	Meaning of home in Ban Bang Khae A case of Bangkhae Home Foundation	Pechmisi, P.	x	

4. Results

There were a variety of the factors and determinants encouraging the happy and healthy elderly. Internal and external factors could be included. As for internal factors or "self-related" factors cover the elderly people's need and want or personal needs; their strong feeling towards something or personal belief; their physical and mental health conditions or personal health status; and their types of behavior, feeling, and thought or personality. In terms of external factors, general communication, empathic communication, and participation and engagement were addressed. In a greater detail, those needs the elderly people required were comfort and convenience, safety and security, entertainment, and interaction and communication with people.

Internal factors

In terms of personal needs, comfort and convenience referred to several perspectives including user experiences for technological devices, i.e., size of a button (Ketchaikosol, 2016) and font size (Kanjanayotin, 2016), communication channels, i.e., use of social media, especially via Line application (Buntadthong, 2015; Intamusik, 2017) and via Facebook (Sutthipum, 2018), housing facilities (Kleangphrom, 2017; Sontanate, 2019) and layout (Tangkhawanich, 2016; Thongklung, 2017), and clothing, i.e., the elderly people would prefer lighter fabric made (Aupsornpasakorn, 2017). The elderly individuals were, moreover, seeking for something that made them away from dangers. These covered general risks and harms (Intamusik, 2017; Lhuengusakul, 2019), housing materials and layout (Klengphrom, 2017; Pechmisi, 2015; Thongklung, 2017), and public transport services (Porcharoen, 2019). Furthermore, the older people needed something that made them entertained and enjoyed. The study of Lhuengusakul (2019) examined connotative meanings of pictures Thai older people had sent to Line application friends and found that they were sending favorable and happy icons including flowers, animals, blessings, cultures and traditions, and humors. Similar to the study of Lhuengusakul, the study of Intamusik (2017) discovered that they consumed information about greetings, blessing, impoliteness, and humor. Also, the study of Sutthipum (2018) revealed that the men elder people loved laughing and going to a party. Sense of humor seemed to be an entertaining mood the elderly people needed from people surrounding. To achieve the ultimate goal of a happy and healthy life, last but not least, they need two-way communication and interaction. However, such interaction should not be created during eating (Pechmisi, 2015).

Personal belief could obviously be seen in the study of Tangkhawanich (2016) when, to drive happiness and healthiness, the older people might have beliefs in housing layout and location.

As for personal health status, it talked about eating behavior and lifestyle behavior. The study of Anuphan (2019) revealed that the older people should consume food that prevented them from non-communicable diseases. Likewise, the elderly people should do some exercises on running and bicycle machines at a mild to intermediate levels and should do yoga every morning.

Eventually, the study of Sutthipum (2018) entitled "Identity of Thai elderly in Facebook social network" revealed types the elderly people behaved, thought, and felt through social media. That was to say, the female elderly people would present themselves as a family-oriented, honest, sincere, meticulous, and good-hearted person. It was vice versa for the male counterparts when they liked to express their good role model, creativity, sense of humor, and party-aholic.

External factors

As for the external factors, two-way communication was of high need (Pechmisi, 2015). Moreover, the factors of participation and engagement were likely to be involved in an activity (Bumrungswad, 2018), short courses, in particular (Porcharoen, 2019). The study of Bumrungswad (2018) highlighted that attendance and participation in various types of activities might help relieve the elderly people's loneliness and that might bring them in the physical and mental betterment.

If an elderly person was happy and, later on, healthy was evaluated by a degree to which they were able to escape from boredom and loneliness, able to socialize and have friends, present their own self, be free from burdens and obstacles, live sufficiently, and be proud of themselves (Lhuengusakul, 2019; Porcharoen, 2019).

5. Discussion

The study entitled "The Development of a Happy and Healthy Elderly Model in the Digital Era" aimed at developing and creating a happy and healthy elderly model. The analysis of 19 theses and independent studies from Bangkok University database, i.e., dspace.bu.ac.th found two routes, i.e., internal and external encouraging the older people to be happy and healthy- escape from boredom and loneliness, socialization and friendship, self-representation, letting it be, self-sufficiency, and self-pride. The internal routes included personal needs, personal belief, personal health status, and personality. Likewise, the elderly people's happiness and healthiness was strengthened by general communication, emphatic communication, and participation and engagement as the external routes.

The elderly's participation and engagement enabled a degree to which the older people were happier and healthier. We would like to call this action as community and social participation. Cachadinha et al. (n.d.). stated that the elderly people should be encouraged to join and take part in activities because they are very good for the aged people's physical and psychological health. However, there are several factors discouraging them from joining such events. These include personal health status, discomfort and inconvenience for transports, and so forth. Furthermore, consistency and frequency of participation and engagement is of high importance (Desousa, 2014). The result of the Cachadinha and colleagues' (n.d). study confirmed our findings when personal needs, especially comfort and convenience and personal health status must be considered. The need of comfort and convenience among the aged people depended upon their physical and psychological preferences. According to what we found, the elderly people prefer wearing lighter fabric made because it "is not only comfortable but also easy to move" (Wang & Xu, 2010, p.58). This was additionally evidenced by Palamutcu and Goren (2015) that the elderly people preferred the clothes that made them comfortable to fashionable and functional.Likewise, in a sense of comfort and convenience for food and housing, the elderly people prefer something that makes them stay healthy and not difficult to eat (Peura-Kapanen et al., 2017) and easy to live and to ever-changing circumstances (Hatcher et al., 2019).

In terms of personality, there was an assumption that people are behaving, thinking, and feeling differently from time to time. Martin et al. (2002) and Watson (2021) found that the elderly people are calming down and letting it be as well as feeling too exhausted to make everything happen as they think. However, they are caring much about society. Similar to what we have found, overall, the elderly people are likely to be more extrovert and caring.

This study can be beneficial and valuable for the various stakeholders concerning, including the public health professionals and communication strategists to design some health interventions and strategic communication campaigns promoting the happy and healthy elderly, respectively.

The limitations of this study were that the units of analysis were limited to the ones conducted and were available in Bangkok University database. Therefore, a greater number of the studies from the other educational institutes should be taken for granted so that more factors and determinants can be provided. At the same time, in the global scale, if a comparative study between Thailand and the other countries to understand the cultural diversity. Future studies should pay much focuses on testing the validity and reliability of this happy and healthy elderly people model. Together with this, there should be a comparative study between the factors encouraging the happy and healthy elderly living in the capital, main cities and rural areas. And that this can contribute to creating a strategic communication campaign that fits well with the aged people.

6. Conclusion

Today is the world of the elderly people. A number of them increases continuously. Longevity- happiness and healthiness is their ultimate goal. In order to achieve such desire, both of the internal and external routes must be fulfilled. Once the elderly people are happy and healthy, they can be the physical, economic, and social independence. Vantage Aging

(2021) highlighted the importance of independence among the elderly people. This study not only provides a happy and healthy elderly people model, but helps understand the insights of this consumer group. Strategic marketing communicators should create a creative elderly campaign by focusing and developing empathic and compassionated messages that mainly make the older people enjoyed, experienced and socialized, proud of themselves, and engaged in activities.

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Digital Storytelling in Asian Education: How It Works: A Systematic Literature Review

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Abstract

Skilled and competent graduates are of high demand in labor markets. Many studies confirmed that these skills and competencies could be encouraged and developed by the use of digital storytelling because this strategy makes students and learners enjoyed and engaged in educational activities and learning environment. This study, therefore, targeted to study how digital storytelling in Asia was developed and to examine how successful and effective digital storytelling in Asian education was. One of the main selection criteria was that the sampled literatures must be conducted and written in the sights of Asian scholars. Accordingly, there were seven research articles in total. The findings revealed that there was not much attention in studying and research digital storytelling in Asia between years 2015 and up to now. Two studies were launched a year, excepting in year 2015 when one publication was introduced. Sadly, between years 2016 and 2017, no Asian scholars enlightened the necessity of digital storytelling. Such studies were conducted in Great China, South Korea, Singapore, and Malaysia. The studies were rather quantitative. The success and effectiveness of digital storytelling was found mostly in interpersonal and intrapersonal skills. The "other" ability including the abilities to think of and follow the religious principles of what was correct and incorrect for making a decision and to know and understand how to make one's health and wealth was little concerned. This contributes the development of both teachers and learners. Also, a communication campaign encouraging and empowering an educational shift should immediately be launched.

Keywords: Digital Storytelling, Virtual Environment, Teaching and Learning, Skills and Competencies, Education

1. Introduction

The situation happens not only in Thailand, but also around the globe when '[t]oday's students are more career-oriented and under pressure to take on extracurricular activities, more responsibilities and work experience to compete in the graduate jobs market' (Lightfoot, 2016). The recent studies conducted by Lowden et al. (2011) and Sarkar et al. (2016) explained the reason and the fact that new graduates nowadays are having subject knowledge very much, but they are not able to survive in real life, i.e., they are much lacking of necessary skills and competences needed for working and collaborating with others in practice. Even being against the statistics, furthermore and most currently, practical skills and potentials are of higher need than discipline knowledge, in the sights of employers (Pang et al., 2019).

According to the study of Sarkar et al. (2016), extensively, new graduates are hardly able to (1) grasp and update the ever-changing world and business, (2) be responsible in learning by themselves, (3) handle difficult situations and circumstances, (4) lead and manage the team, and (5) start thinking, creating, and developing something by themselves, in particular. Also, they insisted that the first and the fourth skills and abilities are also ranked as the first and the fourth ones in the next decades. Consistently, the second, the third, and the fifth skills and abilities are the abilities to change themselves to fit well with the ever-changing world and situations, to analyzing and evaluating situations systematically and logically, and to work and collaborate with other people respectively (Sarkar et al., 2016).

Following to Robin (2008, in Ming et al., 2014), specifically explained that an idea of what it should be called as "an academic and professional module", i.e., in order to build up and create a student to be, for example, a YouTuber, a variety of interrelated skills including the ability to analyze and scrutinize properly for further decision making, the ability to find out a proper solution when facing and encountering a challenge, the ability to use techniques and tactics for online platforms, and the like. He highlighted that these skills are under an umbrella of digital storytelling and should be taught in educational context. Similarly, Robin (2011) highly remarked and encouraged that digital storytelling should be taught to fulfil the students' knowledge and experience and also to upskill the students and general people at the end (Robin, 2011).

In the educational context, the 21st century skills and competencies are widely talked and highlighted by both scholars and professionals. This study utilized the measures of skills and competencies, so-called "transversal competencies" recently introduced by the United Nations [UN], Bangkok Office (Care et al., 2019) because the measures are designed, especially for the countries in Asia. There are six main dimensions including 1) the ability to build and maintain relationships with people; or "interpersonal skills" 2) the ability to manage one's self, or "intrapersonal skills"; 3) the ability to think and analyze information profoundly and creatively, or "critical and innovative thinking"; 4) the ability to think and implement digital and technological devices and programmes, or "media and information literacy"; 5) the ability to understand and implement political, economic, and social and cultural environments, or "global citizenship"; and 6) the ability to stay happily and sustainably, or "other".

In terms of the ability to manage one's self, or "intrapersonal skills", there are seven sub-themes. That is to say, the abilities 1) to know and control one's self to do something although he/she has no willingness to do, or "self-discipline"; 2) to learn, study and do something by one's self, or "ability to learn independently"; 3) to change or be changed and willing to change without conditions and under ever-changing situations, or "flexibility and adaptability"; 4) to understand something well and make a good decision about one's self, or "self-awareness"; 5) to go on and move on with (hard) attempt even though one may face and encounter difficulties and to work willingly although nobody tells anything, or "perseveranse and self-motivation"; 6) to share sympathetic and sad feelings to others when they face and encounter something bad and willing to give hands, or "compassion"; 7) to pay respect to rules, regulations, and principles strongly and honestly and to value one's self, or "integrity and self-respect".

Thirdly, the ability to think and analyze information profoundly and creatively, or "critical and innovative thinking" goes to the abilities 1) to think and create something new, or "creativity"; 2) to think and initiate as well as kick off new business opportunities, or "entrepreneurship"; 3) to make judgement and practice something independently by one's self, or "resourcefulness"; 4) to push hard attempt to make something done within a specific time frame, or "application skills"; 5) to know, think, consider, and defend why and how those works should do and should not do, or "reflective thinking"; 6) to give discussions and arguments logically, obviously, and considerably, or "reasoned decision making" .

The abilities 1) to employ digital and technological devices and programmes morally and considerably, or "ethical use of ICT"; 2) to assess and evaluate received information, details, messages, and content considerably, or "ability to critically evaluate information and media content"; and 3) to select and be exposed to information, details, messages, and content in depth before believing in and judging something, or "ability to obtain and analyze information through ICT" are, moreover, included in the ability to think and implement digital and technological devices and programmes, or "media and information literacy.

In addition, when saying about the ability to understand and implement political, economic, and social and cultural environments, or "global citizenship", it should direct to the abilities to 1) to know and under what, why, and how such circumstances happen within a frame of experience and pay honesty and integrity to something, or "awareness and openness"; 2) to give willingness to respect and accept someone's behavior and beliefs that may be diverse even if disagreement and disapproval happens in his/her head and mind, or "tolerance and respect for diversity"; 3) to manage and dealing with the job assigned and to resume good relationships between people even when a conflict happens, or "responsibility and ability to resolve conflict"; 4) to know and understand what is morally correct and incorrect and how different from one country to others, or "ethical and intercultural understanding"; 5) to participate and engage in political activities to show and strengthen people's freedom and equality, or "democratic participation"; 6) to think of, understand, initiate, and involve in environmentally-friendly activities, or "respect for the environment"; and 7) to show a respect and receive that this nation is his/her, or "national identity and sense of belonging".

Eventually, the abilities 1) to think of and follow the religious principles of what is correct and incorrect for making a decision, or "respect for religious values" and 2) to know and understand how to make one's health and wealth, or "appreciation of healthy lifestyle" (Care et al., 2019).

There are several studies (for example, Allen et al., 2019; Anilan et al., 2018; Cheng & Chuang, 2019; Duman & Göcen, 2015; Garcia & Rossiter, 2010; Gimeno-Sanz, 2015; Grant & Bolin, 2016; Jitpaisarnwattana, 2018; Kallinikou & Nicolaidou, 2019; Niemi et al., 2018; öyküleme, 2018; Robin, 2016; Gregori-Signesf, 2010; Shelton et al., 2016; Stewart, 2017; Stewart & Ivala, 2017; Truong-White & McLean, 2015; Vu et al., 2019; Xu et al., 2011) confirming a success of digital storytelling- a mixed use of telling narratives with digital technologies and assistances in making students interested, engaged, entertained, and collaborated in their educational activities and studies. Likewise, digital storytelling can even be applied in other contexts, for instance, health-related issues (Lenette et al., 2019), social issues (Karamagioli et al., 2018), and the like.

As discussed above, there is an effective proof of success in digital storytelling, this study discovered how it works by reviewing the previous literatures and studies systematically. In other words, the objectives of this research were to study how digital storytelling in Asia was developed and to examine how successful and effective digital storytelling in Asian education was.

2. Objectives of the study

The objectives of this study were to study how digital storytelling, specifically in Asia was developed and to investigate how successful and effective digital storytelling in Asian education was.

3. Research methods

This study employed a method of reviewing previous literatures and studies systematically. They were selected with the following requirements:

1) They were published between years 2015 and 2020.
2) They were available online on EBSCO Discovery Service which was available on Bangkok University online database.
3) They were full-text and peer-reviewed publications.
4) The keyword "digital storytelling" must be placed in the research titles. Altogether with this, the words "education" and "Asia" were put as the keywords. As a result, there were 1,157 searches found.
5) They must be conducted and/or the authors' affiliations were in Asian countries. According to the study of Wu and Chen (2020), it was found that previous literatures and studies, it was sad that digital storytelling researches were mostly conducted in the United States while this issue was paid less attention in Asian and European countries.
6) The search had made in April, 26 2020.
7) They must be a research paper. The other types of writing were excluded.
8) They must be published and written in English only.

As a result, out of 1,157 searches, they were 10 articles following the requirements. But, three articles were excluded because the affiliations were in Turkey and the US. So, in total, the seven research articles would be reviewed and analyzed, i.e., Anilan, B., Berber, A., & Anilan, H. (2018). The digital storytelling adventures of the teacher candidates. *Turkish Online Journal of Qualitative Inquiry, 9*(3), 262-287. (Turkey), Stewart, K. & Gachago, D. (2016). Being human today: A digital storytelling pedagogy for transcontinental border crossing. *British Journal of Educational Technology, 47*(3), 528-542. (USA), and Tatli, Z., Çakiroğlu, Ü., & Uğur, N. (2018). Peer assessment through digital storytelling: Experiences of pre-service IT teachers. *International Journal of Information & Learning Technology, 35*(3), 217-228. (South Africa). The met-requirement research articles were shown below. The articles that were written in the mixed sights of Asia and the West would be included.

- Wu, J., & Chen, D.V. (2020). A systematic review of educational digital storytelling. *Computers & Education, 147.* doi: 10.1016/j.compedu.2019.103786 (Singapore)
- Chan, C. (2019). Using digital storytelling to facilitate critical thinking disposition in youth civic engagement: A randomized control trial. *Children and Youth Services Review, 107.* doi: 10.1016/j.childyouth.2019.104522 (Hong Kong)
- Kim, M.J. & Hall, C.M. (2020). What drives visitor economy crowdfunding? The effect of digital storytelling on unified theory of acceptance and use of technology. *Tourism Management Perspectives, 34.* doi: 10.1016/j.tmp.2020.100638 (South Korea with New Zealand): Although this article is rather in the field of business, the results could be beneficial and applied for educational purposes. Also, this article paper was included because the Asian scholar was the first author of this paper.
- Moradi, H. & Chen, H. (2019). Digital storytelling in language education. *Behavioral Sciences, 9*(12), 1-9. (China)
- Liu, M., Huang, Y., & Xu, Y. (2018). Effects of individual versus group work on learner autonomy and emotion in digital storytelling. *Educational Technology Research & Development, 66*(4), 1009-1028. (Taiwan)
- Kim, H. & Lee, J.H. (2018). The value of digital storytelling as an L2 narrative practice. *Asia-Pacific Education Researcher (Springer Science & Business Media B.V.), 27*(1), 1-9. (South Korea)

- Thang, S.M., Mahmud, N., & Tng, C.K.C. (2015). Digital storytelling as an innovative approach to enhance learning Mandarin as a second language. *Journal of E-Learning & Knowledge Society, 11*(2), 161-175. (Malaysia with the UK). This academic paper was covered because the first author was originated in an Asian country.

For data analysis and data interpretation, the samples' details of years and country of publication, and methodology applied were reported. Altogether with these, how successful and effective digital storytelling in the Asian educational context would be coded in the framework of the 21st century skills.

4. Results

The findings would be reported in two parts, i.e., 1) a summary of the samples' details and 2) success and effectiveness of digital storytelling in education in Asia.

A summary of the samples' details

Between years 2015 and 2020, two studies about digital storytelling were published in 2018, 2019, and 2020. In contrast, in year 2015, there was only one digital storytelling study launched. It was remarkable that digital storytelling was not paid attention by the Asian scholars between years 2016 and 2017. As for the countries of affiliation, digital storytelling was written and produced by the scholars from Greater China including China, Hong Kong, and Taiwan. The South East Asian scholars from Singapore and Malaysia also gave their hands to accelerate the importance of digital storytelling. Further to this, it was presumed that digital storytelling was popular in the sights of South Korean academia.

Interestingly, the digital storytelling in Asian countries was rather quantitative. In the greater details, two studies, i.e., Wu & Chen (2020) and Moradi & Chen (2019) were employing a systematic literature review. Furthermore, the studies of Chan (2019) and Liu et al. (2018) enjoyed testing the success and effectiveness of digital storytelling on people' skills and competencies by the use of (quasi) experimental research with Hong Kong people and the Southern Taiwanese primary school students. Likewise, the study of Kim and Hall (2020) developed and created the online questionnaires from reviewing the relating literatures.

Success and effectiveness of digital storytelling in education in Asia

From the five sampled studies, digital storytelling could enhance the 21st century skills and competencies of future graduates. A figure of the 21st century skills and competencies should be drawn to make a summative conclusion on the success and effectiveness of digital storytelling in education in Asia.

Table 1 Success and effectives of digital storytelling on the 21st century skills and competencies drawn from the UNESCO, Bangkok (Care et al., 2019)

Literatures / Skills & Competencies	Wu & Chen (2020)	Chan (2019)	Kim & Hall (2020)	Moradi & Chen (2019)	Liu et al. (2018)	Kim & Lee (2018)	Thang et al. (2015)
Interpersonal skills							
Communication skills	X			X			X
Organizational skills							

Literatures / Skills & Competencies	Wu & Chen (2020)	Chan (2019)	Kim & Hall (2020)	Moradi & Chen (2019)	Liu et al. (2018)	Kim & Lee (2018)	Thang et al. (2015)
Teamwork & Collaboration	X				X		X
Sociability & collegiality	X				X		X
Empathy & compassion	X	X	X			X	
Intrapersonal skills							
Self-discipline							
Ability to learn independently				X			
Flexibility & adaptability			X				X
Self-awareness	X					X	
Perseverance & self-motivation			X				
Compassion			X			X	
Integrity & self-respect	X	X					
Critical & innovative thinking							
Creativity	X						
Entrepreneurship							
Resourcefulness							
Application skills	X						
Reflective thinking	X	X					
Reasoned decision making	X						
Media & information literacy							
Ethical use of ICT							
Ability to critically evaluate information and media content	X	X				X	X
Ability to obtain and analyze information through ICT	X	X				X	X
Global citizenship							
Awareness & openness	X	X				X	X
Tolerance & respect for diversity	X	X					

Literatures / Skills & Competencies	Wu & Chen (2020)	Chan (2019)	Kim & Hall (2020)	Moradi & Chen (2019)	Liu et al. (2018)	Kim & Lee (2018)	Thang et al. (2015)
Responsibility & ability to resolve conflict							
Ethical & intercultural understanding	X	X					
Democratic participation							
Respect for the environment							
National identity & sense of belonging	X	X					
Other							
Respect for religious values							
Appreciation of healthy lifestyle			X				

From Table 1, the results from reviewing previous studies revealed that the success and effectiveness of the digital storytelling were found in all categories of the 21st century skills and competencies given by the UN, Bangkok Office. There was an exception when the "other" dimension was rarely recognized and taken into consideration. Interestingly, the three literatures that were conducted by South Korean (Kim & Hall, 2020), Chinese (Moradi & Chen, 2019), and Taiwanese (Liu et al., 2018) scholars had no attention to critical and innovative thinking and media and information literacy. As for global citizenship, it was interesting that the attention to this issue fluctuated. In other words, it was little known by the Asian scholars during the past two to five years and almost full attentions were found in the present years. Nonetheless, this was not applied to other present cases.

5. Conclusion and discussion

The study entitled "Digital Storytelling in Asian education: How it works: A systematic literature review" targeted to study how digital storytelling in Asia was developed and to examine how successful and effective digital storytelling in Asian education was. The study employed a systematic literature review. And that there were seven research articles that met the requirements defined. Between years 2015 and 2020, sadly, digital storytelling was of low interest among Asian scholars. Also, no literatures relating digital storytelling were examined between years 2016 and 2017. This was consistent with the study of Wu and Chan (2020), once again; digital storytelling had not been well accepted in Asia. It was vice versa for the United States when a lot of scholars had enjoyed conducting digital storytelling-based researches and believed that digital storytelling was a really-good teaching and learning tools. Even being a small number, however, the more present it was, the more attention to digital story was paid. Although many studies (mostly in the United States and in the Western countries) had widely presented that digital storytelling helped enhancing and empowering learners' and students' 21st century skills and competencies, it was interesting to know and understand a reason of why digital storytelling was not popular in Asia. Tacchi (2009) reasoned that the concepts of localizations and cultural adaptation must be taken into consideration. In a sense, digital storytelling probably fitted well with the Western cultures, but it was not well adjusted, adapted, and localized in the Asian countries.

Of all, high respect to digital storytelling was in the eyes of the countries in the Greater China, i.e., China, Hong Kong, and Taiwan. Another powerful nation, i.e., South Korea, agreed to encourage the studies of digital storytelling, likewise. There were only two countries from South East Asia, i.e., Singapore and Malaysia encouraging people around the world to accept how important and necessary digital storytelling was.

Asian scholars were still crazy with quantitative research methods. From the studies samples, they were employing a quantitative, systematic literature review, (quasi-) experimental research, and questionnaire. Sahay (2014) posted an assumption if there was a shift from quantitative research methods to qualitative or mixed ones. He elaborated that this situation had happened in the Scandinavian world whereas Asian scholars still appreciated quantitative research methods because of their limited understanding about qualitative research methods.

Although the 21st century skills and competencies had been discussed and talked globally over decades, from analyzing the data, it was found that the success and effectiveness of digital storytelling excluded some of the 21st century skills and competencies, especially critical and innovative thinking, media and information literacy, global citizenship, and other related among learners and students. And that teachers and instructors should be trained, hints and tutorial courses should obviously be given, and public and private sectors should give hands and donate some necessary devices and tools so that the instructors could equip and arm their students and learners with best potential (Care et al., 2019). In the present, critical and creative thinking skills and competences were short in Asia, like among Malaysian students (Rosba, Zubaidah, Mahanal, & Sulisetijono, 2021). This situation was not the problem in the developed countries, especially located in Europe, including Belgium, France, the Netherlands, Sweden, and the like (Gunung,org, n.d.).

This contributes the development of both teachers and learners. Especially during this pandemic outbreak crisis, an online, virtual classroom was of need and a creative teaching and learning strategy should be encouraged for more physical and emotional involvement and engagement. Also, a communication campaign encouraging and empowering an educational shift should immediately be launched.

Digital storytelling is, therefore, challenging for teachers and learners in Asian countries, in terms of academic studies and professional practices and that need to be encouraged so that qualified graduates and, later on, employees who are equipped and fulfilled with the 21st century skills and competencies and those required by professional markets. Otherwise, a higher, increasing level of the unemployed can be discovered and that causes and poses more chronic economic problems and challenges. During this period of time, especially, there are bulks of people who are asked to early retire before an appropriate retirement age. If students and learners are still lacking such skills and competencies required, the problems are getting worse and worse. As widely discussed, teachers and instructors should play a role as a coach, not an instructor and facilitator anymore. As a marketing communicator in an educational business, a launch of a marketing communication campaign should immediately be published.

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Future and Trend in Digital Marketing Communications in Thailand: A Strategic Direction for Educational Institutes

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Future and Trend in Digital Marketing Communications in Thailand: A Strategic Direction for Educational Institutes

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Abstract

Undeniably, the wake of the COVID-19 pandemic made individuals and companies crazy and that has accelerated digital transformation and digital disruption. The purposes of the study were to forecast the future and trend in the discipline in digital marketing communications in Thailand and suggest the strategic direction for education institutes for arming the students to be prepared to work and live in the globalised and digitalised world. The results were from the researchers' own experiences. The findings of the study revealed that there were the four trends found in the world of digital marketing communications, i.e., shifts in purchasing and buying behavior, more investments in marketing technology, development in digital measurements, and importance of personal data protection. In order to provide the strategic direction and platform for the educational institutes, accordingly, the C-O-V-I-D framework is introduced. This study contributes to the preparation of the potential graduates and labor forces in the future.

Keywords: Digital Marketing Communications, E-Commerce, Educational Institutes, New Normal

1. Introduction

With the current phrase of the COVID-19 pandemic, the global situation has been getting worse. No one can predict when the nightmare is going to end. Around the globe, there are around 190 million people attacked by the COVID-19 pandemic, about 4 million people found dead, and even being a smaller number than the confirmed cases, approximately 175 million people recovered from this scary disease (Worldometer, 2021). Financial shakes and losses, shifts in consumer behavior and also business model and management, educational paradigm, and the like are the expected outcomes. Digital transformation and disruption have, therefore, to be taken for granted.

By considering digital advertising spending from 2012 to 2021, the Digital Advertising Association (Thailand) and KANTAR (2021) has confirmed a huge increase of budgets spent for digital advertising between the years 2012 and 2021, even and especially during the hit of the COVID-19 pandemic in Thailand. In the years 2020 and 2021, with no particular order, digital advertising spending is mainly from five main industries including automotive, non-alcohol drinks, communications, skincare products, and consumer products. According to Deloitte (2020), globally and outstandingly, ecommerce and e-wallet have today been the reachable platforms. Moreover, the majority of consumers enjoy spending their money on home decorations and products for playing and learning. It is also underlined that sellers and retailers must be nice and friendly with their consumers and customers for further profits and good relationships. The study of Jílková and Králová (2021) also confirmed the high rises of both ecommerce and e-wallet payment methods because of two main reasons, i.e., physically, consumers have not allowed to go within and across borders and, psychologically, consumers are panic and fearful, so, they themselves keep them safe and away from the COVID-19 pandemic by just staying home. Specifically, various digital marketing tools and techniques including email marketing, online advertising, social media marketing, and mobile marketing should be used and employed because these can drive and accelerate consumers to buy and purchase products and/or services (Al-Azzam & Al-Mizeed, 2021). Digital marketing communications are even appreciated by the customers when they buy and purchase branded cosmetics (Akter & Sultana, 2020).

Post to the hit of the COVID-19 pandemic, Balis (2021) underlined that this pandemic necessitates the following considerations, especially about the customer-centric notions, i.e., customer segmentation, customer experiences, customers' needs and wants, customer journey, agility, brands' social responsibility, sustainability, and resilience, and technology and innovations,

The people, therefore, need to know about digital marketing communications and the educational institutes need to equip their students with digital marketing communications. This is because this body of knowledge is of high demand in the today's labor market, provides business and entrepreneurial opportunities and investment, and gives the people good payment (Guru, 2021; Kumar, 2022). The ultimate goal is to reach the target audiences effectively and successfully and to let the brands survive (Slijepčević, Radojević, & Perić, 2020).

This study is going to create a new chapter for digital marketing communications and that a new invalidated model has been developed. Understanding trends of digital marketing communications are of high interest among the various scholars (Madan & Rosca, 2022; **Slijepčević** et al., 2020).

2. Objectives of the study

The main objectives of the study were to examine the faces and challenges of digital marketing communications in the wake of the COVID-19 pandemic and also to study a strategic direction and approach to set as a policy for educational institutes. It is important to underline at this point that this study is limited to study in Thailand only.

3. Research methods

Anecdotal experiences from the authors' professions and daily lives were shared as an initial platform and as a pilot study. After that the researchers had been applied such notions to give the recommended skill and competency framework for the educational institutes. In other words, the body of knowledge and experiences from all of the authors had gathered, analyzed, and defined as the themes.

4. Findings

The results of this study were classified into two sections, following the research objectives: 1) face and challenges of digital marketing communications in the wake of the

COVID-19 pandemic and 2) strategic direction and approach to set as a policy for educational institutions. The greater details were exhibited as follows.

Face and challenges of digital marketing communications in the wake of the COVID-19 pandemic

There were four challenges of digital marketing communications to be considered from now on. These included 1) understanding changes in consumer behavior by communicating with them by using social media and encourage their buying and purchasing behavior through ecommerce and applications; 2) employing and investing in marketing technology; 3) applying and creating effective digital measurements; and 4) highlighting personal data protection.

Understanding changes in consumer behavior

It was very vital, firstly for the marketers to understand a variety of consumers through diverse data collection methods, both offline and online. Such data could help the marketers plan well and strategically. Otherwise, failures in communication can be expected. The major shifts in consumer behavior in the amidst of the COVID-19 pandemic were that current consumers were crazy in love with receiving information from social media and buying and purchasing products and/services through ecommerce, marketplace, and application. We all agreed that the segmenting-targeting-positioning concept was of high importance for reaching designing content and platforms and also technologies and innovations appropriately and effectively. Jitirath Supornjirapat (2021) obviously stated the three main examples of consumer behavior changes, i.e., 1) consumers currently enjoyed receiving information and entertainment from Facebook, Twitter, Line, TikTok, and Instagram and buying and purchasing products and/or services via Instagram and Line; 2) not only such social commerce, but also ecommerce including Lazada, Shopee, and JD central were in the spotlight; and 3) consumers, furthermore, had good experiences hitting the buttons available on various famous food aggregator applications.

Investment in marketing technology

In relation to the first point, secondly, the world is ever-changing. So did the viruses that could be emerging and be mutated from time to time. The marketers must keep doing and improving and that marketing technology must continuously be employed and invested. Rajsak Asawasupachai (2021) further elaborated that ecommerce and dot.com ecommerce could not be ignored, must be developed and created, instead in order to introduce products, generate sales, and also build up brand image and reputation among consumers. Likewise, marketing technology had to be highlighted because success and failure in applying marketing technology depended upon understanding, undeniable, the most updated consumer behavior.

Development of digital measurements

Furthermore, revenues and returns on investment were the ultimate destination for business survival ever since. The existing and new digital measurements were need to be updated and developed so that more accurate and correct results could be provided. Later on, from the results of the such digital measurements, the brands could know what they could to fulfill the gaps.

Personal data protection

Since everything was online and digitalised, finally, data breach was a very sensitive issue and that affected not only on the brands' themselves, but also the consumers' personal credibility and reputation. During the past couple of years, a personal data protection act (PDPA) had widely been talked and discussed. Although consumers had been forced to shop online because they must stay home for protecting themselves from the COVID-19 attack, not all of the consumers always enjoyed and appreciated buying and purchasing commodities online.

The attack of the COVID-19 pandemic had provided the long-term consequences including a lower degree of purchasing power, a lower degree of purchasing and buying power, the companies have to close down their own businesses, a large number of the people are unemployed, and such people are not much money for paying any expenses. Likewise, there is a lack of investment in education relating to digital marketing communications. The final stop, therefore, the digital marketing communications are short of quality and well-trained human resources. Thanks to Ingaldi and Brozova (2020), no button of cash on delivery available for consumers to hit caused the customers not to make a decision to buy and purchase the products.

The hit of the COVID-19 pandemic had not only provided short-term, but also long-term and difficult to be recovered consequences. For the latter, we loved the word so-called 'scar'. The scars we had seen could be explained in Figure 1.

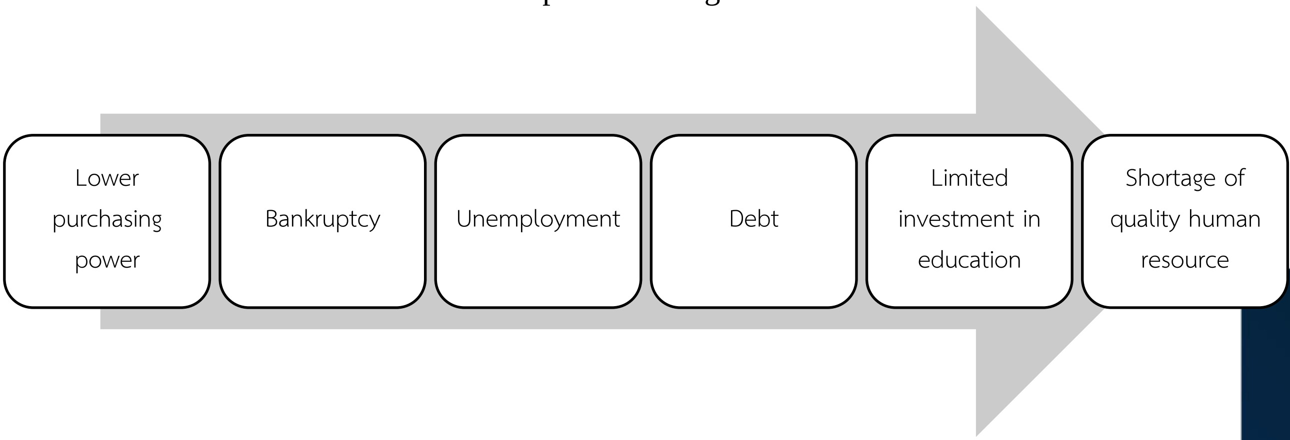

Figure 1 The long-term consequences of the COVID-19 pandemic
Source: Ornanong Prateepaisarn (2021)

According to Ornanong Prateepaisarn (2021) clearly indicated the 'scar' and long-term effects of the COVID-19 pandemic. In fact, not only long-term, but also on-going consequences were presented, too. When the nightmare happened, some consumers vastly as employees were asked to leave their jobs because their businesses could not survive due to financial constraints. It was unsurprising that a lower degree of purchasing power. Consequently, some businesses were filed as bankruptcy and that, later on, made a large number of people unemployed. These groups of people had no money to pay off for necessary expenses. Not much money had been invested in educational degrees and programmes. Undoubtedly, it was difficult to find out the quality human resources. Especially those in digital marketing communications, they were of high need in today's world. However, it was important for educational institutes to continue developing certificates in digital marketing communications for further applications, Rajsak Asawasupachai (2021) stated. L

According to Jitirath Supornjirapat (2021), likewise, as educational institutes, a variety of researches and studies relating to digital marketing communications, for instance, internet usages for different ages, digital influences on consumers, similarities and differences in purchasing behavior, and the like should be conducted. It was important to say that digital marketing communications were, therefore, a final answer and final business survival approach. Without which, the death rate of enterprises would, predictable, be increasing.

From such perspectives, the strategic directions for the educational institutes we would like to propose was shown and discussed in the next section. In the greater extent, with the ever-changing world, this influenced the brands to have their employees (i.e., potential graduates) for their adaptability and adjustment. In order to respond to the needs of the customers and consumers (i.e., understanding changes in consumer behavior), it was important for the brands to have technology, money, innovation (i.e., investment in marketing technology), and data (i.e., development of digital measurements and personal data protection).

The C-O-V-I-D strategic approach for the education institutes

The C-O-V-I-D strategic approach is abbreviated for the following variables. Such letters were abbreviated for, customer/consumer-centric, online and digital behavior/technology, venture capitals, innovation, and data-driven.

To respond to the credit-bank trend, these should be the five major modules the in-track students and those who are interested in and would like to reskill and upskill can register. These five COVID modules are customer/consumer-centric, online purchase, venture capitals, innovation, and data-driven.

C-Customer/consumer-centric

As for the customer/consumer-centric module, the notions about customer insight, customer journey, and customer experience shall be included. Up to date, however, customer/consumer-centric goes beyond that. The novice perspective of behavioral design should be taken into consideration. Behavioral design is defined as 'a set of *techniques for persuasion*. It is not a technique of coercion. It is a technology of behavior, not a technology of force. To that extent, the techniques of behavioral design, and designer themselves, *must respect person's intrinsic rights to freedom of choice, autonomy, and dignity*' (Kong, 2018).

O-Online and digital behavior/technology, V-Venture capitals, and I-Innovation

In relation with and in response to customer/consumer-centric, online purchase/technology has to be taken into consideration by investing in venture capitals and innovation. Currently, a variety of the customers' unmet needs are widely and differently found. Due to the aftermath of the COVID-19 pandemic, the blue sky and shade, i.e., health and wealth is out there. All of the online technology, venture capitals, and innovation must be created and developed. The students should be equipped and trained with the innovation-related mindset that every single moment can be the opportunities and everything that is impossible can be possible. When the word 'innovation' is used and applied, such innovations

The examples of the unmet needs are as follows. In healthcare setting, both physical and psychological supports are of high importance for the people's safety and security reasons. An innovation should be invested and developed to provide good experiences and respond to the people's expectation. During the COVID-19 pandemic, the disabled people from Ohio insisted that their needs and expectations to get supports physically and psychologically have not yet fulfilled (Breaking Silences Advocacy Committee, Access Center for Independence Living, and The Ability Center of Greater Toledo, 2021). Especially for those who have experienced some mental disabilities and disorders, more innovations should be given (Knudsen, Skogen, Stene-Larsen, & Gustavson, Reneflot, 2022). Up to now, innovations for medication and vaccination for combating the COVID-19 pandemic are still in need for the people's physical and psychological survival (Anonymous, 2021).

Not only in the midst of the COVID-19 pandemic, but also in the other healthcare setting like cancer, the notion of independence is more likely to be respected. The recent study of Pyo, Ock, Lee, Kim, Cheon, Cho, et al. (2021) revealed about the patients in Korea who are suffering from cancer that these patients would like to be dependent. In other words, if the patients are always informed and able to access to the information to treat themselves, i.e., how to be strong, how to look after themselves, how to consult and meet the doctors and physicians, and the like, that would be great.

D-Data driven

Even being put at last, data-driven is not least important, most important strategy, instead. It can help direct and shape what the pain points, insights, experience, innovation, applications, and so forth the customers have and what the ideas the brands, starts up, and enterprises should spend. Basic understanding about research should be emphasised and should not be excluded from curriculum. Together with this, the students should be armed of how to make use of data and present such data in a creative way. Frequently, the students do not respect to data collection and interpretation, but come across with the various tactics that pop up in their minds. As a result of this, it can be of high time- and money-wasting.

5. Discussion and conclusion

The study entitled 'Future and trend in digital marketing communications in Thailand' targeted to predicting the future and trend in the digital marketing communications world in Thailand and recommending the directions for education institutes. This is because the educational institutes are responsible for teaching and grooming the students to be full of knowledge, capabilities, and experiences. Consequently, the students are able to work in the real lives. Through the researchers' anecdotal experiences, the study revealed the following future and trends in the world of digital marketing communications in Thailand.

Firstly, the people were more receptive to online, social, and digital communication channels and platforms. The two outstanding ways could be perceived. On the one hand, the people had more willingness to buy and purchase the products and/or services via electronic commerce and marketplaces. To get the people engaged and connected with the companies, on the other hand, social media had to be employed and managed strategically and properly. For encouraging the good customer experiences, secondly, it was suggested to spend money and energy for developing some marketing technologies. These should include artificial intelligence, chatbots, and internet of things. The third factor that should be encouraged is focusing on digital accuracy and correctness. For evaluating and measuring success and failure in the digital marketing communications campaigns, digital measurements should be developed and improved. The eventual variable was to protect the people's personal data. When doing some business transactions, the people had to share their personal data and identity online. Without managing the data well and enforcing some rules and regulations, the people's personal data was at risk.

From the trends that have been shifted and changed, the C-O-V-I-D framework shall be introduced for equipping and arming the potential students to have skills and competencies for responding to the ever-changing markets. We do not mean that these five main frameworks are enough, but they are the major, core skills and competencies that the educational institutes should predominantly head to. We have found the study of Kovács (2021) interesting in confirming of the framework we have suggested at a certain level and in helping elaborating the necessary sub-skills and –competencies. The researcher recommended the five main sets of the skills and competencies and that the details have been drawn and compared with the current suggested framework in this research as follows.

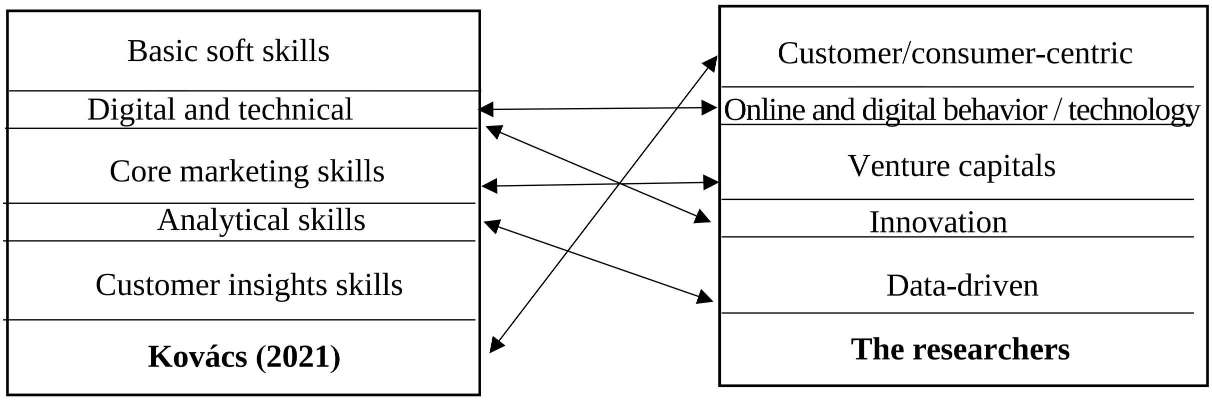

Figure 2 The skills and competencies suggested for the students, by comparing between the framework proposed by Kovács (2021) and the one addressed by the researchers
Source: Kovács (2021); The researchers

From Figure 2, since the current study developed by the researchers did not pay attention to the basic soft skills, the skills and competencies about digital marketing communications were targeted, instead. Unlike the study of Kovács (2021), the basic soft skills were, therefore, not reported. While the rest of the skills and competencies proposed by Kovács (2021) were found in the framework addressed by the researchers. As for the digital and technical skills in Kovács (2021), these skills can be consistent with the current research's online and digital behavior/ technology when the students should have knowledge, understanding, and experiences about advanced and modern integrated marketing communications strategies and tools. Likewise, the similarity could be found between the core marketing skills pinpointed by Kovács (2021) and venture capitals and innovation given by the researchers when sales and budget management and thinking out of the box are of high concern. However, Kovács (2021) provided a broader extent for the core marketing skills that covered more about management. In the case of innovation that was proposed in the current study, innovation is not only about creative thinking and thinking out of the box, it is based upon the data and the solutions were thought strategically.

The analytical skills by Kovács (2021) could go well with the idea of data-driven skills and competencies revealed in the current study, collecting and interpreting the data and turning it into something special and extraordinary. Last but not least, the customer insights skills by Kovács (2021) and customer/consumer-centric by the current research could be a good marriage because nowadays customers are the king.

This study was consistent to the study of Shankar, Grewal, Sunder, Fossen, Peters, and Agarwal (2021) that digital marketing communications were considered at a national level. The reflections from this study could respond to the global digital marketing communications. Future research should, therefore, pay more focus to the global level of digital marketing communications. Eventually, skills and competences in lifelong learning shall highly be examined.

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The Medium (Rang Song): Shamanism in Thailand and South Korea

by

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The Medium (Rang Song): Shamanism in Thailand and South Korea

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Abstract

The movie entitled *The Medium* or *Rang Song* in Thai word is of high popularity in Thailand and South Korea. The prestigious awards have been given to celebrate the quality and fame of this movie. It is not much surprised why the Thai people fall in love with the spiritual and religious-oriented film. In contrast, there should be some historical reasons that the South Korean movie lovers have been giving the supports to this genre. This question poses the questions to the researchers for studying and investigating the cultural comparison between the Thai and South Korean spiritual and religious practices, especially shamanism in Thailand and South Korea. The study, therefore, employed the documentary research as the research method. The series of the documents to be included were online articles, newspapers, blogs, websites, and the like. The four main dimensions of feminism, types of the shamans, purposes of shamanism, and shamanistic rituals were examined. The findings revealed both similarities and differences of shamanism in Thailand and South Korea. The similarities were predominantly found, but the differences were reported in the greater extents and details. The contribution of this study is to understand the cultural sensitivity and that more investments in film production narrating about spiritual and religious practices can be provided. The critical discussion is also given.

Keywords: Shamanism, Spirituality, Religion, Thailand, South Korea

1. Introduction

A film is a mixed combination of visualization, narratives, and sound for constructing meanings and understanding the environments surrounding the specific movie. It is normal for the film tellers and makers to apply a basic of spiritual and religious teachings and doctrines including the stories about 'love, hope, death, evil, violence, and peace' (Cloete, 2017, p. 1) Like Niemi (2003) affirmed that:

> 'Popular film has become a significant venue for meaning-making in modern society. Like religion, film provides models for understanding and behaving within the social world. Like religion, film reinforces this content through emotion resonance. Myths slip under a viewer's intellectual defenses in the non-threatening guise of entertainment. In a mainstream culture skeptical of religion, film presents an alternative mechanism for the transmission and processing of "religious" ideas and ideals.

According to the statement of Niemi (2003), a film is treated equally to a religion and a religion is also deemed equally as a film through a variety of rationales. First of all, both films and religions can give some conceptual frameworks informing and explaining the people in societies so that they can have correct knowledge and practices. Moreover, both films and religions employ and involve a sense of feeling in order to narrate the stories and teachings. Making the audiences entertained can be the main communication, especially for the movies. Unfortunately, once religions are likely to be undervalued and underestimated, the films can be regarded as a means of communicating and understanding such religious perspectives and dilemmas.

Supernatural is a religious idea that is of high interest. Its popularity is not limited to a primitive area only, but it is even enlarged to a big city and country like Canada when almost half of her populations respect to something that is too difficult to explain scientifically (Thompson, 2021).

This film *The Medium* or *Rang Song* was co-produced between Na Hong-Jin, a popular South Korean director and Banjong Pisanthanakun, a popular horror movie director from Thailand. This documentary film projected well about the Thai people's beliefs and values towards supernatural and shamanism, especially those who are living in the rural areas in the country. The synopsis was about a transfer of a shaman from one generation to another one.

The Thai director Banjong Pisanthanakun had given the interview with Song Seung-hyun (2021) from The Korea Herald which found interesting and that led to examine and investigate the answer from this current study. The script was originally written by Na Hong-Jin and later produced and localised by Banjong Pisanthanakun. The purposes of this movie were too different from the previous horror and thriller movies. On the one hand, this horror film presented emotional and affective engagements, i.e., to maintain its identity to frighten the people. But it was special since the gradual fears were created. On the other hand, the film would involve the people's cognition. That was to say, the intention of the South Korean director was to challenge the people's cognitive perspectives to revisit and reconsider the beliefs and values the people were respecting. As quoted directly by the Thai director, it was revealed that:

> '"Through the research process, I found out that Korean and Thai shamanism have a lot in common[1]. I could keep the main storyline of the original script and localized it to fit Thailand's situation"'.

This, therefore, brought us to study and examine the similarities and differences between these two nationalities towards shamanism because no matter what types of the countries, either underdeveloped, developing, and developed nations, the importance of shamanism is still prevalent.

It is important to state at this point that the authors intended to study and examine the similarities and differences between shamanism in Thailand and South Korea for the cultural understanding only. The authors did not mean to show any judgements and to persuade the readers to believe or not believe in shamanism. But the authors believe that such cultural values must be respected.

[1] The author has underlined this statement by ourselves because this statement underlined can be regarded as the main rationale to conduct this study.

2. Objective of the study

According to the points mentioned above, the research studied and examined how similar and different between shamanism in Thailand and that in South Korea.

3. Research methods

This qualitative study employed the documentary research as the main research method to understand the insights of the Thai and South Korean viewers towards the spiritual- and religious-oriented film like *Rang Song*, as the case study for this current study. Such documents included articles, blogs, websites, and so forth. As mentioned earlier, this study focused its analysis and scrutiny on the single case study of *Rang Song*. Even though a single case study design was lacking a comparative dimension, it provided a greater deal of analysis and scrutiny.

The documents that provided the details and data about shamanism were included. From these various documents, they were read and analyzed to develop the appropriate themes. However, the four themes including feminisms, types of the shamans, purposes of shamanism, and shamanistic rituals and practices were predominantly presented. Altogether with this, these topics appeared to be presented in the *Rang Song* film. The greater details of such four main themes were as follows.

- Feminisms: Shamanism was stereotyped as the role of women. Such stigma was presented and delivered from time to time.
- Types of the shamans: Numbers and characteristics of the shamans were presented.
- Purpose of shamanism: Reasons and rationales of respecting shamanistic rituals and practices were investigated.
- Shamanistic rituals and practices: Understanding about how to practice shamanistic rituals was fulfilled.

4. Findings

The results of the study were explained and categorised into the following sub-sections, including feminisms, types of the shamans, purposes of shamanism, and shamanistic rituals and practices. Table 1 summarised what were similar and dissimilar in shamanism between Thailand and South Korea.

Table 1 Similarities and differences of shamanism in Thailand and South Korea

Similarities	Differences
← Feminism →	
	Types of the shamans
← Purposes of shamanism →	
Shamanistic rituals and practices	

Feminism

Shamanism was a representation of women for both Thai and South Korean cultures. It was interesting to know the rationales behind such identity. Both of these two countries shared the same historical background why the shamans were the women, but from the different roots of origin.

In Thailand, Aa Sam (2021), referring to the interview with Assistant Professor Dr Kangvol Khatshima, a professor from the Faculty of Archaology, Silpakorn University. The professor explained that based upon the Stèle dite de Sdok Kok Thom whose age was about 1,800 years ago, had posited that women's inheritance belonged to her family's lineage. For the royal selections, the Brahman activities must be practiced. The Brahman family of Sivakraiwan was chosen and the family members could not have any children. In this case, only the older and younger sisters' children could be included. Those of the older and younger brothers were excluded, though. Although Thailand had mainly been receiving a variety of cultural and traditional beliefs from India where gave the high respect to men, such cultural and traditional norms and values were localised in Thailand. Altogether with this, feminism in shamanism could be reasoned by a marriage between a very important person from India and a local lady whose family background was related to the royal family in that time. Therefore, the preference was given to those who were from the local area. Since men did not always live and stay home, i.e., for joining the wars leading them to death, preferences to women could be ascertain (in Aa Sam, 2021).

Khamyod (2013), additionally, referred to the social construction given to the Thai women. Especially in the Lan Na culture, women were a more effective and better courier for communicating and contacting with the spirits than the men opponents. This circumstance could be understood that the men contained the stronger physical and psychological powers resulting from the males' ordains than their female counterparts.

As stated earlier, a representation of women as the shamans were derived from the religious-based rationale, found in both Thailand and South Korea, nonetheless, in South Korea, the religious respect was found different and that provided and framed the dissimilar doctrines. Oh (2016) clearly demonstrated that, in South Korea, the people were valuing Confucian-patriarchy during the realm of Joseon dynasty (1392-1897). Gender segregation could be regarded as the main and core concept of Confucian-patriarchy. That was to say, men were highly appreciated, but such admiration did not extend to women. Hence, the women had to seek for their own spiritual and religious identity. Shamanism and shamanistic-related activities could be a good choice for the group of women, but such shamanistic rituals and beliefs were not as prestigious and dignified as Confucian-patriarchy and suitable for those whose were the inferior and women.

In summary, while the Thai shamanism was reasoned by the deep historical root of lineage, the shamanism in South Korea was an alternative that women did not want to choose, but they were forced to do as such.

Types of the shamans

The following figure exhibited the difference in types of the shamans in Thailand and South Korea.

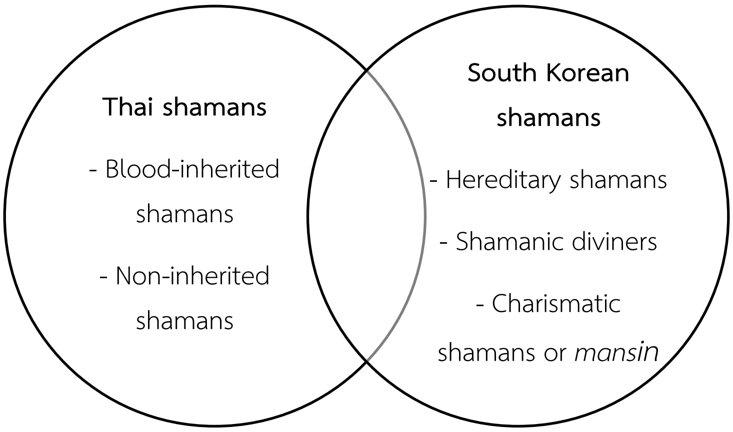

Figure 1 Types of the shamans in Thailand and South Korea
Source: Aa Sam (2021) for the Thai shamans; Baker (2010) for the South Korean shamans

Comparatively, in Thailand, there was only two types of the shamans whereas the three types of shamans had been disclosed in South Korea. According to the interview with Assistant Professor Dr Kangvol Khatshima, a professor from the Faculty of Archaology, Silpakorn University, once again, the two types, i.e., the blood-inherited shamans and the non-inherited counterparts were presented. While the formers were transferred from one generation to the others, the latters were the opposite, i.e., there should be any spirits invited to take over the shamans (in Aa Sam, 2021).

Assistant Professor Dr.Pim De Jong, a professor from the Prince of Songkla University elaborated the three stages of becoming a Thai shaman. In the first phrase, turning into a shaman was triggered by a pain point he/she had experienced. His/her decision-making was supported and encouraged by their family members and beloved ones who were the shamans. Such pain points could be resulted from 1) illness, 2) family heritages, and 3) controls taken by the guardians and spirits. In the second stage, after the people had decided to be a shaman. He/she had to involve in the shamanistic rituals and activities in order to check if he/she would be a medium for which guardians and spirits. In this stage, these new shamans' confidence had continuously been improved and developed. Together with this, being a perfect and identical shaman, they would be supervised and cultivated by the other shamans. In the third phrase, eventually, such shamans must have the ability to maintain their shamanism through responding to their clients' needs. If the shamans could continue keeping the good relationships with their clients, prides and optimism towards themselves could be perceived (in Chaisaard, 2018).

In South Korea, Baker (2010) had clarified that although the first two types of hereditary shamans and shamanic diviners were not as acceptable as the last type of the shamans, i.e., charismatic shamans or *mansin*, the first two types were addressed. The characteristics of these three South Korean shamans were dissimilar. While the first two shamans, i.e., hereditary shamans and shamanic diviners prohibited the spirits to take over and control their bodies, the final charismatic counterparts allowed the spirits to possess the shamans' bodies and that the people could have direct interactions and conversations with the ones who took over the shamans' bodies.

As mentioned earlier, the first two types of the shamans shared the similarity in refusing the spirits to possess their bodies, the dissimilarity could also be noticed. The hereditary shamans were implementing some ritual practices that could impact on the spirits' manners. In contrast, the shamanic diviners were just communicating and conveying the messages, on behalf of the spirits.

In the sight of ChaČatrjan (2015), additionally, the charismatic shamans could be called as the spirit- possessed shamans and their characteristics were the same as mentioned previously. So did the hereditary shamans. There would be another type of the shamans mentioned here, namely the apprentice shamans. This type of the shamans was unlikely to be the completed and perfect shamans. They targeted to learning and understanding living aesthetics. In this case, they are named as 'suspect or imitation Shamans' (p.65).

By comparing between the types of the shamans in these two countries, in summary, the factors used for determining the classification of the shamans were resulted from the different perspectives. While family lineage and inheritance were taken into account in the sight of Thailand, the shamanistic practices were likely to be considered for the South Korean shamans.

Purposes of shamanism

While having the similarity in the purposes of shamanism, the dissimilarities were discovered at a certain level, especially when looking back at the original purpose of shamanism in Thailand. By referring to the notion of Dr.Sinchai Chaojaroenrat, a theologian pointed out that, the original purpose of shamanism was to be a medium for communicating between the people who were living nowadays and their ancestors who had already passed away. Nonetheless, the influences of Brahmanism and Hindu and the today's challenges that could not be solved technologically, shamanism was taken for granted to solve the problems about the natures (in Chaisaard, 2018). In other words, in Thailand, shamanism could be regarded as 'the problem solvers' and 'helpers'.

Apart from the natural issues, the shamans were asked for their helps for treatment the people who got ill. Although modern treatments had continuously been developed, its power was still limited and threatened by shamanism for their spiritual supports (Kitiasa, 2001; Siripaprapakorn, 2014). Siripaprapakorn (2014) further stated that the patients' psychological and mindful states were a core essence for treatment, for example, forgiveness was asked from the ancestors.

In consideration of the purposes of shamanism in South Korea, the roles of the problem solvers and helpers were outstandingly discovered. As Kim Dong-kyu, a professor on religion from Sogang University at Seoul clarified that shamanism in South Korea was used to tell what happened with the people's lives through the natural and supernatural rationales. Professor Kim Dong-kyu also elucidated that the people's sufferings could be reasoned by something that was supernatural and by their own fates (in Kuhn, 2021).

ChaČatrjan (2015) emphasised the role as the treatment helpers, i.e., the South Korean people gave a high respect to shamanism because it could assist them from their physical illness. Further to this, the role of the ghost and evil expellers are also assigned to the shamans. As ChaČatrjan (2015) elaborated, none of the people would like to have bad lucks, good lucks, instead. Such bad lucks, for example, illness, nonetheless, could be made by the evils. In order to get free from such evils and earn some best wishes, the shamans could be the best choice for the South Korean populations. Altogether with this, the shamans in this country could be perceived as the purifiers. Repeatedly, ChaČatrjan (2015) articulated that after someone was dead and passed away, the shamans were responsible for making such dead bodies comfortable and clean for preparing to bring them to the world that is not the present world and for being certain that they would not making the today's world in troubles.

Shamanistic rituals and practices

As for the shamanistic rituals and practices, there would be more odds for the Thai and South Korean shamanism to practice and implement such shamanistic rituals similarly. By considering the explanations made by Rattanamanee and Putthayod (2012) and Siripaprapakorn, (2014) for Thailand and ChaČatrjan (2015) for South Korea. Praying for inviting the guardians and spirits to communicating through the shamans and to taking control over the shamans were generally practiced and implemented. How the shamans prayed and recited was defined by the religions the populations in Thailand and South Korean were valuing, i.e., mainly Buddhism and Confucianism.

Especially in Thailand, such prayers could be diverse, varying from one purposeful event to another one. The majority of the prayers were to give the worship and respect to the triple Gem, i.e., Buddha Gem, Dhamma Gem, and Sangha Gem, the prayers of inviting the Devas, and the like (Siripaprapakorn, 2014). At the same time, some localised prayers were applied (Rattanamanee & Putthayod, 2012).

In South Korea, clarified by ChaČatrjan (2015), specifically, the places for shamanism was cleaned up. After that a variety of Gods whose responsibilities were different were invited for gatherings and praying, i.e., giving the blessings and expelling the evils.

5. Discussion

The study entitled *The Medium (Rang Song)*: Shamanism in Thailand and South Korea aimed at examining and studying the similarities and differences in shamanism between the two Asian countries where the collaboration in making and producing this film was established. The documents collected were reviewed and categorised into the four themes, including feminisms – gender-typed shamans, types of the shamans – different meanings and roles of shamans, purposes of shamanism – reasons of shamans were still prevalent, and shamanistic rituals and practices – details of how to practice and implement shamanism. This was because these themes were mainly presented and found in the various documents compiled. The findings revealed both convergences and divergences in shamanism in these two Asian nations. They both shared some common characteristics that shamanism was a duty of feminism, several types of the shamans were found, the roles of the problem solvers and helpers as well as the ghost and spirit expellers were presented, and the same process of shamanistic rituals were implemented. The differences could be disclosed in the greater extent. These mainly included, the original rationales for women to dominate the shamans; the variables to cascade the types of the shamans were various, i.e., lineage and family inheritance for Thailand and shamanistic practices for South Korea; and the prayers basing upon the religions the Thai and South Korean people were holding and respecting. A good marriage between the findings of this study and the details presented in the *Rang Song* film was rather confirmed. The movie truly reflected what and how the shamans were practicing, as presented in this study. That was to say, women were assigned to be the shamans and this duty and belief was transferred from one generation to another. The blood-inherited shamans and charismatic shamans or *mansin* were, furthermore, likely to be presented in the film. Moreover, the people visited and consulted the shamans for letting them free from the bad experiences they were encountering. Eventually, the spirits and guardians were invited to take the shamans' bodies and the shamans would be communicating with the people, on behalf of the spirits and guardians.

In accordance with these, this study made the people clear and understood about shamanism in Thailand and South Korea. This also evidenced and proved a coincidence in shamanism in Thailand and South Korea, as being informed by the Thai director, Banjong Pisanthanakun. Consequently, not only geographical reason, but also the socio-cultural rationales could be provided.

According to Hofstede Insights (n.d.) comparing the cultural dimensions between Thailand and South Korea, it was revealed as the following figure.

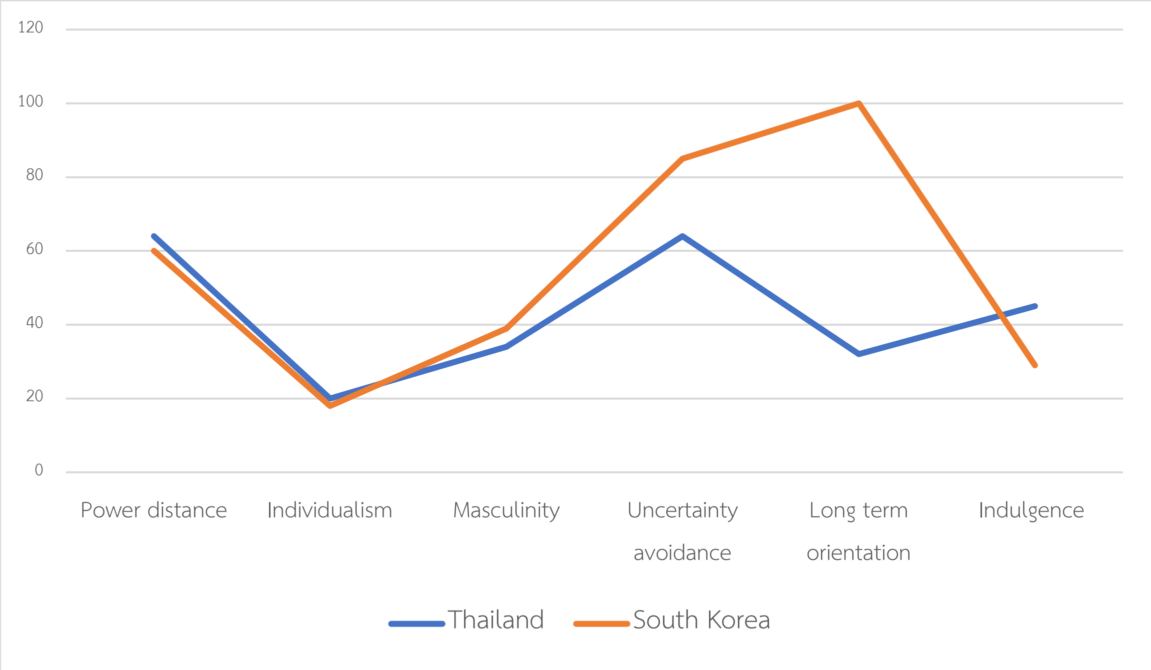

Figure 2 Comparisons of cultural dimensions between Thailand and South Korea
Source: Hofstede Insights (n.d.)

Following the comparative study between Thailand and South Korea, presented by Hofstede Insights (n.d.), both of these two Asian countries were rather similar, especially in the dimensions of a higher degree of power distance, collectivistic and feminine societies, and possibly a higher level of tolerance to something that was unstable and restricted cultures. The main difference was found in long-term orientation.

The authors had to accept the fact that the previous studies showing the clear cultural similarities in the context of spirituality and religion was limited, apart from such Hofstede's cultural dimensions, it was necessary to apply such cultural comparisons from the workplace context. Even being studied about 20 years ago, the study of Suwannapirom (2002) could give the initial understanding of why Thailand and South Korea were not different in a certain level. Both of the Thai and South Korean cultures mainly necessitated the relationship-building between the managers and their sub-ordinates and employees' engagement. From this study, being collectivistic and feminine could obviously influence on interdependence and relationship between the people and their likely-to-be in groups, especially shamans as the first priority when they were experiencing both of supernatural, non- scientific and non-supernatural, scientific issues.

More outstandingly, this study was likely to pose a question if the shamans could be men. From the past to present, in both Thailand and South Korea, this study highlighted the stigmatisation and stereotype of women as the shamans, no matter what types of the shamanism. The finding of this study was against the modern feminism notion initiated by Betty Friedan that, in the contemporary, civilised world, sexual equality was strengthened while gender discrimination was minimised through their education. This situation could be found in the several issues, including family planning (in Yenor, 2018). We, however, had to argue at some point that this notion appeared to happen in the Western parts of the world and that might not be accepted by the people in some countries, especially those who were living in the remote areas (Gowrisankar & Ajit, 2016). At the same time, it could not indicate that all women in the world were well educated, empowering them to have the greater opportunities in their lives and careers. In some parts of the world, unfortunately, the traditional roles and responsibilities were taken for granted.

The contributions of this study are to be given to the film makers for presenting and reflecting the Thai spiritual and religious practices as the main contents and stories to be understood and accepted locally, nationally, and internationally. The film makers and the governments should not undervalue and underestimate this spiritual and religious pearl and diamond that are rooted in the Thai people's lives for a long time.

Since this study limits its scope of the study to examine and investigate only a single case study, a multiple case studies shall be taken for granted in the future researches. Not only shamanism, the other spiritual and religious perspectives and practices shall be included, based upon the objectives of the studies and the multiple case studies employed. In the future, moreover, a comparative study between the present and the future orientations of shamanism shall be highlighted. Finally, the qualitative research methods, like interviews can be added at a certain level for understanding more insightful and profoundly data and information about current shamanism.

6. Conclusion

From time to time, shamanism is still prevalent in Thailand and South Korea. If the people do not believe in shamanism, do not disrespect it. A movie is a medium to present the meaning-making that the film makers would like to communicate with their audiences and to project and reflect the actual, real world the people have been encountering. The shamans are also a medium to bridge the past and the present world together. Both films and shamanism, in summary, can be regarded as the mediums for commonly achieving and accomplishing the desired goals. In the broad sense, in both Thai and South Korean cultures, women are stigmatized as the shamans. Shamanism can help the Thai and South Korean people free from the physical and psychological sufferings. The types of the shamans and the shamanistic rituals and practices, however, are found different in the greater extents.

While South Korea have practiced and used a great deal of soft power, through the contemporary films like *The Medium or Rang Song*, this spiritual and religious practices presented in Thailand shall be grabbed to promote soft power for the purpose of the global creative economy. Undeniably, Thailand is a prestigious and outstanding country, i.e., being rich of cultures, traditions, rituals, political histories, and tourist attractions that can globally be presented and globalised through film production (Trisatikul, 2021).

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Comparison of Chemical Profiles and Bioactivities Between Fresh and Black Garlic Extracts

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Comparison of Chemical Profiles and Bioactivities Between Fresh and Black Garlic Extracts

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Abstract

Black garlic (BG) is a current popular health-promoting product, manufactured from garlic under controlled conditions since bioactive compounds are increased 5-7 times more than fresh garlic. These conditions enhance anti-oxidation, anti-inflammation, and balancing serum glucose levels. Recently, BG is mainly produced from Chinese solo garlic and Chinese multi clove garlic, while Thai multi clove garlic have never seen in the market. This study aimed to prepare the BG from Thai multi clove garlic, examine for BG properties, bioactivities, and chemical profiles comparison with black Chinese solo garlic, black Chinese multi clove garlic, and with their fresh garlic counterparts. All BG and fresh garlic were prepared under company's protocols, extracted with six solvents, anti-DPPH radical capacity, and chemical profiles under LC-MS/MS and GC-MS method were performed. Thai multi clove BG showed typical BG-appearances like Chinese solo- and multi clove-BG. Dichloromethane extracts of all three BG expressed greater antioxidant power than the fresh counterpart. Moreover, Chinese solo BG and Thai cloves BG provided the strongest antioxidation power against DPPH radical at IC50 of 0.6±0.03 and 0.63±0.04 mg/ml respectively. The chemical profiles of these two extracts contained similar patterns with high amount of alliin (0.20, 0.24 mg/g), allicin (0.05, 0.07 mg/g), gallic acid (0.05, 0.07mg/g), S-allyl-L-cysteine (SAC) (0.04, 0.05mg/g), and quercetin (0.05, 0.08mg/g), respectively. These results revealed that the Thai garlic cloves can be employed to manufacture for the decent BG since it contained the bioactivities and chemical profiles equal to or greater effectiveness than Chinese solo BG. This may provide the accelerated evidence for the company to launch a novel BG product from Thai garlic cloves.

Keywords: Aged garlic, Nopphada Product, Phytochemicals, Thai multi clove garlic

1. Introduction

Black garlic (BG) or aged garlic is a processed garlic products that has received considerable attention in recent years. BG is obtained from the transformation of fresh garlic by

Maillard reaction under a controlled temperature (60–90 °C), humidity (60–80%), and airflow, for specific time durations (21–72 d) (Lei et al., 2012; Yuan et al., 2018). Thus, the black color of garlic occurs from the Maillard reaction, a non-enzymatic browning reaction between reducing sugar with the amino group in the free amino acid molecule in garlic. In addition, when garlic is processed by heat, fructan, a polysaccharide in garlic, will decomposes into single sugar molecules such as glucose and fructose, giving black garlic a sweet taste (Kimura et al., 2017). These processes change the appearance and nutritional content, reduce the odors, enhance the sweetness and has stronger antioxidative properties than fresh garlic (Zhang et al., 2016). When comparison of black garlic with fresh garlic, BG does not release a strong off-flavor due to the reduced content of allicin, which was converted into antioxidant compounds such as bioactive alkaloids and flavonoid compounds during the aging process (Yuan et al., 2016).

The bioactive compounds in black garlic may have potential for health promotion and treatment of various diseases. Moreover, anti-oxidation (Jeong et al., 2016), anti-inflammation (You et al., 2019), anti-obesity (Wu et al., 2020), anti-cancer (Dong et al., 2014), anti-allergy (Yoo et Al., 2014), cardiovascular prevention (Zhang et al., 2019), and neurodegenerative protection (Song et al., 2020) were observed from black garlic. The amount of bioactive compounds in black garlic depends on the manufacturing process conditions, such as temperature, humidity, and fermentation duration (Zhang et al., 2016) as well as the varieties of garlic (Kimura et al., 2017). S-allyl-L-cystein (SAC) is a major sulfur-containing compound found in black garlic, about 5-10 times compared to fresh garlic (Bae et al., 2012). In addition, SAC is the most important sulfur-containing compound in terms of pharmacological activities such as anti-hepatopathic, neurotrophic, anti-carcinogenic and antioxidant activities (Park et al., 2017). An *in vivo* pharmacokinetic study after the oral administration of black garlic extract to rats demonstrated that SAC and its metabolites were found in plasma from rats (Park et al., 2017). Figure 1 summarizes the current findings of bioactivity of BG.

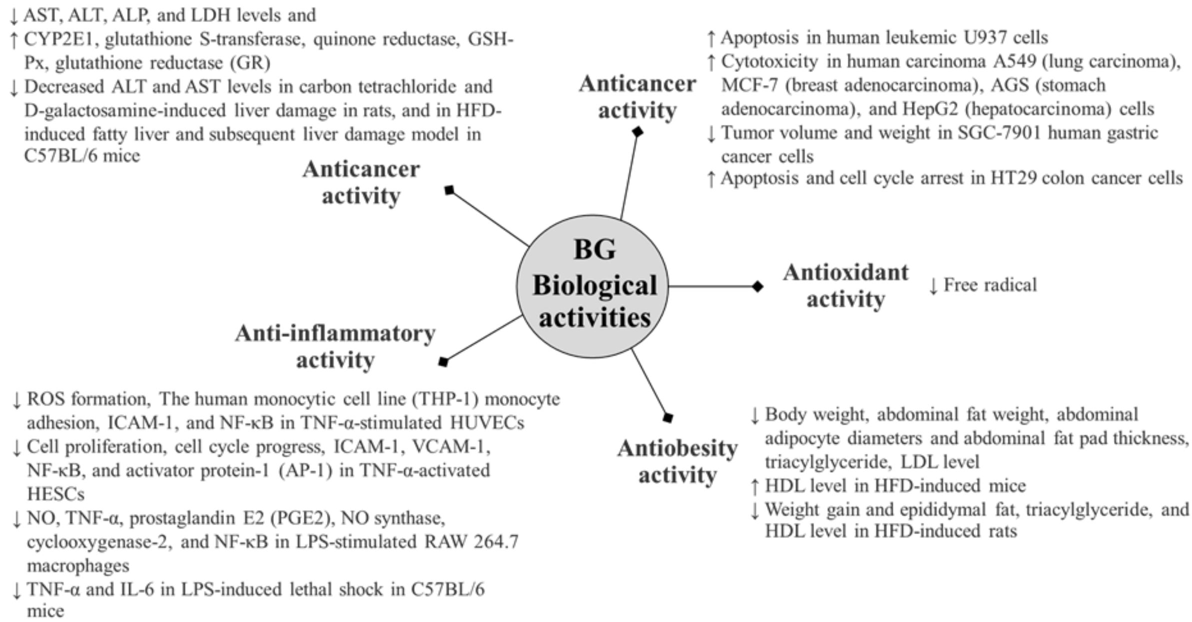

Figure 1: Biological activities of black garlic (Modified from Kimura et al., 2017)

Recently, commercial BG is mainly produced from Chinese single clove or solo garlic, and few produced from Chinese multi clove garlic, while Thai multi clove garlic have never seen in the market. This study aimed to produce the BG from Thai multi clove garlic, examine for BG properties, bioactivities, and chemical profiles, in comparison with Chinese solo and multi clove BG, and with their fresh garlic counterparts.

2. Materials and Methodology

2.1. Preparation of fresh and black garlic samples

Fresh Chinese solo garlic, Chinese multi clove garlic, and Thai multi clove garlic were obtained from Nopphada Product Co., Ltd., Lamphun province, Thailand during August-September 2021 (Figure 2). The BG product were manufactured from individual fresh garlic under company protocols. The physicochemical characteristics of BG were examined including the appearances, total soluble solid (TSS, ° Brix), pH, water activity (Aw), and % moisture content. All three BG samples and their fresh sample counterpart were then subjected for extract preparation.

Figure 2: Three categories of the fresh garlic samples A: Chinese solo garlic, B: Chinese multi clove garlic, and C: Thai multi clove garlic.

2.2. Extraction of garlic samples

Garlic without husk were ground and extracted by using maceration technique with six different polarities gradient solvent; hexane, dichloromethane, ethyl acetate, ethanol, methanol, and distilled water with the ratio of 1:3 (w/v); these were then incubated on the 160 rpm shaker at room temperature for 24 hours, followed by vacuum filtration. The filtrates were subjected to concentrate by using rotary evaporator, finally dried with lyophilization, and yield was calculated. The extracts are prepared for their bioactivity measurements and chemical profile analysis.

2.3. Determination of antioxidant activity using DPPH assay

The antioxidant capacity was evaluated in triplicate experiments using DPPH assays, according to the protocol described by Yamasaki et al. (1994). Each garlic extracts were re-dissolved in DMSO to adjusted the concentration between 1.95 – 64,000 ug/ml, and the fresh 0.625 mM of radical DPPH was prepared in methanol, the absorbance of the experiments were measured under 515 nm. Trolox was used as a standard and the results were expressed as a scavenging percentage.

2.4. Analysis of chemical profiles

Liquid Chromatography Mass Spectrometry (LC-MS/MS) analysis

LC–MS/MS analysis was carried out at the Agricultural Technology Services Center, Faculty of Agriculture, Chiang Mai University. The analytical method used in this study was modified from Yilmaz (2020). Reference phytochemical standards were included alliin, allicin, SAC, quercetin, and gallic acid (250 µg/ml). The LC–MS/MS system consists of a combination of UHPLC (Shimadzu Nexera model) device and LCMS (Shimadzu 8040 model triple quadrupole mass spectrometer) device. The liquid chromatography system consists of the LC-30 AD model gradient pump, the DGU-20A3R model degasser, the CTO-10ASvp model column oven and the SIL-30AC model autosampler. The three selected dichloromethane garlic extracts were mixed with 0.1% acetic acid in acetonitrile (1:1) at final concentration of 500 µg/ml, filtered through a 0.22 µm nylon membrane prior injection.

Gas chromatography-mass spectrometry (GC – MS) analysis

All samples were analyzed by GC-MS at Northern Science Park, Chiang Mai Province, Thailand and using a Varian Saturn 2000 GC-MS system composed by a Star GC 3400 CX gas chromatograph connected to an ion-trap mass detector. The GC apparatus was equipped with a 1078 split/splitless injector with a SPME liner inside. All injections were performed in a split mode with a 50:1 split ratio. A Varian FactorFour™ VF5-ms capillary column (30 m × 0.25 mm × 0.25 µm film thickness) was used and the carrier gas was Helium IP supplied at a flow rate of 1.0 mL/min. The injector temperature was 250 °C. The column oven temperature program were: initial temperature 40 °C for 5 min, then raised at 5.0 °C/min to 150 °C and held for 1 min, and finally increased to 250 °C at a rate of 10 °C/min and held for 7 min. Retention indices of the extracted compounds were determined based on the observed retention times of aliphatic hydrocarbons (C7–C24). These data were collected by HS-SPME/GC-MS analysis of the Retention Index Standard after dilution with a water-ethanol mixture, under application of the same temperature program used in the garlic analysis. The identification of the garlic phytochemical profiles, mostly organosulfur compounds, took place by combining two different aspects: the matching degree in the NIST14 library, and the comparison between the experimental retention indices (RIs) and the RIs reported in the literature.

3. Results

3.1. Physicochemical properties of the black garlic

The physicochemical properties of all BG were changed from the fresh garlic. Thai multi clove BG showed typical BG-appearances like Chinese solo BG and Chinese multi clove BG. After an extended period of time for the BG production process, the dark brown color of fresh garlic was turned to black color at a high temperature under high humidity. The process that turned garlic cloves to dark color provided their sweet taste, and altered their appearance to chewy and jelly-like (Figure 3). When comparison with fresh garlic, BG did not release a strong off-flavor due to the reduction of allicin content. Moreover, antioxidant compounds such as bioactive alkaloids and flavonoid compounds were obtained during the fermentation process (Yuan et al., 2016). The total soluble solid (TSS, ° Brix) were increased, whereas pH, water activity (Aw), and % moisture content were reduced (Table 1).

A B C

Figure 3: Black garlic appearances A: Chinese solo BG, B: Chinese multi clove BG, and C: Thai multi clove BG.

Table 1: Total soluble solid (TSS), pH, Aw, and moisture content of the black garlic compared with the fresh garlic.

Properties	Chinese solo garlic		Chinese multi clove garlic		Thai multi clove garlic	
	Fresh	BG	Fresh	BG	Fresh	BG
TSS (°Brix)	13.57 ± 0.15^{b}	58.17 ± 0.21^{f}	17.53 ± 0.12^{c}	40.80 ± 0.10^{d}	9.60 ± 0.10^{a}	51.23 ± 0.15^{e}
pH	5.85 ± 0.05^{B}	4.12 ± 0.02^{A}	5.80 ± 0.02^{B}	4.13 ± 0.02^{A}	6.39 ± 0.53^{B}	4.01 ± 0.01^{A}
Aw	0.90 ± 0.02^{34}	0.79 ± 0.01^{1}	0.93 ± 0.02^{4}	0.87 ± 0.02^{23}	0.95 ± 0.02^{4}	0.82 ± 0.02^{12}
Moisture content (%)	59.36 ± 0.68$^{\text{ค}}$	38.20 ± 0.46$^{\text{ก}}$	64.85 ± 0.16$^{\text{ง}}$	61.20 ± 1.16$^{\text{ค}}$	64.29 ± 0.66$^{\text{ง}}$	46.32 ± 0.56$^{\text{ข}}$

3.2. Extraction

Percent yield of the garlic extracts using ethanol, methanol, and distilled water had a higher %yield than extraction by hexane, dichloromethane, and ethyl acetate due to the different chemical compositions of the garlic samples (Table 2).

Table 2: Percentage yield of the garlic extracts when using 6 different polarities gradient solvent.

	Solvent	Chinese solo garlic		Chinese multi clove garlic		Thai multi clove garlic	
		Fresh	BG	Fresh	BG	Fresh	BG
% Yield	Hexane	0.3731	0.0266	0.4100	0.0173	0.4987	0.0137
	Dichloromethane	0.3749	0.1619	0.2255	0.2264	0.3637	0.2061
	Ethyl acetate	0.4771	1.8490	2.4973	0.6330	0.6996	0.7623
	Ethanol	7.4430	53.3634	9.1667	33.3782	8.0921	46.0632
	Methanol	10.2797	46.4778	13.2732	33.6179	7.5112	42.8418
	Distilled water	32.8004	61.7917	26.9582	35.4442	31.2266	53.2197

3.3. Antioxidant activity of the garlic extracts

Results of DPPH radical scavenging activity showed greater power in all three BG extracts than the fresh garlic, and the greatest capacities were found in BG dichloromethane extracts. Of this, Chinese solo BG and Thai multi clove BG provided the strongest antioxidation power against DPPH radical at IC50 of 0.6±0.03 and 0.63±0.04 mg/ml respectively (Figure 4).

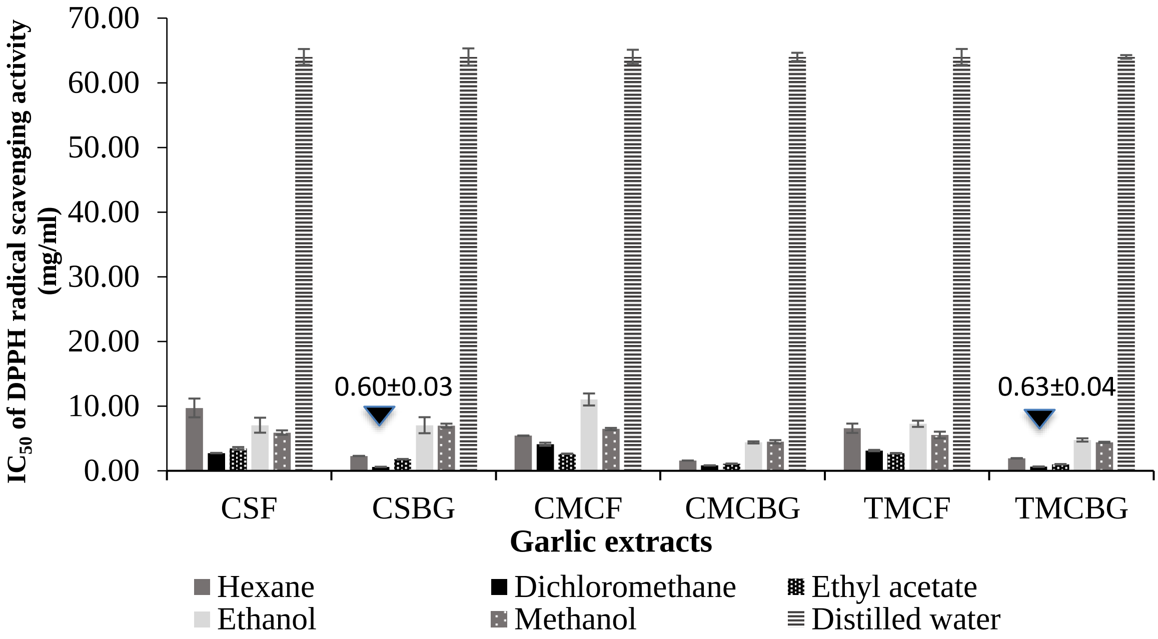

Figure 4: 50% Inhibitory concentration (IC_{50}) of garlic extract against DPPH radical. CSF: Chinese solo fresh garlic, CSBG: Chinese solo black garlic, CMCF: Chinese multi clove fresh garlic, CMCBG: Chinese multi clove black garlic, TMCF: Thai multi clove fresh garlic, TMCBG: Thai multi clove black garlic.

3.4. Chemical profiles

The phytochemical profiles of the six dichloromethane extracts were established by LC-MS/MS and CG-MS comparison with the reference phytochemical standards; Alliin, allicin, SAC, quercetin, and gallic acid. The result found that all standard substances were found in all black garlic extracts, while only alliin, allicin, quercetin and gallic acid were found in fresh garlic extracts. Chinese solo black garlic and Thai multi clove black garlic provided the highest amount of all detected substances (Table 3).

Table 3: Phytochemical substances in dichloromethane extracts of fresh and black garlic analyzes by LC-MS/MS and GC-MS.

Phytochemicals	Phytochemical amount (mg/g)					
	Chinese solo garlic		Chinese multi clove garlic		Thai multi clove garlic	
	Fresh	BG	Fresh	BG	Fresh	BG
Alliin	0.18	0.20	0.15	0.13	0.22	0.24
Allicin	0.05	0.05	0.09	0.06	0.22	0.07
SAC	ND	0.05	ND	0.08	ND	0.07
Quercetin	0.05	0.04	0.03	0.06	0.05	0.05
Gallic acid	0.03	0.05	0.03	0.03	0.02	0.08

ND: Not determined

4. Discussion and Conclusion

4.1. Physicochemical properties of the black garlic

The Maillard reaction is resulted from a chemical reaction between reducing sugar with the amino group in the free amino acid molecule in garlic. It occurs during the curing of garlic, which is a brown substance. In addition, when garlic is processed by heat, a polysaccharide, fructan in garlic is decomposed into single sugar molecules such as glucose and fructose, giving sweet taste of black garlic (Kimura et al., 2016). This process influenced the higher amount of total soluble solid (TSS, ° Brix) in BG than the fresh counterpart. The pH value was decreased due to the fermentation process during the long period of time for BG aging. The reduction of water activity and moisture content was caused by heating step during the fermentation process. The changes of physicochemical properties are the main reasons for enhancement of bioactivity of BG compared with fresh garlic. Besides daily consumption, several studies have reported that BG extract demonstrates several functions, such as antioxidation, antiallergic, antidiabetics, anti-inflammation, and anticarcinogenic effects (Ha et al., 2015; Jeong et al., 2016; Kim et al., 2014; Park et al., 2014; Yoo et al., 2014)

4.2. Extraction

In this study, the polar solvents were ethanol, methanol, and distilled water, and the non-polar solvents included hexane, dichloromethane, and ethyl acetate. In the extraction of six garlic samples containing the constituents obtained from the polar group of solvent. The yields of garlic extracts using the polar solvent were also higher than the yields of extract that obtained from the non-polar solvent. Thus, black garlic group contained more monosaccharides than the fresh garlic group that resulted in higher yields from polar solvents (Kimura et al., 2017).

4.3. Antioxidant activity of the garlic extracts

The antioxidant activity of garlic is affected by the ways in which it is processed (Queiroz et al., 2009). Alliin is an unstable compound in fresh garlic, which is converted into a stable compound, SAC, during the aging process and exhibits antioxidant activity (Lee et al., 2009). Fresh garlic undergoes 40 days of fermentation at 60–70°C and 85–95% relative humidity to produce BG. The BG extract had more than 10-fold increase in superoxide dismutase-like activity and scavenging activity against hydrogen peroxide when compared with garlic extract *in vitro* (Sato et al., 2006). Kim et al., (2012) showed that the formulation containing 10% of BG extract had higher radical scavenging activity than the formulation containing 10% (v/v) of garlic extract by 1,1-diphenyl-2-picrylhydrazyl (DPPH) and 2,2-azino-bis-(3-ethylbenzothiazoline-6-sulfonic acid) assays *in vitro*. The changes of physicochemical properties are the main reasons for enhanced bioactivity of BG compared with fresh garlic. Besides daily consumption, several studies have reported that BG extract demonstrates several functions, such as antioxidation, antiallergic, anti-diabetic, anti-inflammation, and anticarcinogenic effects (Jeong et al., 2016). The contents of chemical compounds of BG depend on the conditions during thermal processing. Some researchers have reported that many valuable components within BG against diseases increased during its aging process, especially polyphenol, flavonoids, and some intermediates of Maillard reaction have been known as antioxidant agents. Furthermore, the antioxidant activity of garlic varies across regions. Nevertheless, BG demonstrates significantly much higher biological activity, such as antioxidant properties, than fresh garlic (Vokk et al., 2014).

4.4. Chemical profiles

During the thermal process of BG, some chemical compounds from fresh garlic are converted into Amadori/Heyns compounds, which are key intermediate compounds of Maillard reaction (Yuan et al., 2016). Allicin and other thiosulfates are immediately decomposed to other compounds such as diallyl sulfide, diallyl disulfide, and diallyl trisulfide, dithiins, and ajoene. At the same time, γ-glutamylcysteines are converted to SAC through its catabolism pathway other than the alliin–allicin pathway (Corzo-Martinez et al., 2007). SAC contributes to health benefits of garlic, such as its antidiabetic, antioxidant, and anti-inflammatory activities (Colin et al., 2015). The chemical compounds of BG are complicated, and the quality of its products depends on the manufacturing process. Nevertheless, BG contains many more functional compounds, such as SAC, than fresh garlic (Kimura et al., 2017).

In conclusion, Chinese solo BG is an innovative garlic product with an odorless and tasty characters, which contains higher health-promoting bioactivities than the fresh garlic and is produced by fermenting whole raw garlic in controlled conditions. This study revealed that the Thai multi clove garlic can be employed to manufacture for the decent BG since it contained the bioactivities and chemical profiles equal to or of greater effectiveness than Chinese solo BG. This may provide the accelerated evidence for the company to launch a novel BG product from Thai multi clove garlic.

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Application Development of DNA Sequence Repeats Detection

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Application Development of DNA Sequence Repeats Detection

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Abstract

One of the major concerns in bioinformatics research is finding pattern repeats in genetic sequences. It has been beneficial in genome annotation. The repetition of the sequences can be evaluated to identify the diseases or the locations of genes. The pattern discovery provides hidden information which is useful for the further exploration of the human genome. This study is the application of our searching algorithm to find the repeats, including the overlapped repeats, in the genome sequence. Our algorithm focuses on the exact pattern searching when the sequence is given but the pattern is not provided. We study the Longest Previous Factor table computation of the sequence from its suffix tray data structure. This proposed algorithm requires O(n) time and space. This application is developed as a web application based on our linear time searching algorithm.

Keywords: pattern searching, repeat detection, DNA sequence, application development, searching algorithm

1. Introduction

Finding the repetitions or the pattern repeats in a string (text) greatly impacts our lives. Nowadays, pattern matching or pattern searching applications can be easily found in the online search engine or any search operation of online shopping. However, there are many more advantages such as counting the number of occurrences of a word in the text, finding the position of the repeats for genome annotation at the nucleotide level that attempts to identify the physical location of DNA sequences in order to determine the placement of components such as genes, RNAs, and repetitive motifs (Abril & Castellano, 2019), searching for microsatellites in DNA sequence, identifying the diseases or the locations of genes, etc.

Our study explores the pattern repeats in DNA sequences which the entire set of information stored in an organism's DNA being referred to as its genome. There are different pattern repeats types in DNA sequences as tandem repeats, palindrome repeats, and the cluster-clumps or the overlapped repeats. Tandem repeats are the repetitions that are adjacent to each other. Palindrome repeats can be seen as the tandem repeats in reverse order. The clumps are the pattern occurrences that we can detect in a sequence but those occurrences do not overlap. In contrast, the clustered clumps are the pattern occurrences where the pattern occurrences may overlap (Iliopoulos, Kundu, & Mohamed, 2016). Of all those variations, we focus on the clumps and the clustered-clumps. Finding the clumps and clustered-clumps helps to identify genetic abnormalities. Numerous investigations have been conducted on trinucleotide expansions. It is believed that the expanded DNA base triplets in the human genome will have a substantial impact on the development of illnesses. One such expansion of triplet repeat (GAA) is identified in the FXN gene, which is known to cause Friedreich's ataxia, a neurological disorder (Singh, Scheiber-Mojdehkar, & Rajeswari, 2017). The trinucleotide expansions, CGG and CAG repeats, are situated in the fragile X mental retardation (FMR1) and androgen receptor (AR) genes. CGC is responsible for fragile X syndrome and CAG is responsible for spinal and bulbar muscular atrophy. (Boivin & Charlet-Berguerand, 2022).

Our proposed algorithm is capable to find the repeats in DNA sequences, including the overlapped repeats (Clustered clumps). Besides, we would like to mention that our searching algorithm does not require a pattern to compare. It will detect all of the repeats in sequence by comparing their sequence. It is different from other searching tools which search for the given pattern in the text. We also build a web page as an online searching tool for the repeats in DNA sequences.

This paper consists of five sections. Section one is the introduction. Section two is the preliminary to provide the notations we use throughout this paper. Section three is the research method to explain the steps of our study. Section four is the result of this study. It shows the time and space complexity of our algorithm The screen design of the input and output screens are displayed. Section five is the discussion. Finally, section six presents the conclusion.

PRELIMINARY

Text

Text is a sequence of characters of an alphabet Σ which is a finite nonempty set. The elements of the alphabet are called letters (Crochemore, Hantcart, & Lecroq, 2014). We consider a text t of length n on alphabet Σ: $t = t[1...n]$. For example, the text t = TAGAGATAGAAT is the text of length = 12 on alphabet Σ = {A, G, T}

Clustered-Clumps (Overlapped Repeats)

A clustered-clump is a maximal set of pattern occurrences of P which is a set of patterns. P is defined as: $P = \{P_1, ..., P|p|$. A clustered-clump may have a single overlaps occurrence or non-overlaps other occurrences (Bassino, Clement, Fayolle, & Nicod‘eme, 2008). For example: if P = {AGA} and the text, t = TAGAGATAGAAT, the clustered-clumps are shown in Figure 1.

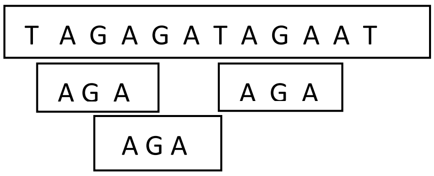


Figure 1: The clustered-clumps of the text t = TAGAGATAGAAT

Suffix Tray

A suffix tray, ST, is an effective data structure. It is the combination of the suffix tree and suffix array data structure. To construct a suffix tray, get the suffix array of the text and build the suffix tree from that suffix array. The suffix tray for the text t = TAGAGATAGAAT is shown in Figure 2.

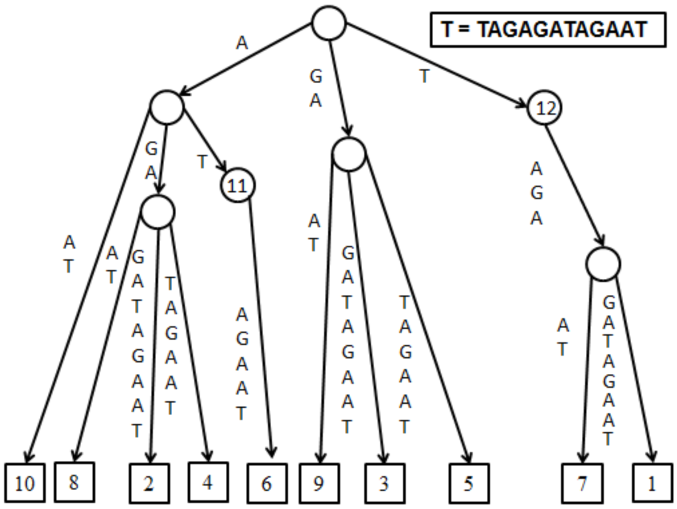


Figure 2: The suffix tray for the text t = TAGAGATAGAAT with all nodes.

Longest Previous Factor (LPF)

The Longest Previous Factor (LPF) is the length of the previous longest pattern in the text before the current position. LPF of each position can be counted as: LPF[i]= max $\{k|t[i...i+k-1]\}$ occurs at position $j < i$, for $1 \le i \le$ n, (Crochemore et al. , 2013). The LPF table of a text, t = TAGAGATAGAAT is presented in Table 1.

Table 1: The LPF table of a text t = TAGAGATAGAAT.

Position	1	2	3	4	5	6	7	8	9	10	11	12
t[i]	T	A	G	A	G	A	T	A	G	A	A	T
LPF[i]	0	0	0	3	2	1	4	3	2	1	2	1

Searching Algorithms

There are many known algorithms for searching the pattern such as brute-force, Knuth-Morris-Pratt, Boyer-Moore, Robin-Karp, and many more algorithms. Some of the relevant studies are mentioned here.

There is an improved version of the Robin-Karp algorithm by using a Genetic algorithm to do searching a huge text file. The time complexity during the worst case from O((n-m+1) m) to O(nm+1) (Gobe & Behera, 2014).

Kulekci et al. use the Burrows-Wheeler Transform and wavelet trees to find maximal repeat. It requires less than double of the sequence size space (Kulekci et al.,2012). In a study to get all occurrences of tandem repeats, there is an algorithm to retrieve the occurrences using a suffix tree. It requires O(n log n) time and O(n) space (Stoye & Gusfield, 2002). Another interesting software solution for k-mer counting and indexing of large sequence sets uses the enhanced suffix arrays. It provides higher flexibility to process large data sizes (Kurtz, Narechania, Stein, & Ware, 2008)

In terms of complexity, there is a study of the clustered-clumps to compute all clustered-clumps occurrences for a set of degenerate patterns P or/and a degenerate text T of total lengths n and m. They construct the suffix tree and apply the Aho-Corasick Automaton. This approach requires O(n + m) time (Iliopoulos, Kundu, Mohamed, & Vayani, 2016).

The prediction of the locations of genes can be done by detecting the regulatory sequences adjacent to those genes (Iliopoulos, et al., 2016). There is research to study the constructions of the clumps statistics. They count the number of occurrences of a word in the text. The combinatorial approach is applied which provides the exact results compared to the probabilistic approach which provides asymptotic results (Bassino et al., 2008). There is also a study to evaluate the distribution of clumps. The result is shown as an explicit expression in terms of probability generating functions of the waiting time between two clump occurrences (Stefanov, Robin, & Schbath, 2007).

In our study, we propose a new alternative to compute the Longest Previous Factor (LPF) table with its suffix tray data structure. The LPF table was proposed by Crochemore (Crochemore & Ilie, 2008). The LPF table is defined as an array of the length of the longest factor of a string that occurs in a string before that position. In their study, the LPF table using suffix array requires O(n) time (Crochemore & Ilie, 2008). The LPF table can be computed with other structures, for instance, in the parameterized matching (p-match). The construction algorithm runs in linear time (Beal & Adjeroh, 2012). The application of LPF table is also applied to the data compression. One prominent application of LPF table is for the Lempel-Ziv factorization computing in lossless data compression and a dictionary compression method (Crochemore et al., 2009). It is also indicated that the LPF table for text compression and string algorithm can be run in linear time and linear memory (Chairungsee & Charuphanthuset, 2016).

Mainly, the pattern or repeat search algorithms within the sequence depend on the suffix tree or suffix preprocessing (Smyth, 2013). In this paper, we apply a suffix tray data structure. Thus, our algorithm computes the patterns that depend on the suffix tray preprocessing. The suffix tray data structure is introduced by Cole et al. It uses the concept of suffix intervals in the nodes of the suffix trees and intervals in the suffix array. Same as its predecessor, the suffix tray can be constructed in linear time. The space and construction time remain linear and the query time improves to $O(m+\log|\Sigma|)$ (Cole, Kopelowitz, & Lewenstein, 2015).

In this study, we propose a linear-time algorithm to compute the LPF table of a string from its suffix tray. We use the concept of suffix links, the transition function $\delta(q, a)$ of node q by letter a, the length of matching, l, and the attribute m. Our searching algorithm is created. Our previous work presents the algorithm (Kongsen & Chairunsee, 2017).

DNA Sequence Searching Tools

There are many DNA pattern searching tool available online. Most of the services would get the input pattern to search for the repeats in DNA sequence.

Sequence Manipulation Suite: DNA Pattern Find (Stothard, 2000) allows the user to put a search pattern as an input and returns the number and positions of the sequence. Input limit is 500,000,000 characters. Another searching tool is RSAT - DNA-pattern (http://rsat.eead.csic.es/plants/dna-pattern_form.cgi). It allows searching for a pattern (string description) within a DNA sequence.

In contrast, our searching algorithm does not require the input pattern. The algorithm is capable to detect all the pattern repeats in DNA sequence, including the overlapped patterns.

2. Research Method

The research method of the development of an application for DNA sequence repeat detection is shown in Figure 3. The details are as follows:

Pattern Searching Development

To propose the searching algorithm to find the overlapped repeats in the text. We chose a suffix tray data structure and developed the algorithm that applies the Longest Previous Factor (LPF) table concept.

Experiment Setup

The experiments are set up to get the complexity of the searching algorithm. The searching algorithm is implemented.

Screen Design

The screen is designed to be a user-friendly web. Users can input the DNA sequence and submit it. The output of the repeats and the position of the repeats are displayed in a pop-up window.

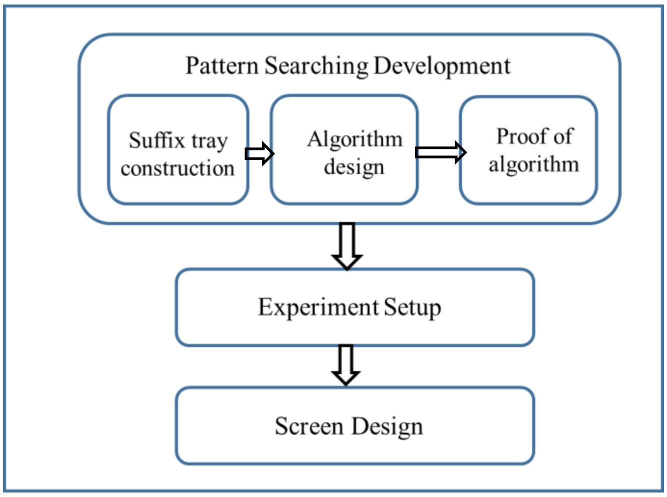


Figure 3: Research method.

3. Results

Pattern Searching Development

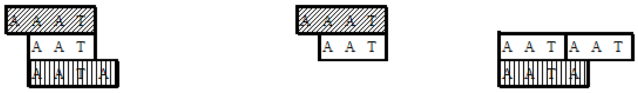
We constructed a suffix tray from a DNA sequence. First, we read the suffix of the sequence then we built a suffix array. Next, we constructed a suffix tree from that suffix array. To search the suffix tree, we proposed a searching algorithm to compute the LPF table. The proof of algorithm was conducted to prove the complexity of O(n) time and space.

From the LPF table, we can get the occurrences and positions of the repeats. The DNA repeats provide useful information to identify the abnormality in the sequence which is helpful for Bioinformatics work. The example of the occurrences and positions of the repeats are shown in Figure 4.

Text = TTTTATTACACAAATATACACATTAAATTAATTAATAATCGATTCGATAA

i	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
t[i]	T	T	T	T	A	T	T	A	C	A	C	A	A	A	T	A	T	A	C	A	C	A	T	T	A
LPF	0	3	2	1	0	3	2	1	0	3	2	1	2	2	3	2	6	5	4	3	2	4	3	2	4

i	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
t[i]	A	A	T	T	A	A	T	T	A	A	T	A	A	T	C	G	A	T	T	C	G	A	T	A	A
LPF	3	5	4	3	7	6	5	4	4	3	4	3	2	1	1	0	3	2	2	4	3	4	3	2	1



Repeats	Position	Number of Occurences
AAAT	12, 25	2
AAT	13, 26, 34, 37	4
AATA	13, 34	2

Figure 4: LPF and the occurrences and positions of the repeats

Experiment Setup

The experiment enables confirmation of the algorithm's complexity. The algorithm is implemented. It runs on the DNA sequence datasets. The experiment result shows the complexity of the algorithm in terms of time and space required.

The experiments were set up on an Intel(R) Core (TM) i7-7700HQ CPU @ 2.80GHz, 16.0 GB of memory, and a 64-bit operating system, Windows 10 Home operating system. All algorithms were implemented using the Python3 programming language.

The running time and required space were measured to get the complexity of the pattern matching algorithms. The datasets were collected from The National Center for Biotechnology Information (NCBI) database (https://www.ncbi.nlm.nih.gov/nuccore). They are the Nucleotide database. The DNA/RNA sequences for this experiment are shown in Table 2. Those nucleotides were selected in various sizes to compare the required time and space. Then the algorithm complexity was specified.

Table 2: DNA/RNA sequences.

No.	Size (bp)	Nucleotides
1	545	PREDICTED: Dermatophagoides farinae guanine nucleotide exchange factor MSS4 homolog (LOC124495023), mRNA
2	1,400	Homo sapiens beta-globin hypersensitive site -107 (HBB-HS-107) on chromosome 11
3	2,532	Homo sapiens, clone IMAGE:5519764, mRNA
4	3,460	Homo sapiens lipoic acid synthetase (LIAS), transcript variant 2, mRNA; nuclear gene for mitochondrial product
5	4,379	Homo sapiens neuroblastoma breakpoint family, member 8, mRNA (cDNA clone MGC:99641 IMAGE:5453529), complete cds
6	5,668	Homo sapiens SH3 domain containing ring finger 1, mRNA (cDNA clone MGC:61566 IMAGE:6144754), complete cds
7	6,369	Homo sapiens acyl-CoA thioesterase 11 (ACOT11), transcript variant 1, mRNA
8	7,590	Homo sapiens ferrochelatase (FECH), transcript variant 3, mRNA; nuclear gene for mitochondrial product
9	8,492	Homo sapiens human immunodeficiency virus type I enhancer binding protein 3, mRNA (cDNA clone MGC:167844 IMAGE:8860523), complete cds

No.	Size (bp)	Nucleotides
10	9,660	Homo sapiens H19 imprinted maternally expressed transcript (H19), RefSeqGene (LRG_1030) on chromosome 11

The results of the time and space complexity are shown in Figure 5 and Figure 6 respectively. Figure 5 shows that the required time increases proportionally with the size of the DNA sequence. It has been confirmed that our search algorithm required O(n) time.

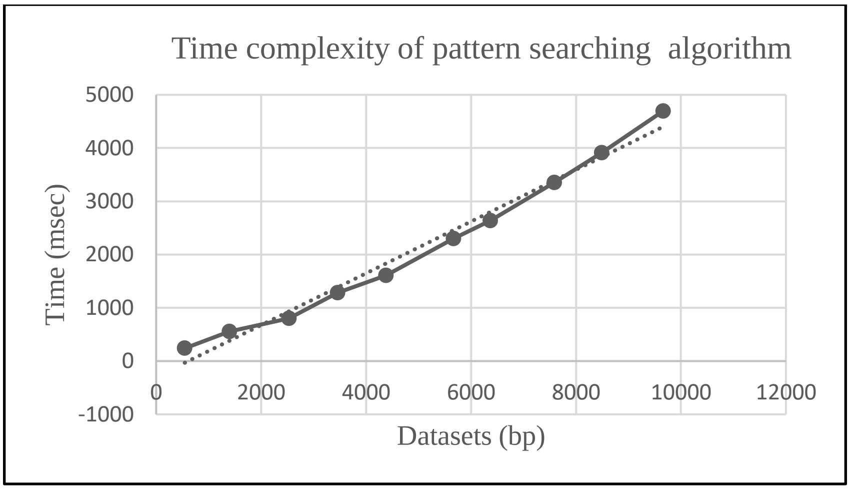


Figure 5: Time complexity of pattern searching algorithm. The dotted line is the trend line.

Figure 6 shows that the requited space increases proportionally with the size of the DNA sequence. It has been confirmed that our search algorithm required O(n) space.

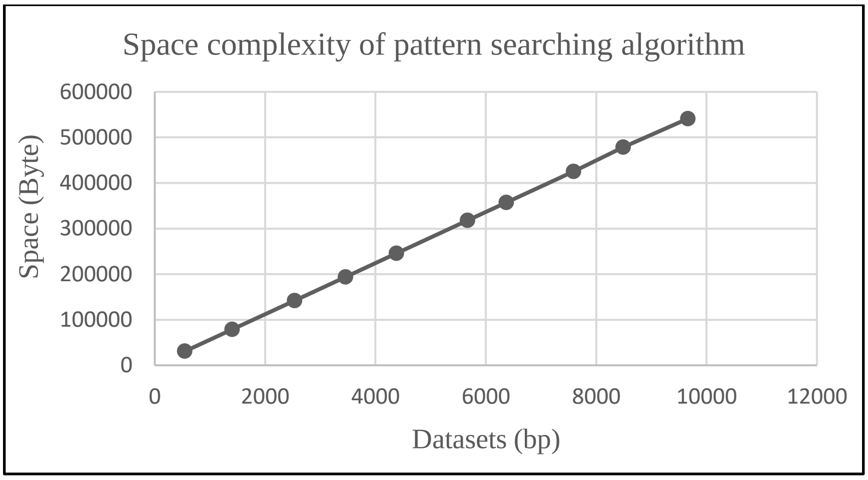


Figure 6: Space complexity of pattern searching algorithm.

Screen Design

The DNA sequence repeats detection is created as a tool to find the repeats in the DNA Sequence. It accepts DNA Sequence as a raw sequence or one or more FASTA sequences.

Figure 7 shows the input screen design. The outputs are the number of occurrences and the position of those occurrences. The output screen design is shown in Figure 8.

At the input screen, user can paste or one or more FASTA sequences into the text area then click the submit button. The output is displayed on the output screen.

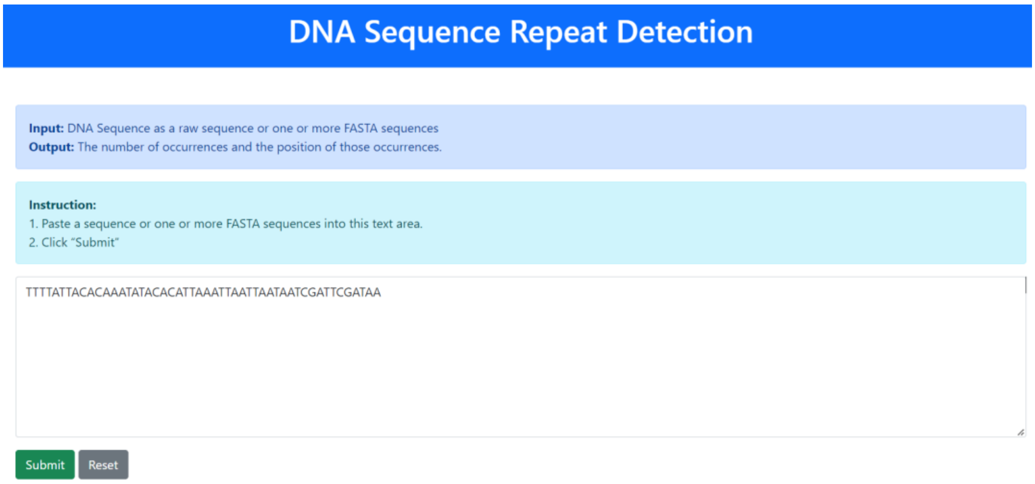


Figure 7: Input screen design

At the input screen, the results of the repeat detection are displayed. The repeat patterns, the starting positions of the repeats and the number of occurrences are shown. In this screen, the repeats are shown only the DNA base triplets as an example.


DNA sequence repeats detection results

Repeats	Position	Number of occurrences
AAAT	12, 25	2
AAT	13, 26, 34, 37	4
AATA	13, 34	2
ATTAATA	26, 30	2
ACA	8, 10, 18, 20	4
ACACA	8,18	2
ATA	14, 35	2
ATAA	35, 47	2
ATT	5, 22, 27, 31, 42	5
ATTA	5, 22, 27	3
ATTAA	22, 27	2
ATTAAT	27, 31	2

Close

Figure 8: Output screen design

4. Discussion

This research aims to provide the pattern searching algorithm and its application to locate the clustered-clumps (overlapped repeats) in DNA sequence using appropriate data structures. The repeats in DNA sequence may cause many genetic abnormalities. This method helps finding those abnormalities. From the experimental results of the pattern detection algorithms. It is evident that clustered-clumps in DNA sequences can be identified in linear time and space. It is important to note that this detection approach is distinct from matching algorithms. The advantage of this algorithm is its ability to identify all sequence repeats without requiring a specific pattern to match the sequence. However, this research focuses on the searching phase only. The text preprocessing phase is not included in the searching algorithm.

5. Conclusion

In our study, we propose an algorithm to find the clustered-clumps in the DNA sequence. We use suffix tray data structure and apply the concept of LPF table to set the condition in our searching algorithm. We present the suffix tray construction and the LPF table computation. The algorithm is proposed and the proof is provided in our previous work. In this paper, we set up an experiment to run our algorithm. The overall algorithm runs in linear time, and it is shown that we can find the clustered-clumps of text, t of length n using the LPF table in O(n) time and space complexity. To apply our algorithm, we have provided a tool on the web to detect DNA sequence repeats from the sequence given. For further work, there is the opportunity to enhance the time and space complexity of pattern detection by using new data structures.

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Economic Sustainable Development and Innovation of China's Wealth Management Industry Under the New Normal Society --Based On The 4I Marketing Theory

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Economic Sustainable Development and Innovation of China's Wealth Management Industry Under the New Normal Society --Based On The 4I Marketing Theory

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Abstract

Under the background of the new normal, this paper starts from the 4I strategy of network-integrated marketing based on the analysis of private domain traffic and uses the four-step 4I marketing method to interact (establish private domain traffic pool), interesting (maintain private domain traffic pool), and individuality (identify private domain traffic pool), interests (realize private domain traffic pools), and discussing the current status of marketing in the wealth management industry and the sustainable development path for customer source growth. This research summarizes the existing methodologies of private domain traffic conversion, puts forward the problems of private domain traffic operation in the wealth management industry during the research process, and looks forward to the future development trend of private domain traffic through the questions, providing a theoretical basis for the development of wealth management industry marketing.

Keywords: Private Domain Traffic, 4I Marketing Theory, Consumer Management, Wealth Management

1. Introduction

With the iteration of science and technology and the development of Internet platform, the acquisition cost of public domain traffic users continues to rise, the growth of traffic dividend encounters a bottleneck, the conversion rate of active consumers is low, and the growth of consumers transits rapidly from incremental competition to stock competition. In 2020, the scale of China's digital economy reached 3.92 billion. From the proportion of digital economy in GDP in recent five years, the contribution rate of digital economy to GDP has increased year by year. In 2020, affected by the black swan event of novel coronavirus, the GDP growth rate decreased month on month, and the digital economy achieved a growth rate of about 9.5%, effectively alleviating the downward pressure on the economy during the epidemic. Wealth management enterprises urgently need to improve their stock operation ability and cultivate consumer stickiness. In order to maintain the steady growth of asset under management (AUM), traditional wealth management enterprises are forced to make digital transformation. Combining its own advantages in rich marketing outlets and personnel structure, enterprises pay attention to the traffic that is deposited on the brand or employee channel, which is independently controlled, free, and can be reached repeatedly at any time, and can achieve precise operation. Precipitated data analysis is particularly important, and private domain traffic operations emerge as the times require. Based on the 4I strategy, this paper will discuss the private domain traffic retention, retention, and traffic conversion strategies in the wealth management industry from four levels of interest, interests, interaction, and individuality (Wu Feng & Yang Xiaoping, 2021).

2. Literature Review

2.1 Private Domain Traffic

The concept of private domain traffic appeared relatively late, and only a few scholars paid attention to it before 2020. Private domain traffic is developed from big data analysis, and 2020 can be regarded as the first year of private domain traffic research. However, there is no academic definition of private domain traffic so far. Different scholars have different definitions of private domain traffic due to different classification standards. Duan Chunlin(2019) said that private domain traffic is a channel that people can control, repeat, free, and directly touch consumers anytime, anywhere. In the "2021 China Private Domain Traffic Insights Research Report", iResearch defines private domain traffic as consumer traffic that accumulates in brands or personal channels, can be reached repeatedly at any time, and can achieve one-to-one precise operation. The author believes that the main characteristics of private domain traffic are: 1. The data is only used by the brand and can be fed back to the enterprise for decision-making. 2. The private domain traffic pool has strong exclusivity, is not open to other companies, and the consumers in the traffic pool have little contact with each other. 3. Private domain traffic can save customer acquisition and operating costs. 4. Can communicate with consumers at any time. 5. The consumers in the traffic pool can be maintained for the whole life cycle. Anything that meets the above characteristics can be called private domain traffic.

So far, the research on private domain traffic is mainly in the research field of book product marketing and e-commerce live broadcast fit (Qi Huanhuan, Huiyin, & Guo Yangyang, 2020). There are few research summaries combined with the marketing characteristics of the wealth management industry. Therefore, this paper defines the research scope as SNS platforms, brand own touchpoints, and short video platforms to summarize feasible methods of operation in wealth management marketing.

2.2 4I Marketing Theory

From a marketing perspective, the marketing paradigm of wealth management has undergone several rounds of focus shifts. China's wealth management industry started in 1998 and has transformed from focusing on products to focusing on consumers. We can understand the marketing characteristics of the wealth management industry in the initial stage from the 4P marketing strategy (Van Waterschoot & Van den Bulte, 1992). Due to the scarcity of products in the market and the determination of the target group, the regulatory standards are still being explored. During this period, the wealth management industry focused on products, which were mostly non-net-value fixed income products that did not require services. It can be seen from the limitations of the 4P marketing strategy that the role of consumers was ignored in this period. With the increase of market participants, the market scale has become larger. In the second stage, the 4C marketing strategy entered the corporate marketing vision, and wealth management companies shifted their focus to Convenience (Chunling, 2020). Through offline store layout, extensive contact with consumers and horse racing land. As the homogenization competition intensifies, the marketing theory has launched the 4R marketing strategy at this time (Chun, 2011). At this time, enterprises focus on forming a good relationship with consumers in order to obtain a stable AUM. This stage emphasizes individualism. From the perspective of the above three stages, the marketing focus of the wealth management industry has always been on mobile changes. In just over ten years, it has undergone a transformation from 4P, 4C, and 4R, which has a faster change compared with other ordinary industries.

At present, the new rules for asset management in China have been implemented, and the net value and volatility of products are unstoppable. People turn their attention to 4I marketing strategies. Compared with the 4P, 4C, and 4R marketing strategies, the 4I strategy of network-integrated marketing, namely the four principles of interaction, fun, individuality, and interest, emphasizes that consumers are the main body (Zhang Wei & Xu Xiaojun, 2021). In the era of private domain traffic, with the increasing diversification of information, conventional marketing theories are difficult to adapt, while the 4I theory can well cater to the audience-centered communication and marketing model of private domain traffic. The 4I strategy is consistent with the diversified marketing concepts in the era of big data. Adaptation is a new development in the field of marketing (Wang Qun & Shi Lanhua, 2016).

2.3 Wealth Management Industry

Since the birth of China's first securities investment fund in 1998, funds and stocks have become two important components in the wealth management industry. Since then, the market has continued to improve supervision and gradually formed an industry structure centered on securities companies, funds, insurance, banks, trusts, and tripartite wealth management companies (SHAH, LI, & FU, 2020). The wealth management industry has different results according to different classification standards. According to the division of marketing platforms, it can be divided into three categories: Internet online sales platforms represented by Ant Financial and Tiantian Fund, online and offline agency sales platforms represented by CITIC Securities and China Merchants Bank, and finally Offline platforms represented by Hengtian Fortune and Noah Fortune.

In recent years, the wealth management industry has shown an explosive trend of silence. Real estate in China is sought after by various capitals as an investment variety. Within a period of time, residents can achieve capital appreciation through real estate speculation. However, the government is de-realizing. From the recent "Evergrande Real Estate" incident, it can be seen that "housing and not speculating" has become an unshakable policy of the central government. CPI and PPI are gradually deviating from the global inflation rate, the real estate is deleveraging, and a large number of funds have flowed out of the real estate market. Since these funds want to maintain and increase their value, they flock to the equity market. However, most people lack investment experience and Launch the wealth management industry into the air. The wealth management industry naturally has the advantage of making private traffic, and wealth management products have the characteristics of high repurchase, high customer orders, and high decision-making difficulty. Products with high repurchase rates should focus on brand influence and interaction frequency; products with high customer unit prices should pay attention to product quality and establish consumer loyalty attributes; products with high decision-making difficulty should focus on the professionalism of private domain operation and the perfection of the operation structure. The ability to reach consumers, professionalism and empathy, products, and investment capabilities have become particularly important to consumers, the retention of funds, the repurchase rate, the guarantee of customer sources, and data insights.

2.4 PUGC/KOC/KOL

In traditional communication, advertising on traditional media is expensive, which is unaffordable for some emerging companies. For low-cost marketing, in the short video and e-commerce market, based on word-of-mouth marketing and the "fan" economy, a number of products "soft broadcast" communicators have emerged. Among these soft broadcasters, some have become KOL, KOC, and PUGC.

Those who have strong expertise in certain fields have attracted many fan groups, and those who achieve the purpose of increasing sales by recommending products are called Key Opinion Leaders (KOL) (Moynihan, 2008). The Key Opinion Consumer (KOC) refers to certain consumers who, by consuming a single product, share it in a small range through Weibo, WeChat, Xiaohongshu and other platforms, so that consumers have natural trust and achieve improvement (Cheung & Lee, 2012). purpose of sales. Expert Produced Content (PUGC) is the abbreviation of Professional Generated Content + User Generated Content, which is the combination of UGC and PGC (Paulussen & Ugille, 2008). Expert-level people use their professional knowledge to promote specific products and achieve the purpose of consumption (Hu Yong & Zhang yuemeng, 2016). In the wealth management industry, some businesses are not allowed to be recommended in magazines, newspapers, and TV, which is another challenge to the compliance and information desensitization processing of wealth management companies.

3. Operational Paths for Sustainable Development and Innovation

The operation path is divided into four steps. First, interaction. The purpose is to establish a private domain traffic pool. Second, Interesting. The purpose is to maintain the private domain traffic pool. Third, Individuality. The purpose is to divide the private domain traffic pool. Fourth, interests. The purpose is to realize the private domain flow pool. Form a perfect marketing closed loop in the wealth management industry.

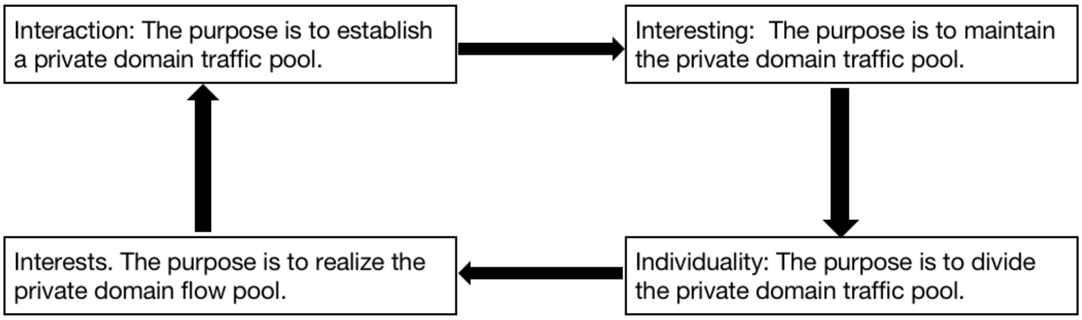

Figure 1 Operational Model

3.1 Interaction: Establish a Private Domain Traffic Pool

3.1.1 SNS (Social Networking Services) Interaction

Private domain traffic marketing emphasizes reaching consumers at any time and repeatedly. SNS social platforms have natural private domain advantages. From the consumer side, there are various ways to lead consumers to the private domain of the brand. Taking the WeChat ecosystem as an example, in 2020, as many as 400 million consumers will be served on corporate WeChat. The main tools are Mini Programs, Moments Ads, Official Accounts, Video Accounts, H5 (Html5) marketing, etc. Among them, H5 marketing is to design various media expression methods such as text animation, background music, video display, charts, and interactive surveys in the WeChat interface, highlighting the key points of marketing. Focus on community operation and content push to enhance consumer stickiness. The integration of social platforms and sales channels enables direct interaction with consumers. The essence of marketing is objection handling, which enables enterprises to reach consumers flexibly, directly and efficiently, and consumers can also give feedback to enterprises quickly, conveniently and without barriers. Enterprises can flexibly adjust their strategies, which effectively shortens the distance between enterprises and consumers.

3.1.2 SCRM (Social Customer Relationship Management) Interaction

Interaction is the process of establishing contact and interaction between enterprises and consumers, and the core of SCRM is consumers (Baird & Parasnis, 2011). Mutual trust can be deepened through interaction. The Internet fund platform has launched a Robo-advisor due to the convenience of purchase and the blessing of technology. Banks, securities companies, and third-party wealth management institutions, due to marketing outlets and staffing, mainly promote offline communication, online purchases, and high interaction frequency, making it easier to build their own private domain traffic pools. There are various types of wealth management products, and non-professional consumers are cautious when making initial purchases or large purchases, and they need to consult professionals. Wealth management companies attach importance to daily communication with consumers, increase traffic activity, build word of mouth through services and products, and increase consumer dependence and loyalty.

3.2 Interesting: Maintain Private Domain Traffic Pools

3.2.1 Building a Diverse New Media Platform

Providing high-quality content is the core of maintaining a private domain traffic pool. Based on the short video ecology, open a short video account through the financial consultant (FC) within the wealth management company to become a PUGC, attract consumers through short videos, live broadcasts, etc., and introduce the company through interesting and vivid language on the basis of compliance Background, publicize corporate image, financial knowledge, etc., maintain the fan group of the company, and maintain the private domain traffic pool. Relying on the recommendation algorithm from interest to conversion, short videos are developing rapidly due to their rich content and fragmented browsing characteristics. Due to the particularity of the industry in wealth management, pre-investment education for investors on the basis of compliance can pave the way for future purchases of wealth management products. For example, Bilibili, Douyin, and Kuaishou. Since its launch, through the opening of the financial and economic zone, the layout of the public domain traffic has gradually been realized, and a group of KOL and KOC have subsequently emerged. Among them, KOL represented by Wang Ansong, an analyst at Sinolink Securities, has reviewed the capital market every day. Gained hundreds of thousands of fans in just a few months. From the side, the brand harmony, popularity, and reputation of Sinolink Securities have been improved.

3.2.2 Scenario Marketing

Using the company's own official website or software as a contact point, when consumers browse the push, they can focus on the focus and stay time in key paragraphs, and analyze consumer trends, which can provide a basis for financial planners' precise marketing. Taking Hengtian Fortune as an example, it will pass through breakfast or working hours every day, and the WeChat service account will tell the financial news that happened in the world the previous day in straightforward language in the form of video or voice and text. The push is displayed on a mobile phone or computer screen. The material is presented in high quality, and there are special presentation methods such as naked-eye 3D. It can be embedded in H5 marketing, allowing marketing content to interact with consumers, and reach accuracy and efficiency. This can also build a brand reputation for a long time because the media form is relatively new and the cost is lower. On March 8, International Women's Day, through H5 design, consumers interact with enterprises, analyze consumer preferences, recommend female fund managers, and attract consumers to retain.

3.3 Individuality: Divide Private Domain Traffic Pools

3.3.1 Classified and Ladder Supply

Private domain traffic itself is a hierarchical system. In order to enable consumers to improve their consumption levels, it is essential to establish a hierarchical membership system.

Providing differentiated services can better precipitate consumers and make consumers more dependent on enterprises. Different levels can enjoy different authority services. For example, high-level consumers can enjoy exclusive financial planning services, fast medical access, and exclusive rest areas for airport high-speed rail. At present, marketing is transitioning from product consumption to symbolic consumption. Terms such as China Merchants Bank's "Golden Sunflower" and Hengtian Fortune's "Golden Ginkgo" can reflect the social status of consumers and enhance their sense of honor.

3.3.2 KYC (Know Your Customer)

In the process of establishing the membership system, enterprises master the information of consumers through interaction, fun and individuality. After including but not limited to hobbies, family relationships, consumption habits, work conditions and other data, do a good job in KYC. Create label profiles for consumers and draw the consumer portraits to optimize products and services and enhance consumer experience (Mullins, Ahearne, Lam, Hall, & Boichuk, 2014). Screen out segmented target consumers and understand their needs. Through birthdays, festivals, anniversaries and other activities, push marketing activities to increase purchase probability and achieve precise marketing. Wealth management products are highly targeted to product groups. Consumers with different risk tolerances and products with different risk levels are complicated. It is unstoppable for companies to recommend personalized asset allocation to individuals. After risk assessment, consumers with different risk levels have different asset allocations. If the consumer is a prudent investor, most of the wealth management products recommended on the homepage meet the risk rating.

3.4 Interests: Realize Private Domain Traffic Pool

3.4.1 SNS Platform

Taking the WeChat platform as an example, purchase conversion is achieved through mini-program malls, micro malls and live broadcasts. From the brand perspective, based on the advantages of enterprise WeChat in information security, tool components and management coordination, most enterprises choose to manage and operate consumers through enterprise WeChat, and use funnel analysis, business data analysis, consumer tags, etc. to feedback consumers, operational process. Based on its technological ecology and social advantages, WeChat empowers brand owners and consumers in both directions.

3.4.2 Short Video Platform

Taking the Douyin (Chinese TikTok) ecology as an example, Dou+, topic challenges, and information flow advertising are the models for enterprises to achieve public domain promotion. After reaching consumers, short videos and live broadcasts have become important carriers to promote consumer conversion. After consumers become fans, filter companies connect consumers from the two dimensions of brand management and product service recommendation, gain insight into consumers' potential needs, and refine consumer operations through data analysis to realize private domain traffic pools.

3.4.3 Internet Platform

In real society, when a group has a large number of people, this group occupies a strong position. In an economic society, when a group has a large number of people, it is in a weak position. The private domain traffic pool is two-way. It is not only from the demand side, but also from the supply side. There are currently more than 10,000 funds in the market. Some new funds or unpopular funds hope to obtain stable AUM and not be liquidated. ANT GROUP is inseparable Internet platforms such as Jinfu and Tiantian Fund sell on a consignment basis. Taking Ant Financial as an example, Ant Financial is based on the Alibaba system, has a strong e-commerce logic, and has a high degree of control over traffic. It does not design wealth management products itself, but only acts as a consignment platform. Since it has enough private domain traffic consumers, it has formed a strong bargaining power. From the demand side, Ant Financial analyzes private domain traffic data and recommends connecting consumers through the homepage, according to their position status and risk preference level, and issuing exclusive coupons. According to his position in the industry, he can profit from both the supply side and the demand side, and realize the realization of private domain traffic pools.

4. Findings and Discussion

4.1 Difficult for Enterprises to Control the Private Domain Traffic Pool

Consumers in the private domain traffic pool are often not the private domain traffic pool of the enterprise. Due to the problems of internal human resource structure and personnel management, enterprises cannot touch the flow pool repeatedly at any time. The direct contact with consumers is the financial planner, and the financial planner controls the private domain flow pool instead of the enterprise, which leads to the resignation or job hopping of the financial planner, the loss rate of consumers is very high, and the enterprise needs a high cost to maintain the lost consumers again. The wealth management industry emphasizes lifelong service, and the high-frequency marketing of enterprises for other financial planners makes consumers have a rebellious mood, so as to accelerate consumers' separation from enterprise services.

4.2 Legal and Ethical Issues

In a digital society, consumers and businesses are closely connected by signing online terms of service. Often consumers agree to terms by default, and through the use of software, consumers generate vast amounts of data every day. At this point the consumer has changed from a simple consumer to a producer of data. In the era of big data, a large amount of data generated by consumers can be given more commercial value through professional analysis and has the possibility of commercial application. It also makes the relationship between the two go beyond the simple relationship between consumers and enterprises (Chen Bai, 2021). There are disputes over the security of private data retained in the platform and the ownership of commercial value generated by consumer data. Secondly, because people can directly access private domain traffic, there is also a moral hazard for consumers' personal privacy data to be trafficked.

5. Directions for future development

5.1 Integrated Marketing

Private domain traffic marketing is not separate from single-channel marketing. While focusing on the digital private domain traffic track, enterprises should also pay attention to the linkage between public domain traffic and private domain traffic. The implementation of the "Personal Information Protection Law" will better protect consumer data security, and there are laws to follow in data collection, storage, use, processing, transmission, and deletion. Production operations are more optimized, costs are reduced, efficiency is improved, and product quality is improved. Products through new technologies and services have been extended, and the main business has grown.

5.2 Not Disturb Marketing

The premise of marketing is to respect consumers and avoid traditional generalized marketing based on private domain traffic. According to the KYC profile of consumers, with the advantage of the scene, consumers can repurchase, improve consumer stickiness, and achieve the goal of precision marketing. Due to its particularity, the wealth management market can realize Customer Lifetime Value (CLV) management and conduct full life cycle maintenance.

5.3 Intelligent Marketing

Private domain traffic itself has creative extensibility, and through the media platform AI technology, it will be widely used in private domain traffic marketing to empower performance growth. Based on big data and computing power, AI marketing will be applied to all aspects of life through machine learning, natural language deep learning, and speech recognition. AI can cover all aspects of monitoring and attribution. At this stage, AI in the wealth management industry is only an intelligent customer service assistant, partially quantifying the semi-automatic machine programs of enterprises. In the future, AI will become a competitive barrier for enterprises in cross-market investment, model building, automated operation, and marketing decision-making.

5.4 Generation Operational Marketing

The wealth management industry can be called an emerging industry, with high-profit margins and high communication costs. Some companies will find outsourcing platforms to take care of their operations because of their own difficulties in recruiting talents and different corporate strategies. Mr. Zhao Haibo, founder of Blue Whale Private Domain in the White Paper on Private Domain Traffic, said that the private domain agency operation market will reach a market size of 200-300 billion yuan. From the perspective of the business model, information resources are the core assets that will receive more attention in the wealth management industry in the future. Only by mastering the information resources can we grasp the enterprise's dominance over the market, so when we have the information resources, we can better understand the real needs of consumers. It can provide consumers with new solutions, and can also master more perfect and precise risk management. It can also give wealth management companies more opportunities to transform themselves and explore emerging markets. Whether it is an emerging enterprise or a traditional enterprise, private domain traffic is a new position for brand renewal and communication. In the future, private domain traffic will change the valuation and business model of enterprises.

6. Conclusion

To a certain extent, 2020 is the first year of private domain traffic. Traffic is to the fourth industrial revolution what coal is to the first industrial revolution, oil is to the second industrial revolution, and the Internet is to the third industrial revolution. Industrial Revolution. In any era, the core of the economy is the scarce production factors, and the enterprise's control over these scarce resources determines the enterprise's cash flow and sustainable profitability. At present, many companies have joined the wave of private domain traffic one after another, reflecting that private domain traffic is indeed effective (Zhang Xinru, 2020).

So, is private domain traffic really the end of corporate marketing? The answer is yes. In the era of stock competition, all walks of life will shift from the blue ocean to the red ocean. With loyal consumers in private domain traffic, building a moat for the enterprise is the core of the enterprise's value. Sometimes the answer is no, change is the only constant in the world. People are flexible, and the operation style of enterprises will also change. The essence of private domain traffic is the virtualization and digitization of consumers. Consumers in the new normal of society, when better substitutes appear, consumers will also be transformed into private domain traffic of other enterprises. The four-step method of the 4I strategy is in the process of private domain traffic marketing. The future of marketing is to respect consumers, impress consumers with its professional services and excellent product quality, and inadvertently harvest private domain traffic to achieve Steady growth in customer base.

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Towards an adaptation SMART model with 7Ps for local restaurants amidst the Coronavirus situation at Koh Samui in Surat Thani

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Towards an adaptation SMART model with 7Ps for local restaurants amidst the Coronavirus situation at Koh Samui in Surat Thani

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Abstract

This article seeks to achieve two main objectives: 1) to educate the way in which local restaurants can adapt regarding the Coronavirus situation and 2) to develop an adaptation SMART model with 7Ps for local restaurants in response to the Coronavirus situation. Conducted with qualitative approaches, the sample population consisted of ten restaurant entrepreneurs. A semi-structured interview was used as a data collection tool. The data analysis was achieved by tools of marketing mix 7Ps, which include product, price, place, promotion, people, process, physical evidence, following the SMART model, and content analysis.

The research findings could be further analyzed and transformed into part of a developmental process for five adaptation strategies for local restaurants regarding the Coronavirus situation at Koh Samui in Surat Thani, both for onsite and online services. These strategies are: 1) to have the willingness and enthusiasm in customer services; 2) to adjust the service model by adding a measure to prevent the spread of COVID-19 by implementing dining table distancing, temperature checks and hand sanitizing; 3) to use delivery service and food delivery application; 4) to newly create natural packaging for safety purposes; and 5) to stimulate weekly sales by promotion on social media. The new P has emerged from content analysis, while the interview has given rise to a new Affordability P, namely Affordability Protection, which ten restaurants employed to succeed during the pandemic situation on Affordability the island of Samui.

Keywords: SMART model, local restaurants, 7Ps, Samui Island

1. Introduction

Due to the situation of widespread Coronavirus (COVID-19) outbreak, restaurants are required to strictly follow prevention rules, especially in tourist destinations, to reduce the risk of another COVID-19 epidemic. Restaurants must have tables cleaned immediately after customers leave and disinfect all touchpoints and toilets every one hour while requiring clean instruments and separate spoons for shared dishes, maintaining distances of two meters between tables, and publicizing the restaurant as possible (The Department of Health, 2021).

In 2021, local restaurant owners moved forward with a newer standard version called the new normal to support customer's requirements and trends with traction, including accelerated tech adoption, alcohol to go (ATG), off-premises dining, and the great outdoors (National Restaurant Association, 2021). Thus, if they were to survive and continue to succeed during and after this situation, they need to adapt to current customers' changing needs and create their own processes and services.

Koh Samui, a popular Thai island and tourist attraction, has launched a new scheme for every business and local community by cooperating with associations, the local university, and stakeholders to report readiness to welcome visitors under the Samui Sandbox and Samui Sandbox Plus Program to the government. This program has allowed the island to reopen and welcome back international tourists for vacation under a certificate of COVID-19 vaccination, insurance policy with coverage of no less than US20,000, and confirmed payment for two RT-PCR tests. Hence, all local restaurants are expected to keep themselves prepared for any government-imposed guidelines (Tourism Authority of Thailand, 2021).

While the progression of preparation emphasizes the changing perceptions regarding self-management, these themes are highlighted and integrated in the SMART Goal Framework (SGF), which can directly influence the necessity to succeed in each goal by providing clarity, focus, and motivation. This model improves the organization's ability to fulfil their missions by encouraging them to define the objective and a competition time (MindTools, 2020; Yates, 2014; International Coach Federation, 2017).

Marketing models can help businesses sell products and service plans, subsequently leading to marketing practices that offer a competitive advantage and a strategic position in the market (Jaas, 2022). 7Ps are one of the methods that enable continuous improvement in business design and an appropriate selection of a marketing scope in the food and beverage industry (Aloina, Mardhatillah, Sembiring, Uni Pratama Pebrina, Budiman, & Silalahi, 2019**;** Boom and Bitner’s, 1981; Lovelock, 2001).

Crucially, this research focuses on the SMART Goal Framework and the 7Ps marketing mix strategy, aiming to provide an updated insight into the how local restaurants can adapt and develop their own business schemes in response to the Coronavirus situation.

2. Literature Review

2.1 Local restaurants at Samui regarding the Coronavirus situation.

The restaurant business on Samui island has been negatively affected by the Coronavirus epidemic. Daily lives have changed and all businesses have had to adjust to the current customer’s needs and follow preventive measures prescribed by the government. The SHA certification, for example, is given to hospitality establishments taking measures to ensure standards of hygiene and health safety for products and services with reference to the nationwide measures to prevent the spread of COVID-19 (TAT NEWS.org, 2020; Thai Restaurant Association, 2020). The pandemic is not only changing consumer purchasing behavior but also consumption habits such as home cooking, food delivery, quick service, and healthy living trends (Kasikorn Research Center, 2020; Sirikeratikul, S.,2021).

2.2 SMART model

The SMART Goals model uses specific parameters to help design steps of working in the real-world setting and the way to achieve business goals. The SMART acronym stands for Specific, Measurable, Achievable, Relevant, and Time-Bound. Each component in detail follows the first letter, S, which is to set a specific and detailed goal, thinking about and aiming for clarity by defining the core aspiration. The second letter M stands for measurable, which is to count the plan that is easier to finish and record improvement. The third letter is A, which means achievable, having attainable points in the realistic process; the achievement is optimized and it feels right for your goal. The fourth letter, R is to be relevant, which involves the alignment with the real situation and goal. Finally, the fifth letter T is time-bound. This is to set a timeline, deadline or time-related point to work towards and finish the goal (Boogaard, 2021; the Kitchen Spot, 2021; Workstream, 2022; Margaret, Bob & Erika, 2010).

Also, the SMART goals can be applied to local restaurants to help make even slight improvements that lead to a huge change in this research.

2.3 7Ps of marketing

The concept of the marketing mix was first introduced in 1963 by Neil H. Borden (Borden, 1964), as a familiar marketing strategy tool, commonly known as the core 4Ps of Product, Price, Place, and Promotion (van Waterschoot, & van den Bulte, 1992). Traditionally, companies use the 4Ps principle to classify factors for their business or service, identifying the behavior of customers, how their product or service makes a profit or declines to meet those needs, how their product or service is perceived in the market, how they differ from their competitors, and how they cooperate with their customers. The more recent 7Ps principle of marketing consists of Product, Promotion, Price, Place, People, Process, Physical Evidence plus Protect, the newest eighth P (Chaffey & Chadwick,2019; Dominici, 2009; Hisrich & Ramadani, 2017).

This article uses and applies the 7Ps of marketing mix to local restaurants and enhances the eight of Protect from ten restaurants at the island of Samui to a new standard when the Coronavirus situation continues to disrupt their business.

3. Research Methodology

In terms of qualitative research, the sample population was ten restaurant entrepreneurs. A semi-structured interview was used as a data collection tool. The use of marketing mix has been applied in various fields, specifically in the service and hospitality industry. The 7Ps include product, price, place, promotion, people, process, and physical evidence, and a new P, Protection, following the SMART model and content analysis to analyze the data.

4. Findings and Discussion

Table 1: Summary of 10 restaurants in the adaptation model during the Coronavirus situation using both the 8Ps and SMART model.

No.	Model	S Specific	M Measurable	A Achievable	R Relevant	T Time-Bound	G Goal
1	Product	Create recommendations for the menu	Create a new menu per week	/	Fresh and clean food	In one month	Special set menu
2	Price	Food Local Storytelling	Every story about local ingredients	/	Local Price	In one month	Price Value
3	Place	Separate development and management	Zone Management	/	Dining Table distancing	In one month	Outdoor seating area in the restaurant

No.	Model	S Specific	M Measurable	A Achievable	R Relevant	T Time-Bound	G Goal
4	Promotion	Online channel	Online channel by Facebook lives, lineman, line shopping, food panda, Grab, and local.	/	Online and social channels	In a week	Monthly discount and free delivery
5	People	Staff wear clean clothes and bodies and grooms	Every staff following by cleansing both mind and body.	/	Masks, alcohol, staff clothes	In a week	Service mindset and warm welcome
6	Process	Pre-order service	Steps to reserve order by calling and time to pick up food	/	More comfortabl e and safe	In one month	Fast services
7	Physical Evidence	Different, unique and open area	Change of restaurant	/	More attractive to customers	In two months	Unique decoration and distinctive restaurant
8	Protection*	Care, clean and clear	Every time	/	New protective service to safety.	In a week	SHA standard registration and follow-up

As shown in Table 1, ten restaurants share the same goal of adapting to The Coronavirus situation after all responses for each P were collected from the customer questionnaire. The interview revealed answers to the two objectives in what follows:

According to the responses, five educationally useful ways have emerged for the adaptation of local restaurants regarding the Coronavirus situation. These include 1) having the willingness and enthusiasm in customer services; 2) the service model has been adjusted by adding a measure to prevent the spread of COVID-19 and to implement the dining table distancing, temperature checks, and hand sanitization; 3) to use delivery service and food delivery applications. Similarly, a Workstream analysis of the future restaurant industry in the post-COVID era can identify five important steps that adopt and take advantage of digital tools, collect and leverage customer data, build and maintain your online presence, hire smartly and invest in your staff and consider opening ghost kitchens (Workstream, 2022). 4) to newly created natural packaging for safety; and 5) to stimulate sales weekly by promoting brand visibility social media.

We are considering a proposal to develop an adaptation SMART model with 7Ps for local restaurants regarding the Coronavirus situation.

"Our goal is to differ from other places to save and let customers relax, feel free, and get a new menu in one month," said a restaurant owner.

The use of the SMART model with 7Ps refers to the following marketing tactics for restaurant owners:

Product: special set menu in one month.
Price: price value in one month.
Place: an outdoor seating area in one month.
Promotion: monthly discount and free delivery on a weekly basis.
People: service mindset and warm welcome on a weekly basis.
Process: fast services in one month.
Physical evidence: unique decoration and distinctive restaurant in two months.

To accomplish these, restaurant owners will have to set distinct and attainable goals within a reasonable timeframe.

Furthermore, this article has identified the new element vital to the success of the Ps principle in response to the Coronavirus situation to be Protection, both for customers and restaurant owners. This emphasizes the necessity to be careful, clean and clear following the SHA standard as advised by Amazing Thailand Safety & Health Administration.

5. Conclusion

Throughout the entire course of the research, the success often described by restaurant owners on Samui island during the pandemic situation consisted of three key elements: 1) a clear goal, 2) abiding by steps of the SMART guideline, and 3) keeping the business updated of and adjusting to the situation.

Ultimately, the 7Ps marketing mix strategy offers a promising platform for local businesses to experiment with, especially during difficult situations that require adaptive thinking and solutions. Additionally, on a positive note, a new P, namely Protection, was born, and other restaurants can incorporate it into part of their business model to survive and thrive amidst these trying times.

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Evaluation on the Camping Tourism Destination: A New Normal Tourism Product

by

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Evaluation on the Camping Tourism Destination: A New Normal Tourism Product

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Abstract

Camping tourism and its activities are a part of the outdoor hospitality industry, which has changed from being a low-cost tourism niche to a mainstream, versatile recreation experiences. In the era of COVID-19 pandemic, travelling with a tent is popular. The demand for health safety is accordingly required. Camping grounds have dealt with the new demands of their customers and their behaviors, who wish to travel to clean-air destinations avoiding overcrowding environments. Sparked by personal and interpersonal needs for escape, socialisation, freedom, and discovery, and pulled by product and service improvement. The paper offers contemporary insights into the camping tourism sector overlooked by researchers in recent years. It examines key camping tourism destination elements including in nomenclature through the lens of three dimensions covering 7A's attributes, while describing the various patrons that are frequent in this sector.

Keywords: Camping Tourism, COVID-19 Pandemics, New Normal, 7A's, Research Review

1. Introduction

Tourism is one of the world's largest industries and its investment and mobility is also important to the central source of welfare for many regions and countries worldwide. Tourism activities also include many recreational activities that arise as a form of tourism, which relates to people's way of life, social and economic change and their travel behaviors. However, in recent year, the worldwide tourism and hospitality industry have suffered from several public health crises, including, including SARS (McKercher and Chon, 2004), Ebola (Novelli et al., 2018) and Coronavirus (COVID-19), which has severe affected economies, livelihoods, public services and opportunities on all continents. All parts of its vast tourism value-chain have been affected.

In response to the pandemic, travelling is not feasible for most people. Tourists' behaviors have changed to prefer distance from others, natural space and outdoor recreation (Rice et al., 2020). As a nature of camping characteristics is well-positioned with accommodations showing alternative tourists' choices and becomes a sign of recovery as travel loosen (Gössling et al., 2020; Ma et al., 2020; Craig (2020) also supports that camping tourism is a global phenomenon which is rising in a significant niche market and experiencing considerable changes prior to and during the coronavirus 2019 pandemic (COVID-19).

However, the pursuit of previous review articles is the identification of knowledge gaps. Camping management faces challenges in choosing strategies for a stable future development

(Cerović, 2014), which tourists' preferences has been rendered to change as a result of the COVID-19. Craig (2020) argues that camping attractiveness remains unseen in the relationship between COVID-19 and campsite management in practice. The concept of tourism system and its components 5As (Accommodation, Access, Amenities and Attractions) (Haneef, 2017) and Activity (Dickman, 1997) are the ones that tourism managers should consider in the management of the destination and ensure that all components are best suited with the quality and requirements of visitors. For Cooper and Hall (2007), the tourism components are essential factors for the destination development. These components were considered as fundamental requirements which travellers expect from the destinations where tourists intended to travel for various tourism purposes. While past researches on camping tourism have mainly focused on demand-side issues, this work attempts to reveal further attributes that may comprise the destination sentiment. To address the research gap and uncover the relative importance of management components/attributes, further 2As are found by undertaking a secondary analysis approach. All the lenses of 7As can affect the attractiveness of camping tourism sites responding to New Normal tourism destinations, offering tourists an integrated experience during the period of their stay. The paper addresses contributing tourism management components, improvements to camp, sub-sectors and international trends as determined from recent publications in facilitating the growth of camping tourism and its management implications.

2. Contemporary Issue Review: The Camping Tourism

2.1 Background and International Camping Destination Extension

Cambridge Dictionary Online (2021) has given camping as an outdoor activity, sleeping in an outdoor area which usually takes place in nature. Camping is the activity of spending holidays living in a tent. Those who practise this activity are known as campers. Campers usually leave their homes and spend one or more nights in tents enjoying nature. In the context of camping tourism, it is perceived as a form of nature-based special interest tourism. Rogerson & Rogerson (2020) addressed camping tourism and its activity is relevant to the concept of aesthetics in nature-based tourism, usually focusing on the man-made environment in nature. Cerović (2014) commented in the old time that the camp's meaning has been evolved gradually to cover also the improvised short-term settlements of various groups such as migratory farm workers, nomads, gipsies, explorers and refugees. Therefore, camping historically became an inevitable accompaniment to human activities at locations where there were permanent settlements. As Collines et al. (2020) pointed out the verb of camping and its terms of camps as code for spaces of mobiles dwelling "occupy ambivalent territory". In modern times, camping has become an enjoyable activity, which continues to grow across the globe. While it is fundamentally determined by the flexible, temporary and mobile nature of its accommodation facilities, such as tents, recreation vehicles (RVs), mobile homes, the activity is relevant to geographical characteristics and its accompanying tropical weather. Melville and Dick (2021) recommend 7 types of camping; these are glamping, car camping, wild camping, divvying, hammock camping, winter camping, RVing and garden camping as well is a new trend.

Several tourism researchers throughout the world have attempted to clarify the nature of the camping tourism destination. The latest report on Worldwide Camping Index (Hipcamp, 2021) has ranked the best destinations around the world based on an analysis of factors including stargazing, scenery, diversity of wildlife and the risk of natural disasters. The index reported that Canada, USA, Australia and Norway have been found the best camping destination respectively in the world due to its high potential for stargazing, number of national parks, low pollution, low risk of natural disasters and beautiful scenery. Some destinations rated highly include Brazil, which scored well for its vibrant wildlife biodiversity, number of national parks, forest area, natural resources and opportunity for stargazing. Except North America and Europe, some Latin American states have been ranked in top places attractively like Argentina, Mexico, Costa Rica, Peru with Brazil. Alternatively, recreational camping destinations are also viewed as particularly popular in the tourism economy; for example, Australia (Caldicott et al., 2014) and New Zealand (Collins & Kearns, 2010; Collins et al., 2018). Its popularity is further recorded in several countries of Europe including Croatia (Mikulić et al.,2017), Denmark (Mikkelsen & Blichfeldt, 2015), Germany (Doğantan & Emir, 2019), Spain (Garcia-Pozo et al., 2011; Salo et al., 2020), Turkey (Doğantan et al., 2017) United Kingdom (Lashley, 2015) and has been popular in Asian destinations such as Sri Lanka (Mallikage et al.,2021), Taiwan (Lee, 2020), Thailand (Utarasakul.,2014; Phakeewai & Wongchantra, 2020), Sri Lanka (Sumanapala & Wolf, 2020).

During COVID-19 pandemic in 2020, there was a growth of more than 60 percent of first-time campers who travel across the United States (grew by 10.1 million), while the number of households that own RVs grew by 2.6 million (Guest, 2021). Camping has been viewed as a safe way to take a vacation during the pandemic. It is also predicted that these new campers would be keeping up the habit in 2021 and beyond. Similarly, the tourism market in the United Kingdom has experienced a huge decline because of the COVID-19 pandemic but the camping and caravanning market has seen a rise of 2%, with 41% of consumers taking a camping and caravanning holiday in 2020 (Linkfluence, 2022). This increased popularity has appeared due to the fact that people believe the notions of camping tourism and its activities are safe ways to travel and desire to avoid crowds and the virus pandemic. According to future tourism discussion during the pandemic crisis, camping tourism has become an alternative leisure activity while there has been decreasing popularity of other tourism types.

2.2 The Need of Destination Management: Camping Tourism Components

Tourism is a dynamic phenomenon and travellers' behaviors have been changed depending on external and internal influences. Mill and Morrison (1985) added marketing as a specific tool of convincing people to travel to a certain destination. While others invest demand-side, LaPage and Bevins (1981) recommended that campground managers should assess their performance and achieve a high level of quality control in their service to the public and meet campers' satisfaction.

In fact, the management of tourism areas must be able to provide tourism components. Existing scholars commented on tourism components, there are several main stages which determine the condition of existing resources and propose measures for their improvements (Boskovic et al., 2013). Based on Cooper's work (2000), Lee (2020) and Andrianto & Sugiama (2016), there are 4 elements (4A's): attraction, accessibility, amenities and ancillary. The work concluded that a camping destination is a complex structure whose attractiveness is determined by its capacity to allow visitors to experience the great outdoors with comfort and security and in close contact with nature. Çakıcı and Harman (2007) examined the destination attributes for birdwatchers using the Buhalis (2000)'s 6A's to examine the factors. Thus, in their study they had the six dimensions (attractions, accessibility, amenities, available packages, activities and, ancillary services) suitable for birdwatching. Kim (2014) identified a 10-dimensional construct that affects tourism experiences (infrastructure, accessibility, local culture/history, physiography, activities & events, destination MGT, quality of service, hospitality, place attachment and superstructure).

Many scholars have advocated that destination as a set of products, services, natural and artificial attractions able to draw tourists to a specific place and thereby affirm that geographical position does not coincide with destination (Fyall and Garrod, 2020). And camping site preference is based on the structural needs of camping parties, such as sizes, recreation activities, facilities and infrastructure (Choi & Dawson, 2003). Despite its widespread occurrence of significant attention to several destinations, Rice et al. (2020) argue that as compared to other sectors of the tourism destination, camping destinations are different and relatively under-researched.

COVID-19 is not just a health pandemic but also an economic crisis on a global scale. Thus, tourist demand may recover to face tourist supply problems. Although there have been various studies attempting to establish campground destination attributes, the generalizability of the new normal model across a broad range of settings has not been proven yet, which is the main limitation of the study. Based on this assumption, it is logical to argue that the supply side in such campsites should be more guided and marketed in a coordinated new normal manner suiting the post-Covid 19 era (Afifi, 2021).

2.3 Camping Destination Component Considerations as A New Normal Tourism Product

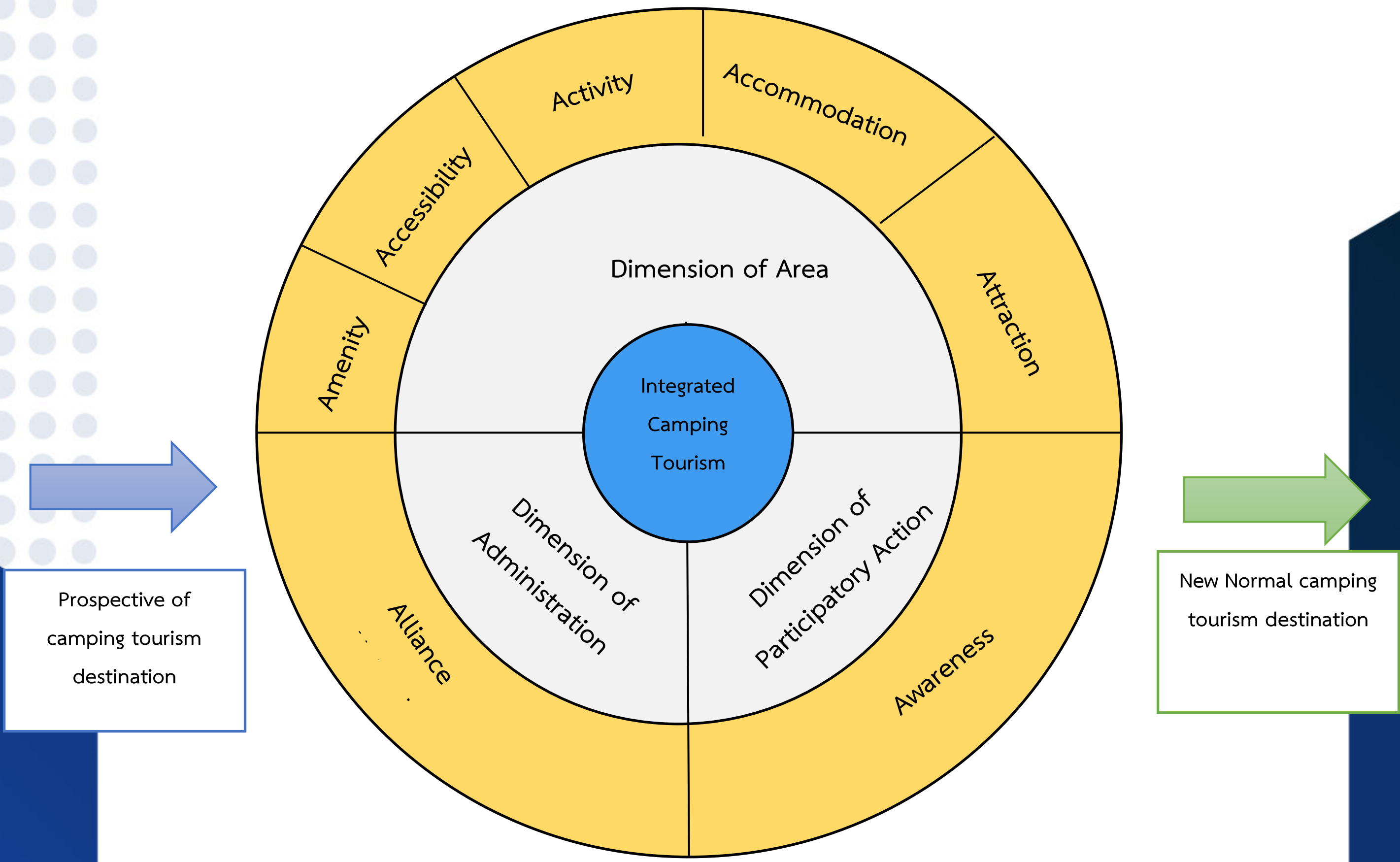

Figure 1 Camping Destination Component Considerations as A New Normal Tourism Product

Source: Author

The figure above shows Camping Destination Component Considerations as A New Normal Tourism Product Model (Figure 1.1). Here is the potential of tourism components based on management perspectives (dimension of area, administration and participatory action) that can be developed in the future, which needs to be considered as a basic component that tourist destinations should have in the post-Covid-19.

2.3.1 Dimensions of Area

What should attraction be?: Attraction

In terms of destination research, attractions could be identified as natural attraction, cultural attraction, man-made attraction and also include special tourist destinations where tourists will reach the area to meet tourists' needs and desires (Bagaihing et al.,2020). According to the nature of camping tourism, it provides individuals with an opportunity to connect with the natural environment and with themselves, family, or friends through simpler living practices. In the recent pandemic, UNCTAD (2020) records that although some destinations have started slowly to open up, individuals are still afraid of travelling or simply cannot afford it. To encourage travelling safely during the pandemic, both domestic and international destinations have tried to apply safe management measures or indicators. Rice et al.'s (2021) work on 'Expected Operational Safety Practices for Public Land Creation Management in the USA', which established the visitor management implementation response to the pandemic. Asian destinations, such as Singapore, the Multi-Ministry Taskforce (MTF) announced Safe Management Measures (SMMs) and the Singapore Tourism Board (STB) and made further progress towards living with COVID-19 (Singapore Tourism Board, 2022). Moreover, Amazing Thailand Safety & Health Administration (SHA) (Tourism Thailand, 2021) project has been established in Thailand, which aim to encourage business in the tourism industry to prepare destinations and tourism services to comply with the New Normal lifestyle. Such all projects are to improve the tourism industry standards and sanitation measures. These global measure work commonly recommended to implement tourist carrying capacity limits, use timed entries (whether through entrance gates, trailhead, etc.), enforce social distancing, require visitors to wear masks, use body temperature check when visitors enter the premises at high use areas, and require certificate of immunity due to the fact that a visitor has recovered from an infection or has been vaccinated. As many scholars confined camping to place and the strong connections with 'emotional geographies' of campgrounds for recreational campers, it promotes a sense of belonging, trust of destination and brings meaning to campers' lives (Wong et al.,2021). The research of Lin and her team (2021) agreed that the higher the motivation of camping tourists, the more positive their experiences and the higher their satisfaction. As Pongsakornrungsilp et al.'s empirical research (2021) supported, its safety certificate can be communicated to the public, especially tourists, in order to build trust among stakeholders.

How do people stay? : Accommodation

Camping is a form of accommodation which has been developed and changed over the centuries in various continents. Camping sites provide lodging facilities and some also provide food service to attract and retain consumers in their territory and strive offering their customers a unique experience. Since social distance is inherent in camping (Craig, 2020), travellers experience lower risks compared to traditional accommodations (Gössling et al., 2020) while also participating in outdoor recreation. According to a nature of camping lodging and its provision, there are various types of camping accommodation such as tent, caravan, motor homes (e.g., RV), mobile stable accommodation (e.g., caravan, boat house) and non-mobile stable accommodation (e.g., chalet, lodge, cabin) (Sommer, 2020). Despite strict government allowance and regulations, leisure in campsites seems to be an open and popular choice during the pandemic. Most campsite businesses in the UK, campsite accommodation providers are expected to follow government and industry guidelines in order to provide the safest possible environment. Adaptive COVID-19 measures adversely impacted psychological, physical well-being and desirability (Chattopadhyay & Mitra, 2020); campsite destination management are adapted and changed to follow COVID-19 secure guidelines (e.g., publishing an QR code to track information, printing distance markers in shared facilities to aid social distancing, additional space in communal seating areas, reducing the capacity of the campsite, contactless check in, cleaning protocol, increasing communal facilities). As such it is important for managers and other stakeholders, practitioners to craft communication that minimise risk concerns.

How to access?: Accessibility

How to access the destination is one of the campers' concerns. Accessibility is an essential component of the tourism system as it creates linkage between original place and destination. Accessibility is mentioned here to affect the length, cost and convenience with which the tourist reaches the destination: infrastructure (roads, railways, bridges, airports, ports, etc.); transport equipment (the capacity and speed of transport vehicles); government regulation of transport. The COVID-19 pandemic leads to political decisions (Gostin and Wiley, 2020), which cut the flow in the travelling system from one place to other places. The main components of the system remain at the first moment untouched: there are still people having the wish to travel, and there are intermediaries linking the source markets with the destinations being able to offer services needed to organise a trip. Under document analysis, accessibility attributes could be further provided, which are divided into two major groups; external and internal access. External access attribute, is an availability to access the destination (e.g., easy for access by private vehicles, connection with the public transportation services, connection with the main roadways). Moreover, the work of Sarandi et al. (2021) on Bromo Tengger Semeru National Park, Indonesia argued that regard to customers' satisfaction in the New Normal Era suggested that availability of tourist attraction directions is most significantly important as well as road conditions and availability of public transportation to each tourist attraction must be considered in external access to tourist destinations. However, tourists still comment on events with social distancing in place, they do not feel safe using public transportation. Internal excess attribute, further is a concern coping with service management to meet the changing needs of the accessibility service (e.g., call for regulation, protection of staff and travellers, protecting share rides (Yezli and Khan, 2020), temperature scanners, social distancing markers, co-creating timetable and schedule, contactless and mobile payment (Mogaji, 2020), regular cleaning and disinfection and alternative transport mode (Spielfogel, 2020)). These attributes are travel sentiment, which reflects the tourist's willingness to travel.

What to do safely? : Activity

Destinations are focal points for tourist activity. In travel behavior research of Chowdhury et al. (2020), decision making on destination choice is a crucial step, which correlates with activity in the destination. The camping industry is part of a larger segment of the economy known as outdoor recreation, which includes auxiliary activities that many campers enjoy. Campers usually bring necessary camping equipment with them, leave the city to camp in the natural environment destination, spend on or more nights. These various leisure activities further contribute to pulling campers to specific locations. For Brochado and Pereira

(2017), camping is a form of nature-based tourism which takes place in natural settings and uses natural resources. To clarify, camping is usually associated with other activities, such as hiking, trekking, fishing, animal watching, swimming or fishing, outdoor and B&Q. The activities also related themes to camping like education, physical training and aesthetic purposes (Bilim & Özer,2021). In recent years, this can be argued that the camping activities (with prioritise outdoor activity) represent an escape from the complexities of the modern world age (Wong et al., 2021). Safety in travelling is very important when choosing to visit a destination (Lenggogeni et al., 2019). Current pandemic conditions have caused re-thinking on nature-based tourism activities instead of human interaction intensive tourism types. For Van Heerden (2020), individuals' needs, goals, values and the attitudes of an activity could influence the desire to pursue an involvement in a recreational activity. This is evident in the variety of personal, social, and health benefits which have been linked to the activity - including flexibility and relaxation of schedules, improved social connectedness, and restoration through time spent in natural landscapes (Bergart & Clements, 2015). The maintenance of the natural environment, the provision of auxiliary camping equipment, and good service quality can provide tourists with a good experience and satisfaction.

What to serve?: Amenities

Amenities have been referred to by various existing destination management scholars. Martin & Mason (1993) argued amenities mean the facilities used to pleasure tourists in forms of tangible and intangible products; for example: accommodation, cleanliness and hospitality. National Park Service: Campground Industry Analysis: Covid-19 Update Final Report (Government Services, 2019) reported three factors for national park campers; those are atmosphere, location, quality, type of accommodation, availability, recreation/activities, pet friend and WIFI. Campers who are usually selecting private campgrounds are more focused on the atmosphere at the location, followed by the location. However, availability of Wi-Fi is of low importance as a factor for individuals choosing national and state parks. During the pandemic, most campers have considered three factors; clean and well-maintained restrooms; full-service RV sites plus easy in/easy out pull through sites; and a kind-friendly atmosphere (Government Services, 2019). In some continents (e.g. North America, Australia, and Western Europe), camping sites rely on park models and basic cabins to meet the needs of customers Gursoy and Chen (2012) conducted research in the Asian context, they identified the factors affect campsite selection decisions of Taiwanese youngsters, which perceived campground attributes.; natural sites, such as the lake, pond, or river from the campsite, distance between campsites for privacy, amount of vegetation around campsite for shade and screening, and no crowding in nearby campsites. Moreover, safety and security are another major concern for tourists and needs to be considered in a tourist destination. A safe destination tends to create less pressure and more peace of mind for tourists during their visit (Kokkhangplu & Kaewnuch, 2021). Service attributes are considered not only to help differentiate and add value to a tourist destination but are also a key factor to attract tourists and maintain repeat visitors (Murphy et al., 2000).

2.3.2 Dimension of Community Participation

What campers should gain?: Awareness

Camping tourism, as an activity relies majorly on the natural landscape as a resource. A notion of pro-environmental awareness attribute has been encountered at camp through outdoor programming, and perceived connectedness to nature and others. Previous studies showed an increase in environmental awareness associated with camping, given the importance of the outdoors, connection with nature, and environmental ethics (Baker et al., 2019). Staples et al. (2019) conducted wilderness campsites in the USA and argued that the campers have been concerned about negative long-term impact on the environmental conditions in the campsite area. For Bacsi and Szanati (2021), people's awareness of environmental problems depends on the general cultural traits, beliefs and values of the population. A foundational element of camp should show its philosophy that is important in the community ethics and norms at camp. Camping activities provide an environmental community in multiple ways. Similarly, to the work of Andereck et al. (2012) on volunteer tourists' preferences, voluntarists prefer camping accommodation while they are mostly focusing on experiences with an environmental conservation activity. As said, when campers feel more being a part of the social groups and camp peer community, they are more likely to accept and adopt those environmental protection ethics and norms (Cousineau et al.,2018).

2.3.3 Dimension of Administration

Who is involved? : Alliance

To ensure the long-term viability of tourist enterprises, the capacity to interact with stakeholders is important. Destination stakeholders are 'groups or individuals who have an interest in a particular destination, and they can also affect or be affected by the destination (Chinyio and Akintoye, 2008). Tourism literature has identified stakeholders into six distinct groups such as tourists, government, industry, local community, educational institutions, and special interest groups (Waligo et al. 2013). Shifting the connotation from management to governance thus means acknowledging that actor relationships in tourism destinations are aptly portrayed as networks (Gretzel et al., 2020); that is an intermediate form of economic organisation in-between markets and hierarchies, and in-between political and corporate decision-making (Bramwell & Lane, 2011; Hall, 2013). According to Sinulingga's work on Coronavirus Impact Inventory to Tourism Stakeholders in North Sumatra (2021), stakeholders are divided into two types, namely major and minor stakeholders. He further explained those effects could come from within the scope of the destination components, which are major stakeholders in tourism attraction, tourism accessibility, amenities, accommodation (Cooper, 2000), destination awareness and include alliance and its network. Gaining more importance due to COVID-19 pandemic, according to its impacts, destination management hence concentrated on how this coordination of a diverse set of stakeholders can be achieved effectively and efficiently.

3. Conclusion

Camping tourism is significantly growing worldwide and has become an extremely popular recreation activity in both Western and Eastern countries, especially during and post pandemic COVID-19. As restrictions of travelling, outdoor recreation and alternative accommodations are showing signs of recovery (Gössling et al., 2020; Rice et al., 2020). The rapid market growth has highlighted the urgency for both the government and business sectors to invest wisely in this sector to ensure that camping infrastructure, facilities and services are in place. It has been observed recently that camping are a rather neglected element of the tourism and hospitality industry (Mikulić et al., 2017) and particularly an understanding of the relative components for determining strategic camping destinations has been inadequately explored. While the literature has fallen short of presenting a theoretical framework for practical measurement of the tourism attractiveness of a camping destination, the present study has provided a starting point by collecting the views of a range of previous scholars. Though, traveller camping decisions differ based on spatial and temporal proximity to COVID-19. This study was previously known to explore the components of camping site management considerations preventing pandemic COVID-19. According to the secondary data that analyzed, three main dimensions are found, 5A’s tourism attributes (Attraction, Accommodation, Accessibility, Activity, and Amenities) and extra A’s are emphasised especially Awareness and Alliance. The implacable value is seen in the evidence on the importance of implementing innovative accommodation in camping, which contributes to the transformation of camping into a new normal tourist lodging business – camping site that is rejuvenated and redesigned. The key limitation of the model is based on the fact that different individual campsite potentials are necessary to be considered for a new normal tourist destination. Therefore, each variable factor of 5As and 2As attributes of camping destination should be further investigated and the opinions of key stakeholders should be explored.

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A Study on Attitude of Thai International Business Management Students Towards Japanese Working Culture

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Abstract

Japan has been a major investor in Thailand for decades. Foreign direct investment (FDI) contributes to an increase in local employment and economic growth. In Thailand, Generation Z accounts for the majority of the work force, with some of them attending in educational institutions. There are significant cultural differences in working culture between Japan and Thailand. As a result, a research topic titled "A study on attitude of Thai International Business Management students towards Japanese working culture" was developed with two main objectives: 1) To study the difference of personal information that influence senior students to work for a Japanese company and 2) To study Hofstede's conceptual framework on cultural differences focusing on Japanese culture that influence senior students to work for a Japanese company. This study used the closed-end questionnaire as an instrument to collect the data. The questionnaire was provided to 169 Gen Z senior students, who are majoring in International Business Management. The independent sample t-test and One-way Analysis of Variance as well as the multiple regression analysis with the significance level of 0.05 were used to measure the hypotheses. The result found that the difference in personal information; gender, internship experience, and academic record (GPAX) have no influence on the sample group's determination to work for a Japanese company. However, the only cultural factor in Hofstede's conceptual framework on cultural differences that influences senior students to work for a Japanese company is Long-Term Orientation.

Keywords: International Human Resource Management, Cross-Cultural Management, Japanese Working Culture, Thai Gen Z, Job search

1. Introduction

According to Thailand's foreign direct investment (FDI) statistics, Japan has been a foremost investor in the kingdom since 1985, as a result of the plaza accord (Thailand Board of Investment, 2021; Gerbacia, 2015, p. 4). According to the Thailand Board of Investment (BOI), 783 projects worth 455,331 million Baht were filed for investment promotion by foreigners in 2021, with 178 of them coming from Japanese investors. The entire investment value was more than 80,733 million Baht, accounting for around 18% of all foreign investment in that year. In other words, Japan ranked first among foreign investors in Thailand in 2021. As per data from the Japanese Foreign Trade Organization (2021), there were 5,856 Japanese companies investing in Thailand in 2020, up from 5,444 in 2017. In the same light, Nikkei Asia (2021) stated that Japan was Thailand's top investor in 2021. Despite the fact that Japan's overall investment in Southeast Asia has decreased by 54%, Japanese investment in Thailand has increased by 10%, accounting for 36% of the country's total investment. FDI also leads to a reduced unemployment rate and a stronger national economy (Saejueng, 2016). International Human Resource Management research in respect to FDI appears to be a significant study for Thailand's social and economic recovery.

Most Japanese companies are Ethnocentrism due to Japanese International Human Resource Management, which means that all key management positions in Japanese subsidiaries are managed to hold by Japanese nationals (Conrad and Meyer-Ohle, 2017; Furusawa and Brewster, 2016), whereas supporting positions are kept by local or foreign employees (Conrad and Meyer-Ohle, 2017 and Sekiguchi et al., 2016). Since serious Japanese working culture has an impact on the working environment of subsidiaries (Conrad and Meyer-Ohle, 2017; Furusawa and Brewster, 2016), it tends to obstruct Japanese companies' ability to recruit and retain global talented employees (Sekiguchi et al., 2016).

Even though the management teams of Japanese firms at subsidiaries are predominantly Japanese, local employees are indeed necessary. A typical business limited is required by Thai legislation to employ four Thai individuals for every one foreign employee's work permit (Chicarelli, 2020). In terms of Human Resource Management, it's remarkable to note that Japanese firms prefer to hire new graduates over experienced applicants since fresh one have not yet inherited other organizations' working cultures (Jirayuphat, 2021; Hirasawa, 2016, p. 55; Nagano 2014; Spacey, 2012). In addition, Japanese corporations can use OJT (On the Job Training) to develop new graduates and anticipate keeping them for a long time (Hirasawa, 2016, p. 59; Spacey, 2012). In regards of workforces in Thailand, Gen Z, those born between 1995 and 2009, is a major force driving over 20% of the Thai labor market (JobsDB, 2020). According to a report from the Ministry of Education (2021), the number of Thai citizens aged 18 and above participating in higher education has grown. In the academic year 2020, 54.7 % of Thai individuals aged 18 to 21 are enrolled in academic system, up from 53.6 percent in the previous academic year. With that figure, the total number of students is estimated to be around 2 million, with roughly 1.5 million of them being bachelor's degree students. Due to the Japanese preference for employing new graduates, Thailand seems to have a large workforce available, since there are around 500,000 new graduates in March 2021, and approximately 300,000 remain unemployed in 2020. (PPTV Online, 2019).

In this regard, study on an attitude of Gen Z towards Japanese working culture is noteworthy. Furthermore, senior students who are in international business management major are appropriate in order to be a sample group because of their international global perspective (Smith, 2021; Holland International Study Centre, 2019).

2. Literature Review

In terms of surveying an intention of senior students about working in a Japanese firm in Thailand. The author examines each stage of the sample group using the logic of the AIDA model (Priyanka, 2013, p. 40). According to the concept, consumers go through four cognitive processes before making a purchase decision: attention (Having product awareness mostly through advertising), interest (Learning about the product), desire (Creating a positive perception of the brand), and action (Making a purchase). Correspondingly, when new graduates are looking for work. Through recruiting advertising, they raise awareness of the employment at a Japanese firm (Attention). Then they learn more about the company (which piques their Interest) and decide to fill a position there (Desire). Finally, they intend to pursue for that position (Action).

There are several aspects that a job seeker should consider during the job search process. Applying for a job in a foreign firm appears to be more challenging since the working culture is based on a distinct culture. The author uses a job seeker's personal information, including gender, internship experience, and academic records (GPAX), as well as the Hofstede conceptual framework on cultural difference (2011), with a focus on Japanese culture, as two variables that influence Gen Z's decision to work in a Japanese company. Interestingly, personal characteristics like gender, work experience, and educational background have no impact on job selection (Chi, Yeh, & Guo, 2018, p. 72). Internship experience, according to Rothman and Sisman (2015), is helpful since it helps business students to learn about their jobs while also saving them and their future employers cost on turnover (p. 1009). Concerning the connection between personal information and the determination of job seekers to work for Japanese firms, Sugi and Ye (2020) revealed in their work that Japanese organizations never have a lack of talented female candidates. Furthermore, Jeducation (2016), a well-known counseling center for Studying in Japan and Japanese language schools in Thailand, indicated that Japanese employers do not value candidates' internship experience or GPAX since, as previously stated, they want to train new workers from the ground up. Furthermore, Waisriseang (2009) proved that gender and GPAX have no influence on job search for Thai university students (p. 74-78). Thepanon (2021) also said that internship experience is not required for university students when applying for a job; alternatively, OJT (On the Job Training) is more vital. As said before, this approach corresponds to Japanese corporations' preference for hiring new graduates (Hirasawa, 2016, p. 59; Spacey, 2012).

In terms of cultural differences, as mentioned earlier Japanese subsidiaries rely heavily on Japanese expatriates. The rigid Human Resource Management leads to conflicts between Japanese supervisors and local supervisees. To illustrate, Japan’s FDI in Asia was 48,864 million US dollars in 2021 (JETRO, 2022). However, the university students in Asia shared an interesting opinion on survey that Japanese firms are less attractive to them comparing to Western or their home country companies (Kokubun, 2017, p. 460). A nation with the largest Japanese FDI in 2021, such as China, with 10,020 million US dollars (JETRO, 2022), also has a high turnover rate because Chinese employees regard their Japanese supervisors as lacking in localization and communication. Equally important, Chinese employees, particularly university graduates, perceive that working in a Japanese corporation limits their career opportunities due to Japanese ethnocentrism (Kokubun, 2017, p. 460).

Vietnam had the most FDI from Japan in ASEAN in 2021, with a total investment of $3,748 million US dollars (JETRO, 2022). Human Resource Management is also affected by the two nations' different working cultures. As Vietnamese personnel cherish opportunities in their careers, changing jobs are common. Kurokawa (2014), a Japanese who old a started-up company in Vietnam, stated his survey result that 56% of Japanese have never left their first company whereas that of Vietnamese was just 26%. Furthermore, Event21, a Vietnamese event organizer in Japan (2020), made two interesting insights regarding Vietnamese and Japanese working cultures. The first is that Japanese people always adhere to their plans. In other words, unanticipated change causes uncertainty and difficulties in making decisions. Meanwhile, the Vietnamese people are capable of adapting to changing circumstances. Anyways, they are not well-prepared for work. The second point is regarding gender; in Japan, the number of women employees is low, especially in high management positions; in contrast, women in Vietnam are self-sufficient and have a large number in management positions. As a result, a distinct Japanese working culture creates tension between Japanese and local employees at Japanese businesses in other countries.

Nevertheless, the focus of this study will be on the differences in working cultures between Japanese and Thai individuals. Thailand, which ranked second in the ranking of Japan's FDI in ASEAN in 2021, with a total investment of $2,954 million US dollars (JETRO, 2022), is evidently ideologically opposing to Japan in many aspects. One of the important theories to examine diverse cultures is the Hofstede conceptual framework on cultural differences (Hofstede, 2011), which has six factors: Power Distance, Individualism, Uncertainty Avoidance, Masculinity, Long-Term Orientation, and Indulgence. Table 1 shows the differences in cultural perspectives between Japan and Thailand, which could explain disagreements between Japanese supervisors and Thai subordinates.

Table 1: The Hofstede conceptual framework (Japan and Thailand)

Hofstede's cultural dimensions	Japan	Thailand	Difference
1. Power Distance	54	64	Thailand = 10 points higher
2. Individualism	46	20	Japan = 26 points higher
3. Uncertainty Avoidance	92	64	Japan = 28 points higher
4. Masculinity	95	34	Japan = 61 points higher
5. Long-Term Orientation	88	32	Japan = 56 points higher
6. Indulgence	42	45	Thailand = 3 points higher

Source: Hofstede (2011)

Thailand has a higher score for Power Distance, as seen in Table 1. This indicates that Thais want a more hierarchical organizational structure (Hofstede, 2011). Unexpectedly, Japanese supervisors treat their Thai subordinates with a sense of equality. They consider a firm employee to be equivalent to a family member. However, because Thais believe in a clear management structure, this creates ambiguity for Thai staff. To put it differently, Thais appear to be more at ease with tall organizational structures (Swierczek & Onishi, 2003, p. 197). It is also customary to follow upper management's decisions. As a result, a leader acts more like a ruler than a collaborator (Thanasankit, 2002). However, in Japanese companies, this cultural aspect causes a delayed working process. To provide an example, the Japanese working culture is based on lengthy decision-making since anybody in a position of power may make a choice. While they believe in equality, every choice they make is based on agreement (Hofstede, 2011). It is important to note that public scolding is a common strategy among Japanese supervisors; nonetheless, this behavior causes disagreements and has a negative effect in Thai society. Once Thais are publicly scolded, they lose face (Petison, 2010, p. 20; Kamolkhantibowon, 2017).

Table 1 shows that Japan has a higher score for individualism than Thailand, indicating that Japan is more individualistic. Although the Japanese are known for their so-called lifelong employment, it is viewed as an independent trait since people choose to be loyal on their own (Hofstede, 2011). Anyway, the Japanese have a strong collective behavior in that they often devote personal time to complete team duties because they feel that an individual's success is defined by the success of the group. It appears to be contradictory to Thais since they do not work extended hours on hold to pursue corporate goals after business hours (Jaivisarn, 2010). Thais, in contrast, prefer instruction from a Japanese manager for a team project, while Japanese managers want some ideas from subordinates in terms of team organization before providing them an instruction. The Japanese managers may eventually run into problems due to a lack of or a few opinions from their Thai subordinates (Onishi & Bliss, 2006, p. 219).

In Table 1, Japan has a substantially better score for Uncertainty Avoidance, reflecting that the Japanese managers take the company's rules seriously. However, Thais support flexible company rules and feel that they should be altered in response to changing circumstances. The problem arises from the fact that Japanese executives believe that changing any company's policy without serious analysis is irresponsible (Swierczek & Onishi, 2003, p. 198).

In Table 1, Japan's score on Masculinity is significantly higher, demonstrating that it is one of the world's most Masculine cultures. Japan's so-called monodukuri industry is reliant on perfection. Perfectionism may also be evident in the service industry and in the way, people present themselves at work. Another manifestation of Japanese Masculinity is workaholism. According to the World Economic Forum (WEF) (2021), Japan employs more males in every position. In addition, it is difficult for women to advance in their careers. Thailand is not competitive, despite being a Feminine society, with the lowest Masculinity score among ordinary Asian countries (Hofstede, 2011). At work, Thais focus heavily on "work in order to live," as opposed to the Japanese approach of "live in order to work." On weekends, Japanese managers work willingly; Thais, on the other hand, place a high value on leisure and free time (Swierczek & Onishi, 2003, p. 198).

Regard to Table 1, another cultural element in which Japan outperforms Thailand in terms of Long-Term Orientation. Even when the corporation is in a moment of economic hardship, Japanese Long-Term Orientation could be seen in heavily invested in research and development (R&D) (Hofstede, 2011). Japan has consistently accepted operating at a loss in the present in order to profit in the future. Japanese businesses frequently develop a three-year business plan with this attitude in mind. Thai subordinates, on the other hand, regard that notion as an unpleasant working strategy. Thais like short-term plans (Swierczek & Onishi, 2003, p. 198). There is a clear lack of preparation or planning among Thai workers prior to the assigned task (Petison, 2010, p. 22).

As can be seen in Table 1, the two nations practically have the same value for this cultural aspect when it comes to indulgence. With their culture of restraint, the Japanese, on the other side, appear to be more concerned about this issue. They believe that their behaviors are limited by societal standards, and that indulging themselves is a negative thing to do. The Japanese place little value on leisure time at work (Hofstede, 2011).

In light of such considerations, the author is interested in studying about personal information and senior students' attitude towards Japanese working culture through Hofstede's cultural dimensions that affect their determination to work for a Japanese company.

3. Research Methodology

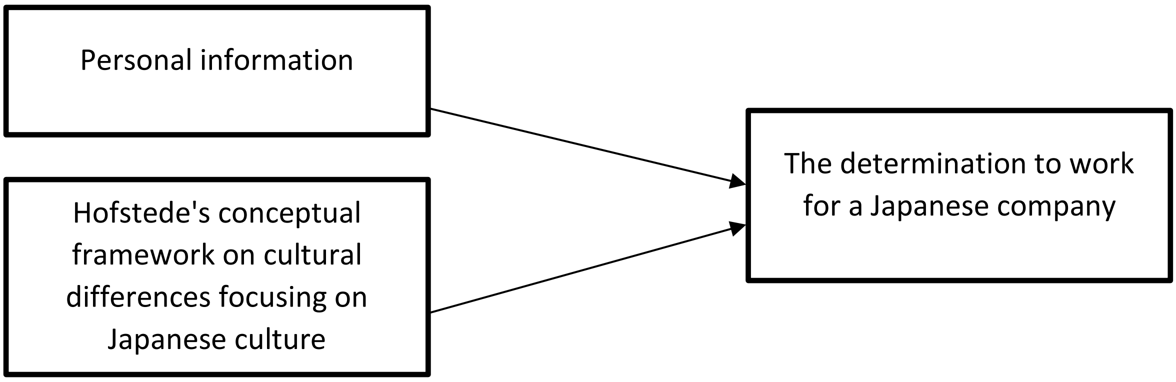

Figure 1: The research framework of factors affecting the determination to work for a Japanese company.

The framework of this research shows independent variables which are personal information and Hofstede's conceptual framework on cultural differences focusing on Japanese culture affecting the determination to work for a Japanese company of senior students. The dependent variable is the determination to work for a Japanese company; it is affected by these two variables.

This study used the closed-ended questionnaire to survey 169 Gen Z senior students who are majoring in International Business Management in a selected Thai private university. Content validity of the questionnaire was verified by the expert in the organizational behavior field. Also, the value of reliability test, the Cronbach's alpha, was 0.890 from 30 senior students in a selected private university in order to ensure before contributing to 169 senior students. The questionnaire consists of three parts; personal information, Hofstede's conceptual framework on cultural differences (between Japanese and Thai culture) – divided into six subcategories, and cognitive stages on working in Japanese working culture – divided into four stages. For personal information, respondents need to select one choice that most suitable to their own information. For the rest two parts, respondents need to determine the level of agreement based on Five Point Likert Scale, from strongly disagree to strongly agree; 1-Strongly disagree, 2-Disagree, 3-Moderate, 4-Agree, 5-Strongly agree. Statistical Package for Social Science is a tool for data analysis and interpretation. Hypothesis 1 is analyzed by independent sample t-Test and One-way Analysis of Variance or F-test. Hypothesis 2 is analyzed by multiple regression analysis. Importantly, the data were tested by using Taro Yamane formula (Yamane, 1973) with a significance level of 0.05.

4. Finding and Conclusion

4.1 Findings

The study on an attitude of 169 senior students, who are majoring in International Business Management in a selected private university, toward Japanese working culture shown the overall majority in descriptive statistics that 70.6% of the respondents are female (119 persons), 49.1% of them have internship experience (83 persons), also, 48.5% of their accumulated grade point average (GPAX) from 3.01 to 3.50 (82 persons).

Table 2: The mean and standard deviation of Hofstede's six cultural dimensions on working in Japanese working culture.

Descriptive Statistics Hofstede's six cultural dimensions (Japan)	Mean	S
Power Distance		
Multiple immediate supervisors (Hofstede, 2011; Thanasankit, 2002)	3.50	0.881
Scolding culture (Petison, 2010, p. 20; Kamolkhantibowon, 2017)	3.01	1.038
Frequent job rotation of the immediate supervisor(s) (Thanasankit, 2002)	3.06	1.022
Complex business structure (Hofstede, 2011; Thanasankit, 2002)	3.68	0.941
Paternalistic management (Wang & Chompuming, 2015)	3.66	0.981
Individualism		
Consensual decision making (Onishi & Bliss, 2006)	3.88	0.933
The success of the group (Jaivisarn, 2010)	3.93	1.003
Personal time devotion for team duties (Jaivisarn, 2010)	2.77	1.225
Low independence working environment (Hofstede, 2011)	3.42	0.955

Descriptive Statistics Hofstede's six cultural dimensions (Japan)	Mean	S
Uncertainty Avoidance		
Time consuming decision making (Hofstede, 2011; Thanasankit, 2002)		
Adherence to the plan (Swierczek & Onishi, 2003)	3.86	0.833
Adherence to company rules (Swierczek & Onishi, 2003)	2.99	1.144
Rigid working process (Hofstede, 2011; Swierczek & Onishi, 2003)	2.85	1.121
Conflict avoidance (Hofstede, 2011)	2.87	1.252
	3.54	0.951
Masculinity		
Strong masculine culture (Hofstede, 2011; WEF, 2021)		
Perfectionism (Hofstede, 2011)	2.31	1.240
Workaholic (Hofstede, 2011; Swierczek & Onishi, 2003)	2.54	1.190
	3.35	1.007
Long-Term Orientation		
Lifetime employment (Hofstede, 2011; Pantoomano, 2021)		
A higher based salary (all about-Japan website, 2019)	2.67	1.183
Long-term company plan during loss (Swierczek & Onishi, 2003)	3.27	1.010
Business Practices with long-term goals (Hofstede, 2011)	3.17	1.078
Preparation or planning prior task assignment (Petison, 2010)	3.05	1.034
	3.44	0.899
Indulgence		
Strong culture of restraint (Hofstede, 2011)		
Prioritization of common interests (Hofstede, 2011)	3.04	1.159
	3.27	1.022
Average	3.21	0.559

For Table 2, the overall opinion of 169 respondents on Hofstede's six cultural dimensions, using dimension of Japan in survey, has a mean of 3.21 and a standard deviation of 0.559.

Table 3: The mean and standard deviation of four cognitive stages on working in Japanese working culture.

Descriptive Statistics The determination of senior students to work for a Japanese company	Mean	S
Awareness of the employment at Japanese firms	3.54	0.809
Interest in finding more information about Japanese firms	3.69	0.860
Desire to fill an available position in Japanese firms	3.68	0.990
Apply for a job in Japanese firms	3.55	0.951
Average	3.62	0.736

For Table 3, the overall opinion of 169 respondents on the determination of senior students to work for a Japanese company, it has a mean of 3.62 and a standard deviation of 0.736.

Hypothesis 1: Different gender and personal information has an influence on the determination of senior students to work for a Japanese company.

Table 4: Comparison of difference in gender has no influence on a willingness to work for a Japanese company.

Gender	n	$\bar{x}$	T	Sig.
1. Male	50	3.68	.738	.461
2. Female	119	3.59		

Statistical significance at 0.05*

Regarding Table 4, it could summarize that gender has no influence on the determination of senior students to work for a Japanese company at statistical significance at 0.05.

Table 5: Comparison of differences in personal information on internship experience and GPAX have no influence on the determination of senior students to work for a Japanese company.

Personal Information	F	Sig.
1. Internship Experience	1.408	.237
2. GPAX	0.568	.686

Statistical significance at 0.05*

In regard with Table 5, it could summarize that internship experience and GPAX have no influence on the determination of senior students to work for a Japanese company at statistical significance at 0.05.

Hypothesis 2: Japanese working culture based on Hofstede's six cultural dimensions (Japan) have an influence on the determination of senior students to work for a Japanese company.

Before working on Multiple Regression Analysis, the relationship of all six independent variables has been tested. The author found that Tolerance values of them are between 0.420 and 0.690. Theoretically, if Tolerance value is greater than 0.2, all six independent variables have little relevance. In other words, each variable here is independent of others and does not cause multicollinearity. Therefore, all six independent variables do not conflict with the conditions of Multiple Regression Analysis. In addition, the average of VIF (Variance Inflation Factor) of all six independent variables is between 1.448 to 2.379, which are all less than 5, emphasizing that those independent variables are not related. Thus, all six independent variables are usable for Multiple Regression Analysis.

Table 6: Test of hypothesis 2

Japanese working culture bases on Hofstede's six cultural dimensions (Japan)	Beta	t	Sig.
1. Power Distance	-.043	-.415	.679
2. Individualism	.164	1.892	.060
3. Uncertainty Avoidance	.175	1.582	.116
4. Masculinity	-.029	-.360	.720
5. Long-Term Orientation	.334	3.130	.002*
6. Indulgence	.041	.580	.563

R^2 = .274, F-Value = 10.174, n = 169, P-Value = 0.05*

According to table 6, the result showed that the only one cultural factor, which is Long-Term Orientation, has an influence on the determination of senior students to work for a Japanese company at 27.4%. In contrast, other five dimensions, which are Power Distance, Individualism, Uncertainty Avoidance, Masculinity, and Indulgence have no influence on their determination to work for a Japanese company.

4.2 Discussion

The research result on an attitude of Thai senior students, who are majoring in International Business Management in a selected Thai private university, towards Japanese working culture could be discussed as follow.

According to Hypothesis 1: Different gender and personal information has an influence on the determination of senior students to work for a Japanese company, the result showed that gender, internship experience, and academic records (GPAX) of the sample group have no influences on their determination to work for a Japanese company.

In terms of gender and GPAX, it is relevant to a mention of the work of Chi, Yeh, and Guo (2018) that gender, work experience, and education background do not play any role in job search. About gender, it can support by what MGR Online (2020) stated on its online article that Thai Gen Z believe in equality. All genders are free to do any type of work as long as they like it. According to a perspective to GPA and career choice for Thai students, interestingly, a career choice a career decision is tied to chance, luck, or faith even they have a good GPA (On Wesarat, Sharif, and Majid, 2017). Regarding internship experience, as mentioned earlier, work experience does not account for a job application (Chi, Yeh, and Guo, 2018). Even though Rothman and Sisman (2015) mentioned that internship experience has an impact on business students in terms of career consideration, Callanan and Benzing (2004) stated on their work that the completion of an internship assignment does not signify a higher degree of personal fit with the selected occupation (p. 86). Furthermore, as Holyoak (2013) pointed out, internship providers vary, resulting in a wide range of experience levels across interns (p. 580). As a result, it might explain why people who have completed an internship have the same opinion on Japanese working culture as those who have not.

Regarding Hypothesis 2: Japanese working culture based on Hofstede's six cultural dimensions (Japan) have an influence on the determination of senior students to work for a Japanese company. The author found that only a factor of Long-Term Orientation has an influence on senior students' determination to work for a Japanese company. Pantoomano,

(2021) stated that Gen Z were born and raised in the time of economic recession, so job security is also important to them. In addition, the stock exchange of Thailand (SET) (2021) revealed its survey about factors influencing Gen Z in job search, Top 4 desirable factors are first, higher base-salary job, second, more benefits in the offer of a company, third, stable employment, and fourth, performance-based evaluation. This revelation together with their preference on job security is undeniably fit to Japanese lifetime employment policy. Furthermore, all about-japan.com (2019), a website of Japanese people sharing information about Japan, reported that a base salary of the Japanese companies in Thailand is higher than the Thai companies approximately 20%, excluded Japanese language skill. This point can support the survey result of SET that Gen Z prefers a company that offer them a higher salary base. Regarding policies of the Japanese companies, such as creating long-term company plan even facing the loss (Hofstede, 2011), do not fit the perspective of Thai employees (Swierczek & Onishi, 2003, p. 198). It seems attenuate for Thai Gen Z because they are risk taker who open to any failure due to their entrepreneurial mindset and multi-tasking skill (Pantoomano, 2021). Therefore, the research result shows that Japanese working culture in terms of Long-Term Orientation is a unique cultural factor that responses to the preference of Thai Gen Z.

Although Individualism has no influence on the sample group at statistical significance at 0.05, the survey result showed that this factor would does matter in another slight margin. The reason can be explained by the work of Pantoomano, (2021) mentioned about a unique characteristic of Gen Z in global perspective that this generation is more individualistic and independent, due to their competitive environment, than their previous generation – Gen Y. Moreover, Gen Z tends to share the same value with their global generational cohort. That is why individualism almost does involvement in this study since the group of respondents are Gen Z. On the other hand, Farrell and Phungsoonthorn (2020) argued on their study that Thai Gen Z is in opposite with their global cohort because Thai Gen Z is more collectivism. Hofstede (2011) also mentioned that Japanese is individualist by Asian standard. Hence, as a society that combines perspectives between individual and collective aspects, this cultural factor is not response to the sample group in terms of determining to work of a Japanese company.

For Power Distance, Uncertainty Avoidance, and Indulgence, despite the fact that Thai Gen Z prefer lower power distance, more of them do not believe in seniority, comparing to its older generations (Farrell and Phungsoonthorn, 2020), paternalistic management and hierarchical system is noticeable in the society (Hofstede, 2011; Wang & Chompuming, 2015, p. 118). Employees do not challenge the management's decisions or dissent with them (Thanasankit, 2002). So, the social culture seems control their behavior. Although Gen Z does not express emotion clearly, it does not mean that they agree with or satisfy the Japanese working culture. Accordingly, it is understandable why Japanese complex and unique management style does not meet the characteristics of Thai Gen Z. As mentioned earlier, Japanese working culture is dependent on consensus because of the believe of equality. It leads to a very delay due to long process in consensual decision making (Hofstede, 2011; Thanasankit, 2002). Even Japanese work on the basis of a belief in equality, scolding is a unique Japanese business behavior that is frowned upon by foreigners (Petison, 2010, p. 20; Kamolkhantibowon, 2017). Kasikorn Research Center (2021) said Thai Gen Z, as a first jobber, is a fast learner and gives important to flexible working plan. Jobthai.com (2019), a website for job search in Thailand, also indicated that Thai Gen Z has adaptability skill. Pantoomano, (2021) states that Thai Gen Z want to manage and control their environment and their jobs by themselves. Also, Bangkok Bank (2018) indicated that Gen Z really focus on work-life balance; therefore, leisure time is important for them. Those inclinations are unquestionably at odds with Japanese work culture, which adheres to rigid rules. The term "fast changing" alludes to hasty decisions (Swierczek & Onishi, 2003, p. 198). Also, a culture of restraint as a serious discipline, implying that leisure time and indulging oneself are uncommon or even somewhat incorrect practice (Hofstede, 2011).

For Masculinity, Thai Gen Z values Gender Egalitarianism (Kasikorn Research Center, 2021). As well, Thai society is much less competitiveness (Hofstede, 2011). For Japanese enterprises, it's a different situation; as previously said, males are preferred above women in all jobs. Workaholic is not a particularly unusual working culture. Also, this country with the character as one of the most masculine societies in the world is fond of competitive business (Hofstede, 2011). Without additional inquiry, the huge cultural disparity has no impact on the sample group's decision to work for a Japanese firm.

5. Conclusion

When senior students, who are members of Generation Z or Gen Z, a current major sector in the Thai labor market, start looking for work. Gender, internship experience, and academic records (GPAX) have no impact on their determination to work for a Japanese firm. Gen Z believes in gender equality, which implies that people of all genders may work for whatever they choose. For academic record, they believe that having a good GPA is not a cause of finding employment, but rather a result of chance, luck, and faith. According to internship experience, completing an internship assignment does not indicate a higher level of personal fit with the desired profession.

Only the element of Long-Term Orientation has an impact on Gen Z's intention of working for a Japanese company, according to the cultural differences between Japan and Thailand based on Hofstede's six cultural dimensions. Gen Z was born and grown during a recession; thus, job stability is vital to them. Japan's working culture is recognized for lifelong employment. Furthermore, as compared to Thai companies, Japanese companies pay a higher beginning basic salary. This financial structure is appropriate for Gen Z since they demand a large initial compensation. Finally, Gen Z adopts a long-term planning approach in regards to Japanese working culture since they are risk takers who are open to any failure due to their entrepreneurial mindset and capacity to multi-task. Other cultural factors of Hofstede's six cultural dimensions; Power Distance, Individualism, Uncertainty Avoidance, Masculinity, and Indulgence have no influence on the determination of Gen Z to work for a Japanese company. Among five ineffectual cultural factors, Individualism is an only factor almost plays a role in the determination of Gen Z to world for a Japanese culture. Even Japan is a collective society in terms of Hofstede theory, the country is viewed as individual society by Asian standard. On a global scale, Gen Z is more individualistic. Furthermore, due to globalization, the trend is ubiquitous, which is why some Thai Gen Z appreciate Japan's individualism. Nonetheless, Japan and Thailand are collaborative societies in general. The degree of collectivism in both two countries differs, resulting in distinct perspectives on business practices. The author can view Thai society through the perspective of Gen Z values and conclude that Thai society is a mix of individualism and collectivism. As a result, the factor of Individualism is only marginally significant within the sample group.

Other cultural factors in Japanese working culture that do not increase Thai Gen Z's awareness of working for a Japanese company include ambiguous management authority, delayed consensual decision making, unfavorable supervisory actions, rigid rule implementation, workaholics and gender, and gender inequality at work.

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Environmentally Responsible Behavior: A Significate Effect on Destination Decision – Making

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Environmentally Responsible Behavior has A Significate Effect on Destination Decision – Making

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Abstract

The research paper presents a study to evaluate related decision-making of tourists towards environmentally responsible behavior intention in the tourist destinations. The research uses environmentally responsible behavior intention, the concept of sustainable tourism and norm activation model theory. The research made to understand intention of behavior and to predict the responsible environmental behavior of tourist effect to destination decision-making. In the purpose, increasing tourist environmentally responsible behavioral intention and strengthening more tourist awareness of environment in the destination.

Keywords: Environmentally Responsible Behavior; Destination Decision Making

1. Introduction

The tourism industry is one of the world's fastest growing and most dynamic, having enormous significance in terms of both revenue generation and socio-cultural and environmental development. Tourism included entertainment and recreation activities, accommodations, meeting conventions, and exploring cultural heritage attractions. The worldwide economic increased rapidly. People changed their lifestyles into a better way. When people get enough money for their basic living, then people will try to improve their living quality and spend more money on the spiritual enjoyment, such as travel to another city, even another country to release their pressure from works or learn about other countries cultures. Therefore, traveling becomes a kind of needs in people's daily lives.

Tourism is an importance industry for the country's economy. Importance of tourism from benefits and advantages for being an economic growth. Thus, tourism industry is importance for economy in Thailand, exporting expects this year to be a good one for growth in the tourism industry. Revenue from tourism industry reached USD 71 billion or THB 2.5 trillion with THB 1.6 trillion coming from international markets and THB 870 billion from domestic market. Successful tourism measured by the visitor number. The number of tourist visiting Thailand increasing from 35 million in 2017 to 38 million in 2018. The GDP of Thailand is 18.4% (Vanhaleweyk, 2019).

Environmentally Responsible Behavior (ERB) is the characteristic of self-concern for nature and ecosystems. "Environmentally Responsible Behavior is any action, individual or group, directed toward remediation of environmental issues or problem." (Sivek & Hungerford, 1990). The research paper purposed to catering tourists' decision-making toward tourist destination and increasing tourists' intention about environmental responsibility.

2. Literature Review

- *The Concept of Sustainable Tourism Concern*

According to Tsaur and Wang (2007), "Sustainable tourism development envisaged as leading to management of all resources in such a way that economic, social and aesthetic needs can be fulfilled while maintaining cultural integrity, essential ecological processes, and biological diversity and life support systems". Sustainable tourism means traveling in the respecting culture, people and environment destination, focuses on learning local culture and non-disturbing the environment. To purpose sustainable tourism by controlling natural resources uses, stabling environmental quality, and increasing community potential awareness. Sustainable tourism considers awareness of negative impacts on the environment (Pforr, 2001). Hardy, Breton, and Pearson (2002) mentioned that, the principles of sustainable tourism including strategy planning, ecological processes preservation, human heritage and biodiversity, and long term product development. The principle observes ecotourism sites, including damaged natural resources, environment conservation, policy implementation and development, limit destination carrying capacity, local culture respect, and local need support.

- *The Conceptual Definition of Satisfaction*

Satisfaction defined as feedback from consumer experiences about the product. In the tourism field, to measure the satisfaction of consumers based on travel expectations, during the travel period, and after travel consumption (Bosque & Martin, 2008). Satisfaction is an important role in gaining the advantage in the market place, as well as increasingly repeat consumption. Repeating consumption recommendation and product loyalty are the intention in the future, based on the consumption evaluation. Satisfaction can lead to consumers' intention to suggest their friends and re-purchase consumption. Being individual and situational evaluation that consumers made the purchase experiences is customer satisfaction (Cadotte et al., 1987). Satisfaction generally compares pre-purchase expectation and post-purchase experiences of the customer (Oliver, 1993).

- *The Conceptual Definition of Norm Activation Model Theory*

Norm Activation Model theory is a theory published in 1977 by Shahlom Schwartz. The theory explores the anticipated pride functions and consciousness in pro-environmental behavior. The theory examined an individual's pro-environmental behavior. Norm Activation Model provides three types of the variable of behavior prediction, including awareness of consequences, the ascription of responsibility, and personal norm (Schwartz, 1977). The theory starts with awareness of the consequences of individuals and not acting pro-environmentally responsible. Ascription of responsibility behaves their behavior with the personal norms. Moreover, anticipated emotions affect personal norm on behavior through behavioral intentions. Pro-environmental behavior was determined by their personal responsibility, as well as reflecting in personal norms (Bliesner et al., 2014).

- *The Conceptual Definition of Environmentally Responsible Behavior*

Nowadays, tourism impacts on the environment have become important increasingly. Environmentally responsible behavior defined as individual characteristic concerns with the environment, related to issue knowledge, action strategies, and attitude. Showing individual experiences and participation in the environment influence environmentally responsible behavior (Hines, Hungerford, and Tomera, 1987). According to Orams (1995), the actions of tourists affect to the environment by the norms in ecotourism sites. A positive attitude can enhance pro-environmental behavioral change. Environmentally responsible behavior measured by consumer behavior and participating behavior was accompanied by eco-tourists (Kerletter, Hou, and Lin, 2004). Environmentally responsible behavior of tourists creates the environment respect and conservation.

- *The Conceptual Definition of Destination Decision-Making*

As Diksha (n.d.) described that decision-making is act of the choice, which achieving the possible solution choice reasonably. Destination decision-making is an effective marketing management. Kotler described the consumer behavior during the decision-making process, including recognition need, searching destination information, choice evaluation, destination chosen, and post-experience. Consumer determined overall satisfaction with alternative choices, which consumer will examine the product (Hanlan, Fuller, and Wilde, 2006). Decision-making is an individual thinking to make the decision, combining with intuitive and analytical modes (Wong and Yeh,2009).

3. Discussion and Conclusion

According to Stern (2000), the principle of sustainable tourism provided two visions. Firstly, the attitude towards the environment problem is environmental concern. Secondly, attitude towards the environment value as also environment concern. Being concern about the environment is individual belief and attitude. People who concern with the environment, they will find related environment knowledge and environmental problem related to an individual's emotional reaction. Environmentally responsible behavior of individuals shows how they concern about the environment in various ways, as well as using recycled products, managing environmentally friendly concept in their office, and saving energy. Moreover, some of people who concern about sustainability will have the tendency to use friendly environmental products.

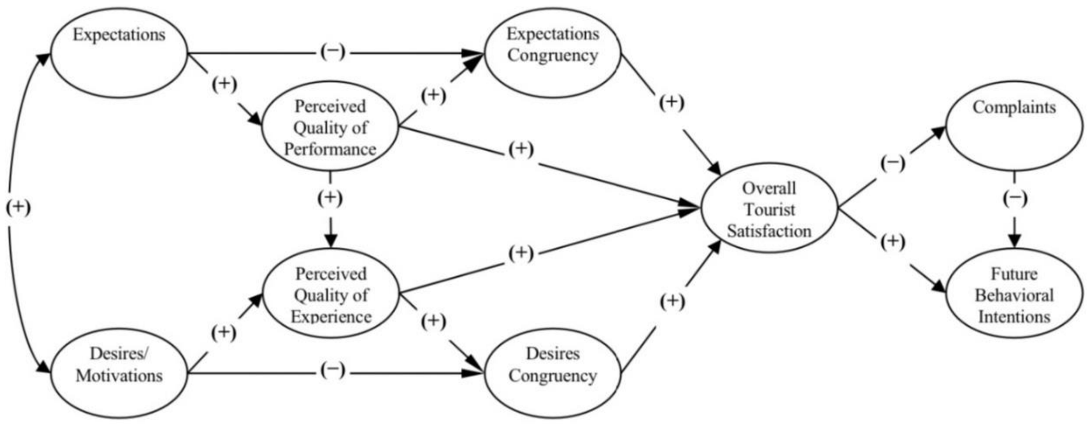

Figure 1: The Integrated Tourist Satisfaction Process Model (Yun & Pyo, 2016).

Satisfaction is feedback on positive travel experiences. If consumers satisfy with the environment, it has a positive influence on ecological protection behavior (Davis, Le, & Coy, 2011). As William (1988) explained that, Tourist satisfaction defined as experiences, expectations, desires, perceptions, and psychological outcomes of tourists. The intention in the future caused by consumption evaluation, based on expectations and travel experiences. Travel evaluation leads the intention of tourists to revisit the destination, the perceived destination quality satisfaction and the intention of tourist behavior (Murphy, Li, & Schneider, 2000). The intention of revisiting the destination considered destination loyalty that shows positive behavior. According to figure 1, the integrated tourist satisfaction process model, expectations congruency and desire congruency effect to overall tourist satisfaction. Moreover, overall tourist satisfaction influences directly on complaints and future behavioral intentions (Yun & Pyo, 2016).

Moreover, norm Activation Model influences directly pro-social behavior through ascription of responsibility, without relationship between problem awareness and personal norm directly. The relationship among problem awareness and ascription of responsibility is not relevance. Problem awareness and ascription of responsibility affect directly to the personal norm. People concerned with the awareness of the negative consequences of their behavior, as well as activating responsible the personal norms that aggravate their behavior (Steg & De Groot, 2010). Pro-environmental behavior is a mix of pro-social motives and self-interest (Bamberg & Möser, 2007). The attitude towards the predictors of behavioral pro-environmental intention into norm theoretical framework, the attitude and social norms assume environmentally responsible behavior that is a combination of pro-social motivation and self-interest.

Furthermore, environmentally responsible behavior affects tourists' behavior on the environment complies with eco site norms (Puhakka, 2011). As Francois-Lecompte and Prim-Allaz (2009) explained that responsible behavior of tourists provided five factors, as well as travel desire with quality service, local safeguard intention, travel acceptance nearly, comfort willingness, and cultural and natural heritage sites conservation desire. Environmentally responsible tourists would choose the destination where concern and respect the environment. Destination decision-making process, the tourists will select a good environment destination. British tourists with 32% choose the destination where environmental conservation and minimizes the negative impacts on natural resources. Furthermore, German tourists about 80% concern with sustainable tourism, which environmental conservation is very important for destination decision making (Goodwin and Francis, 2003). Responsible behavior of the environment can affect to tourists' destination selection.

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Notification on Appointment of Working Group Members

คำสั่งมหาวิทยาลัยราชภัฏสุราษฎร์ธานี
ที่ ๐๕๑๒ /๒๕๖๕
เรื่อง แต่งตั้งคณะกรรมการจัดประชุมวิชาการระดับชาติและนานาชาติ ราชภัฏสุราษฎร์ธานีวิจัย ครั้งที่ ๑๗

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ด้วยมหาวิทยาลัยราชภัฏสุราษฎร์ธานี จะจัดโครงการประชุมวิชาการระดับชาติและนานาชาติ ราชภัฏสุราษฎร์ธานีวิจัย ครั้งที่ ๑๗ ระหว่างวันที่ ๖ – ๘ มิถุนายน ๒๕๖๕ แบบออนไลน์ เพื่อเผยแพร่ผลงานวิจัยของนักวิจัย อาจารย์ และนักศึกษาระดับบัณฑิตศึกษา และเป็นเวทีแลกเปลี่ยนประสบการณ์ และพัฒนาเครือข่ายความร่วมมือด้านการวิจัยเพื่อพัฒนาชุมชนท้องถิ่น

เพื่อให้การจัดประชุมทางวิชาการดังกล่าวดำเนินไปด้วยความเรียบร้อยบรรลุวัตถุประสงค์ จึงแต่งตั้งคณะกรรมการจัดการประชุม ดังนี้

๑. **คณะกรรมการอำนวยการ** ประกอบด้วย

๑.๑ อธิการบดีมหาวิทยาลัยราชภัฏสุราษฎร์ธานี	ประธานกรรมการ
๑.๒ รองอธิการบดีทุกคน	กรรมการ
๑.๓ คณบดีทุกคณะ	กรรมการ
๑.๔ ผู้อำนวยการสำนักทุกสำนัก	กรรมการ
๑.๕ ผู้อำนวยการสถาบันวิจัยและพัฒนา	กรรมการและเลขานุการ

มีหน้าที่ อำนวยการ ให้คำปรึกษา สั่งการ ตัดสินใจ ตลอดจนการแก้ไขปัญหาให้ฝ่ายต่างๆ ดำเนินงานไปด้วยความเรียบร้อย

๒. **คณะกรรมการคัดกรองบทความและเอกสารการประชุมวิชาการระดับชาติ** ประกอบด้วย

๒.๑ ระดับนานาชาติ

๒.๑.๑ ดร. ยกสมน เจ๊ะเฮง	ประธานกรรมการ
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๒.๑.๓ ดร. พิมพ์แพร ศรสวัสดิ์	กรรมการ
๒.๑.๔ ดร.ศันสนีย์ เกียรติคีรี	กรรมการ
๒.๑.๕ ผศ.ดร. สิญาธร ขุนอ่อน	กรรมการ
๒.๑.๖ ผศ.ดร.ปารุษยา เกียรติคีรี	กรรมการ
๒.๑.๗ ดร.อมรทิพย์ ประยูรวงศ์	กรรมการ
๒.๑.๘ นายสุทธิศิลป์ สุขสบาย	กรรมการ
๒.๑.๙ นางสาวศรีสุดา แก้วอำรัตน์	กรรมการและเลขานุการ

๒.๒ ระดับชาติ

๒.๒.๑ ดร.นรา พงษ์พานิช	ประธานกรรมการ
๒.๒.๒ ผศ.ดร.พงษ์ศักดิ์ นพรัตน์	กรรมการ
๒.๒.๓ ผศ.เบญญา จริยวิจิตร	กรรมการ

๒/๒.๒.๔ นางเพ็ญแก้ว...

๒.๒.๔ นางเพ็ญแก้ว พิมาน	กรรมการ
๒.๒.๕ นางสาวนัฐพร ยิ่งไพเราะ	กรรมการ
๒.๒.๖ นางสาวชุตินันต์ แซ่ตั้ง	กรรมการและเลขานุการ

มีหน้าที่

๑) คัดเลือกและเสนอแต่งตั้งผู้ทรงคุณวุฒิในการอ่านบทความ
๒) พิจารณาบทคัดย่อเพื่อคัดเลือกเบื้องต้น
๓) พิจารณาตรวจสอบบทคัดย่อและจัดทำรูปเล่ม
๔) กำหนดโปรแกรมการประชุม วางแผนการจำแนกห้องสัมมนาย่อย
๕) นำบทความมาจัดหมวดหมู่ พิมพ์ให้เป็นรูปแบบเดียวกัน กลั่นกรอง วางลำดับ จัดทำเป็นเล่มในรูปแบบอิเล็กทรอนิกส์
๖) แปลเอกสารต้อนรับของอธิการบดี

๓. คณะกรรมการดำเนินงานมีฝ่ายต่าง ๆ ดังนี้

๓.๑ ฝ่ายเลขานุการ ประกอบด้วย

๓.๑.๑ ผู้อำนวยการสถาบันวิจัยและพัฒนา	ประธานกรรมการ
๓.๑.๒ คณบดีบัณฑิตวิทยาลัย	กรรมการ
๓.๑.๓ รองผู้อำนวยการสถาบันวิจัยและพัฒนา	กรรมการ
๓.๑.๔ รองคณบดีบัณฑิตวิทยาลัย	กรรมการ
๓.๑.๕ บุคลากรสถาบันวิจัยและพัฒนา	กรรมการ
๓.๑.๖ บุคลากรบัณฑิตวิทยาลัย	กรรมการ
๓.๑.๗ หัวหน้าสำนักงานผู้อำนวยการสถาบันวิจัยฯ	กรรมการและเลขานุการ
๓.๑.๘ นางสาวชุตินันต์ แซ่ตั้ง	กรรมการและผู้ช่วยเลขานุการ

มีหน้าที่

๑) ประสานงานและทำหนังสือเชิญวิทยากรบรรยายพิเศษผู้ทรงคุณวุฒิอ่านบทความ
๒) ทำหนังสือแจ้งตอบรับการนำเสนอบทความไปยังผู้นำเสนอบทความ
๓) ติดตาม ทวงถามบทความจากผู้นำเสนอบทความ กรณีไม่ส่งบทความฉบับแก้ไขตามระยะเวลาที่กำหนด
๔) งานอื่น ๆ ที่ได้รับมอบหมาย

๓.๒ ฝ่ายประชาสัมพันธ์ ประกอบด้วย

๓.๒.๑ หัวหน้าฝ่ายสื่อสารองค์กร	ประธานกรรมการ
๓.๒.๒ บุคลากรฝ่ายสื่อสารองค์กร	กรรมการ
๓.๒.๓ นางสาวสิริวัฒนา น้อยดอนไพร	กรรมการและเลขานุการ

มีหน้าที่ ดำเนินการประชาสัมพันธ์การจัดประชุมทางสื่อต่างๆ เชิญสื่อมวลชนร่วมพิธีเปิดและบันทึกภาพพิธีเปิด

๓.๓ ฝ่ายพิธีการ ประกอบด้วย

๓.๓.๑ ผศ.เบญญา จริยวิจิตร	ประธานกรรมการ
๓.๓.๒ อาจารย์พจนาถ ขอประเสริฐ	กรรมการ
๓.๓.๓ นางสาวกนกรัตน์ ศรียาภัย	กรรมการ
๓.๓.๔ นางกิ่งกมล สุทธิรักษ์	กรรมการ
๓.๓.๕ หัวหน้าสำนักงานผู้อำนวยการสถาบันวิจัยฯ	กรรมการและเลขานุการ

๓/มีหน้าที่...

มีหน้าที่ จัดพิธีกรในพิธีเปิด เตรียมงานแสดงพิธีเปิด

๓.๔ ฝ่ายโสตทัศนูปกรณ์ ประกอบด้วย

๓.๔.๑ ผู้อำนวยการสำนักวิทยบริการฯ	ประธานกรรมการ
๓.๔.๒ รองผู้อำนวยการสำนักวิทยบริการฯ ฝ่ายนวัตกรรมฯ	รองประธานกรรมการ
๓.๔.๓ ดร.ทัศนาวดี แก้วสนิท	กรรมการ
๓.๔.๔ นายไตรเพชร พลดี	กรรมการ
๓.๔.๕ นายอนุรักษ์ ศรีนาคนิล	กรรมการ
๓.๔.๖ นายธีรวัฒน์ กิจงาม	กรรมการ
๓.๔.๗ นางณัฐปภัสร์ พรหมปาน	กรรมการ
๓.๔.๘ นายบำรุง ช่วยฤกษ์	กรรมการ
๓.๔.๙ นายนิธิ ลอยชูศักดิ์	กรรมการ
๓.๔.๑๐ นายวิสุทธิ์ สุวัมนานุกร	กรรมการ
๓.๔.๑๑ นายพีรพัฒน์ พรหมปาน	กรรมการและเลขานุการ

มีหน้าที่ ๑. จัดเตรียมวัสดุอุปกรณ์เกี่ยวกับระบบโสตทัศนูปกรณ์
๒. ดำเนินการถ่ายทอดพิธีเปิดและบรรยายพิเศษ ผ่านสื่อออนไลน์ในรูปแบบต่างๆ

๓.๕ ฝ่ายอาหารและเครื่องดื่ม ประกอบด้วย

๓.๕.๑ ผู้อำนวยการสำนักจัดการทรัพย์สิน	ประธานกรรมการ
๓.๕.๒ นายสมเพชร ศรีวะสุทธิ์	กรรมการ
๓.๕.๓ นางสาวกรกนก สติตรง	กรรมการ
๓.๕.๔ นางสาวนันทวรรณ รัตนภิรมย์	กรรมการ
๓.๕.๕ บุคลากรสำนักจัดการทรัพย์สินทุกคน	กรรมการ
๓.๕.๖ นางสาวอรสา แซ่ซั่ว	กรรมการและเลขานุการ

มีหน้าที่ จัดเตรียมอาหารและอาหารว่างสำหรับคณะกรรมการดำเนินงาน

๓.๖ ฝ่ายการเงินและพัสดุประกอบด้วย

๓.๖.๑ ผู้อำนวยการกองคลัง	ประธานกรรมการ
๓.๖.๒ หัวหน้าสำนักงานผู้อำนวยการ	กรรมการ
๓.๖.๓ บุคลากรกองคลังทุกคน	กรรมการ
๓.๖.๔ นางสุดา สุทธิจันทร์	กรรมการ
๓.๖.๕ นางสาวนัฐพร ยิ่งไพเราะ	กรรมการและเลขานุการ

มีหน้าที่ ดำเนินการเบิกจ่ายและจัดซื้อวัสดุ อุปกรณ์ในการจัดประชุมวิชาการ

๓.๗ ฝ่ายประเมินผล ประกอบด้วย

๓.๗.๑ ผศ.เบญญา จริยวิจิตร	ประธานกรรมการ
๓.๗.๒ ดร.ยกสมน เจ๊ะเฮง	กรรมการ
๓.๗.๓ บุคลากรสถาบันวิจัยและพัฒนาทุกคน	กรรมการ
๓.๗.๔ นางสาวชุตินันต์ แซ่ตั้ง	กรรมการและเลขานุการ

มีหน้าที่ ออกแบบการประเมิน ดำเนินการประเมินผล วิเคราะห์ข้อมูลและรายงานผลการประเมินโครงการต่อผู้เกี่ยวข้องทราบ

๔/๓.๘ ฝ่ายจัดการ...

~ ๔ ~

๓.๘ ฝ่ายจัดการนำเสนอผลงานวิจัยมีกลุ่มต่าง ๆ ดังนี้

๓.๘.๑ กลุ่มครุศาสตร์และการจัดการเรียนรู้ ประกอบด้วย

๓.๘.๑.๑ คณบดีคณะครุศาสตร์	ประธานกรรมการ
๓.๘.๑.๒ ดร.ญาณิศา บุญจิตร์	รองประธานกรรมการ
๓.๘.๑.๓ ผศ.ดร.ปารณีย์ ศรีสวัสดิ์	กรรมการ
๓.๘.๑.๔ ผศ.สุรีรัตน์ อักษรกาญจน์	กรรมการ
๓.๘.๑.๕ ดร.จิณัฐตา สอนสังข์	กรรมการ
๓.๘.๑.๖ ดร.ชุติมา วิชัยดิษฐ์	กรรมการ
๓.๘.๑.๗ ดร.ศราวุธ มากชิต	กรรมการ
๓.๘.๑.๘ อาจารย์ปัญจา ชูช่วย	กรรมการ
๓.๘.๑.๙ อาจารย์อรรถกร ภัทรจิตติกรกุล	กรรมการ
๓.๘.๑.๑๐ นายคณากร จินดาวัฒน์	กรรมการ
๓.๘.๑.๑๑ นายประสิทธิ์ รัศมีพงศ์	กรรมการ
๓.๘.๑.๑๒ นางสาวธีรารัตน์ คงประเสริฐ	กรรมการ
๓.๘.๑.๑๓ นางสาวกนกวรรณ พรหมคุ้ม	กรรมการ
๓.๘.๑.๑๔ นางสาววัลย์วิภา บุญประเสริฐ	กรรมการและเลขานุการ

๓.๘.๒ กลุ่มมนุษยศาสตร์และสังคมศาสตร์ ประกอบด้วย

๓.๘.๒.๑ คณบดีคณะมนุษยศาสตร์ฯ	ประธานกรรมการ
๓.๘.๒.๒ ดร.วิทวัส ขุนหนู	รองประธานกรรมการ
๓.๘.๒.๓ ดร.ธุวพล ทองอินทราช	กรรมการ
๓.๘.๒.๔ ดร.ศิริอร เพชรภิรมย์	กรรมการ
๓.๘.๒.๕ ดร.ชิตินันท์ หนูบุตร	กรรมการ
๓.๘.๒.๖ อาจารย์อมรรัตน์ แซ่กวั่ง	กรรมการ
๓.๘.๒.๗ นางสาวเมธาวี นวลเศษ	กรรมการและเลขานุการ

๓.๘.๓ กลุ่มบริหารธุรกิจ เศรษฐศาสตร์ และการจัดการ ประกอบด้วย

๓.๘.๓.๑ คณบดีคณะวิทยาการจัดการ	ประธานกรรมการ
๓.๘.๓.๒ ผศ.ณัชชารีย์ ทวีหิรัญรัฐกิจ	รองประธานกรรมการ
๓.๘.๓.๓ ผศ.มโนลี ศรีเปารยะ เพ็ญพงษ์	กรรมการ
๓.๘.๓.๔ รศ.บัวผิน โตทรัพย์	กรรมการ
๓.๘.๓.๕ รศ.ดร.นันทวรรณ ช่างคิด	กรรมการ
๓.๘.๓.๖ ผศ.ดร.นิตย์ หทัยวสีวงศ์ สุขศรี	กรรมการ
๓.๘.๓.๗ ผศ.ดร.อนุมาน จันทวงศ์	กรรมการ
๓.๘.๓.๘ ผศ.ดร.เบญจวรรณ คงขน	กรรมการ
๓.๘.๓.๙ ดร.ชลิดา เลื่อมใสสุข	กรรมการ
๓.๘.๓.๑๐ ดร.เกวลิณ อังคณานนท์	กรรมการ
๓.๘.๓.๑๑ น.ส.เบญจมาภรณ์ คงชนะ	กรรมการ
๓.๘.๓.๑๒ น.ส.อัมพวรรณ หนูพระอินทร์	กรรมการ
๓.๘.๓.๑๓ นายวิระพงษ์ ทองล่อง	กรรมการ

๕/๓.๘.๓.๑๔ น.ส.ศิริธร...

~ ๕ ~

๓.๘.๓.๑๔ น.ส.ศิริธร เกษรสิทธิ์	กรรมการและเลขานุการ
๓.๘.๔ กลุ่มวิทยาศาสตร์และเทคโนโลยี ประกอบด้วย	
๓.๘.๔.๑ คณบดีคณะวิทยาศาสตร์ฯ	ประธานกรรมการ
๓.๘.๔.๒ อาจารย์ศักดิ์ชัย กรรมารางกูร	รองประธานกรรมการ
๓.๘.๔.๓ ดร.มิติ เจียรพันธ์	กรรมการ
๓.๘.๔.๔ นางสาวศุภนัญญา พัฒนภักดี	กรรมการ
๓.๘.๔.๕ นางสาวอติกานต์ วิชิต	กรรมการ
๓.๘.๔.๖ นายนิกร สุวรรณโณ	กรรมการ
๓.๘.๔.๗ นายจุมพล ทองสอน	กรรมการ
๓.๘.๔.๘ นายภูริวัฒน์ บริสุทธิ์	กรรมการ
๓.๘.๔.๙ นายประวิทย์ ชูชาติ	กรรมการ
๓.๘.๔.๑๐ นางสาวขนิษฐา วิโสจสงคราม	กรรมการและเลขานุการ
๓.๘.๔.๑๑ นางสาวธัญลักษณ์ ใยทอง	กรรมการและผู้ช่วยเลขานุการ
๓.๘.๕ กลุ่มวิทยาศาสตร์สุขภาพ ประกอบด้วย	
๓.๘.๕.๑ คณบดีคณะพยาบาลศาสตร์	ประธานกรรมการ
๓.๘.๕.๒ ผศ.ดร.ประดิษฐ์พร พงศ์เตรียง	รองประธานกรรมการ
๓.๘.๕.๓ ผศ.ดร.พิไลพร สุขเจริญ	กรรมการ
๓.๘.๕.๔ ดร.อรัญญา รักหาบ	กรรมการ
๓.๘.๕.๕ อ.จุฑาลักษณ์ แก้วสุข	กรรมการและเลขานุการ
๓.๘.๖ กลุ่มนานาชาติ ประกอบด้วย	
๓.๘.๖.๑ คณบดีวิทยาลัยนานาชาติฯ	ประธานกรรมการ
๓.๘.๖.๒ ดร.จีรติ พูนเอียด	รองประธานกรรมการ
๓.๘.๖.๓ ดร.ศันสนีย์ เกียรติคีรี	กรรมการ
๓.๘.๖.๔ ผศ.จุฑารัตน์ เหล่าพราหมณ์	กรรมการ
๓.๘.๖.๕ ดร.มัลลิตา ชูติระกะ	กรรมการ
๓.๘.๖.๖ นางเสาวดี ศรีฟ้า	กรรมการและเลขานุการ
๓.๘.๗ กลุ่มบัณฑิตศึกษา ประกอบด้วย	
๓.๘.๗.๑ คณบดีบัณฑิตวิทยาลัย	ประธานกรรมการ
๓.๘.๗.๒ ดร.อมร หวังอัครางกูร	รองประธานกรรมการ
๓.๘.๗.๓ นางสุวัฒนา ศรีขวัญช่วย	กรรมการ
๓.๘.๗.๔ นางสาวขจีมาศ จุ่งพิวัฒน์	กรรมการ
๓.๘.๗.๕ นางสาวอมรรัตน์ คงพันธ์	กรรมการ
๓.๘.๗.๖ นางสาวละอองดาว เยี่ยมสวัสดิ์	กรรมการ
๓.๘.๗.๗ นายอาหมาด อาดตันตรา	กรรมการ
๓.๘.๗.๘ นางสาววิภาวดี คัมภีร์ทรัพย์	กรรมการและเลขานุการ

๖/ทั้งนี้ให้คณะกรรมการ...

~ ๖ ~

ทั้งนี้ให้คณะกรรมการที่ได้รับการแต่งตั้งดำเนินการในส่วนที่เกี่ยวข้องให้เป็นไปด้วยความเรียบร้อย บังเกิดประสิทธิภาพและประสิทธิผลแก่มหาวิทยาลัย

สั่ง ณ วันที่ ๕ พฤษภาคม พ.ศ. ๒๕๖๕

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