รายงานสืบเนื่องจากการประชุมวิชาการระดับชาติและนานาชาติ

เบญจมิตรวิชาการ ครั้งที่ 13

Proceedings of the 13 th BENJAMITRA Network National & International Conference



อนาคตภาพวิชาชีพทางการศึกษาไทยในยุคดิจิทัล

The Future of Thai Educational Professions in the Digital Age

International

วันพฤหัสบดีที่ 25 พฤษภาคม 2566

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Note: The research paper of the 13th Benjamitra Network, National and International Academic Conference, are going to be reviewed by 3 Peer Reviewers.

Report on the Inaugural Ceremony
The 13th Benjamitra Network, National and International Academic Conference
"The Future of Thai Educational Professions in the Digital Age"
On Thursday 25th May 2023
Bangkok Suvarnabhumi University

Assistant Professor Dr. Phonraphee Thummapan, Secretary of the Teachers Council of Thailand President of Bangkok Suvarnabhumi University, President of the Executives from the Benjamit Academic Network and all participants both in this conference hall and also online system.

I am Dr.Atsavin Saneechai, Director of Research and Innovation Office, Bangkok Suvarnabhumi University. On behalf of the committees of national and international conferences of the 13th "BENJAMITRA Academic " Right now, the university was honored from Deputy Secretary-Genral of the Teachers Council of Thailand. In addition, Deputy Secretary-Genral of the Teachers Council of Thailand has honored to be a guest lecturer on the topic "The Future of Thai Educational Professions in the Digital Age" by Assistant Professor Dr.Phonraphee Thummaphan, Deputy Secretary-General of the Teachers Council of Thailand. On this occasion, Universities in the Benjamitr network, would like to say thank you . I'm now going to report the conference objectives as follows:

1. To cooperate in academic development and support the dissemination of academic works in 8 institutions, namely Thonburi University, North Bangkok University, Far Eastern University, North Chiang Mai University, South East Bangkok University, Lampang Intertech College and Bangkok Suvarnabhumi University.

2. To provide an opportunity to be a platform for presenting research to create a network of cooperation in the development of academic and research progress of educational institutions and organizations. Both within the country and abroad. In this conference, there were academicians, researchers, faculty members, students from higher education institutes and

organizations both within the country and abroad. There are a total of 349 articles.

Finally, Bangkok Suvarnabhumi University, On behalf of the conference hosted. I would like to thank you to the institute's administrators in the Benjamitra Network. The Teachers Council of Thailand as a teacher professional council, organizing committee, experts, screen academic articles and research articles, give recommendations and judge presentations.

Now, is the right time. I would like to invite the President Bangkok Suvarnabhumi University. Dr.Visit Saenghiran gave the official opening ceremony of the 13th “Benjamitra Academic” Network National and International Conference.

Inaugural Address
The 13th Benjamitra Network, National and International Academic Conference
"The Future of Thai Educational Professions in the Digital Age"
On Thursday 25th May 2023
Bangkok Suvarnabhumi University

Assistant Professor Dr. Phonraphee Thummaphan, Deputy Secretary-General of the Teachers Council of Thailand, Minister of Education, presidents, executives of BENJAMITRA network, researchers, and both onsite and online distinguished guests.

The 13th BENJAMITRA Network National and International Conference hosted by Bangkok Suvarnabhumi University set the conference objectives as the speech delivered by the Director of Research and Innovation Office, Bangkok Suvarnabhumi University. As in the host of this conference, I would like to thank you all in the BENJAMITRA Academic Network for valuable advice and assistance that made this conference successful, especially the Teachers Council of Thailand, Minister of Education, for assigning Assistant Professor Dr. Phonraphee Thummaphan as the keynote speaker on the topic of 'The Future of Thai Educational Professions in the Digital Age' which is useful in the present era.

Therefore, in order to meet the objectives of the BENJAMITRA Academic Network, I would like to officially open the 13th BENJAMITRA Network National and International Conference at this time. Thank you.

Schedule
The 13th BENJAMITRA Network National & International Conference
"The Future of Thai Educational Professions in the Digital Age"
Bangkok Suvarnabhumi University
May 25, 2023

08.30 – 08.45 hrs.	Conference Attendees Register and Attend the Opening Ceremony
08.45 – 08.50 hrs.	Watch a Video Introducing Bangkok Suvarnabhumi University
08.50 – 09.00 hrs.	Academic Conference Opening Ceremony Objective Report by Dr. Atsavin Saneechai Director of Research and Innovation Bureau
09.00 – 09.05 hrs.	Academic Conference Opening Ceremony By Dr.Visit Sanghirun President of the Bangkok Suvarnabhumi University
09.05 – 09.15 hrs.	President of Institutions in The Benjamitra Academic Network Receive Souvenirs Handing Over The Next Host and Taking a Photo Together
09.15 – 09.30 hrs.	Announcement of The Best Paper Award
09.30 – 10.30 hrs.	keynote Speaker The Future of Thai Educational Professions in the Digital Age By Asst. Prof. Dr. Phonraphee Thummaphan
10.30 – 10.50 hrs.	Announcement of Details of Participation in The Presentation of Research Papers in Each Group
11.00 – 16.30 hrs.	Present Research Paper in Each Group



ที่ ศธ ๕๑๐๖.๒/ 762

สำนักงานเลขาธิการคุรุสภา
กระทรวงศึกษาธิการ
กทม. ๑๐๓๐๐

27 มีนาคม ๒๕๖๖

เรื่อง การเป็นเจ้าภาพร่วมในการจัดงานประชุมวิชาการเบญจมิตร ครั้งที่ ๑๓

เรียน อธิการบดีมหาวิทยาลัยกรุงเทพสุวรรณภูมิ

อ้างถึง หนังสือมหาวิทยาลัยกรุงเทพสุวรรณภูมิ ที่ มกส ๐๒๕/๒๕๖๖ ลงวันที่ ๒๗ กุมภาพันธ์ ๒๕๖๖

ตามหนังสือที่อ้างถึง มหาวิทยาลัยกรุงเทพสุวรรณภูมิ จัดงานประชุมวิชาการเบญจมิตร ครั้งที่ ๑๓ ในรูปแบบออนไลน์ เรื่อง "อนาคตภาพวิชาชีพทางการศึกษาไทยในยุคดิจิทัล" (The future of Thai educational professions in the digital age) ในวันพฤหัสบดีที่ ๒๕ พฤษภาคม ๒๕๖๖ นั้น

สำนักงานเลขาธิการคุรุสภา พิจารณาแล้วเห็นว่าโครงการดังกล่าว มีความสอดคล้องกับบทบาทหน้าที่ของสำนักงานเลขาธิการคุรุสภาในการส่งเสริมและพัฒนาวิชาชีพทางการศึกษาให้มีคุณภาพตามมาตรฐานวิชาชีพ ส่งเสริมพัฒนาคุณภาพการศึกษา องค์ความรู้และทักษะใหม่ ๆ กับบุคลากรทางการศึกษาและผู้ที่สนใจ จึงมีความยินดีเป็นเจ้าภาพร่วมการจัดงานประชุมทางวิชาการดังกล่าว ดังนี้

๑. ร่วมเป็นเจ้าภาพในการจัดงานประชุมวิชาการเบญจมิตร ครั้งที่ ๑๓

๒. อนุญาตให้ใช้ตราสัญลักษณ์ของสำนักงานเลขาธิการคุรุสภา

๓. อนุญาตให้ผู้ช่วยศาสตราจารย์พลรพี ทุมมาพันธ์ รองเลขาธิการคุรุสภา ปาฐกถาในหัวข้อเรื่อง "อนาคตภาพวิชาชีพทางการศึกษาไทยในยุคดิจิทัล" (The future of Thai educational professions in the digital age) ในภาคภาษาอังกฤษ รูปแบบออนไลน์ (Online) ในวันพฤหัสบดีที่ ๒๕ พฤษภาคม ๒๕๖๖ เวลา ๐๙.๓๐ – ๑๐.๓๐ น.

ทั้งนี้ หากต้องการข้อมูลเพิ่มเติม สามารถประสานงานได้ที่ นางสาวธัญรัตน์ ศิริเมฆา โทรศัพท์ ๐๘ ๑๙๕๕ ๗๕๓๗

จึงเรียนมาเพื่อโปรดทราบ

ขอแสดงความนับถือ

(นางสุดา สุขอ่ำ)
รองเลขาธิการคุรุสภา รักษาการแทน
เลขาธิการคุรุสภา

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The Use of Role-Play to Develop Business English Speaking Skills for Second-Year Undergraduate Supplementary-Class Management Students, Faculty of Business Administration, North Bangkok University

Pornnarong Singsamran[1], **Darinee Phoothong**[2], **Amorat Wanna**[3], **Akkadate Siripongwattana**[4] , **Somsak Kongthieng**[5],

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Abstract

The purpose of this quasi-experimental research was 1) to compare the Business English speaking skills of second-year undergraduate supplementary-class management students at the Faculty of Business Administration, North Bangkok University, before and after using role-play, and 2) to evaluate the students' satisfaction with the use of role-play as a method to develop their Business English speaking skills. Thirty-two undergraduate students from the supplementary class were selected for this study using purposive sampling. They participated in five role-play learning activities and completed pre- and post-tests to evaluate their Business English speaking skills for communication. A subjective questionnaire was used to collect data on students' satisfaction with the role-play activities. The data was analyzed using the independent t-test and mean and standard deviation (S.D.). The results showed that students' Business English speaking skills significantly improved after learning through role-play with a level of significance of .01. Additionally, the satisfaction of the students towards teaching and learning through role-play was at the highest level.

keywords: role play, development of speaking skills, Business English

Background and importance of the problem

English is considered the first major language of the world and is an important tool in today's society. It is used to search for information for further learning through the Internet, which is a large and important database. Furthermore, English is used for communicating with people, especially foreigners who come in contact or travel within the country. It is also the top source of income for the country. As the role of the English language has changed, English language teaching and learning has focused on enabling students to acquire all four communication skills effectively [1]. For almost 20 years, the Ministry of Education in Thailand has issued policies to promote and develop English language learning. However, the achievement is still not clearly evident, as Thai students still face problems in communicating in English as a second language, particularly when entering the labor market. While the ability to communicate in English of Thai workers is better than that of neighboring countries, English language teaching in Thailand does not integrate all four skills, and practice is not sufficient. Most of the focus is on teaching grammar and reciting vocabulary, which results in students being unable to use English as a means of communication [2]. The Office of the Basic Education Commission [3] recognizes the importance of the ability to speak English, but it is an early problem for Thai people in learning English, and most learners are still unable to use English to communicate effectively.

Furthermore, the website englishgang.com [4] stated that a major problem of English education in Thailand is the inability to apply the knowledge acquired in practical situations in daily life. This may be because teaching methods are not conducive to serious learning and application. Additionally, there are many other factors that prevent Thai people from being able to speak English fluently as follows:

1) There is a lack of educational opportunities for many Thai children to learn English properly because schools often focus on teaching English for exams and not on practical use. In other words, the focus is on exams and grammar, but not on practice. Additionally, English teachers in schools may not have sufficient knowledge to convey to students, making it necessary for special schools to be established, which

can be quite expensive. Moreover, some English language institutes also focus on teaching for exams, which does not necessarily make Thai children proficient in using English.

2) English language proficiency can be easily forgotten if it is not used regularly, just like any other learning. Many children do not apply what they have learned in English class and do not review the material after the exam, leading to a loss of knowledge and opportunity to use English in real life situations.

3) Thai people lack confidence in speaking English, even though many have some basic knowledge of the language. Fear of making mistakes or being judged by others prevents them from practicing their English-speaking skills. This lack of confidence hinders their ability to practice and improve their English skills, whether in the classroom or in any real-life situation.

4) Many English language courses focus heavily on listening skills, such as listening to music, news in English, or various media that use English to communicate. While this is beneficial, without sufficient practice in speaking and conversation, individuals may not be able to speak English proficiently even if they have good listening skills.

The solution is for every Thai person to understand that mistakes are a natural part of learning. It is also important to focus on speaking English without blaming or discouraging someone who speaks English incorrectly. For the reasons stated above, the researcher recognizes the importance of speaking English and would like to conduct research with a group of thirty-two undergraduate students from the supplementary class at the Faculty of Business Administration, North Bangkok University. The objective is to provide students with opportunities to develop their speaking skills. The aforementioned group of 32 students had an English Proficiency Test I result, with 3 people passing the exam, accounting for 9.38%, and 29 people not passing, accounting for 90.62%. Thus, the researcher foresees the urgent need to develop various English skills, especially speaking, because most students work while studying, and they will have opportunities to use English in their jobs. Therefore, teachers see the importance of developing English speaking skills in the classroom by using role-playing activities based on dialogues inserted in the textbook. This approach can enhance learners' ability to listen, understand, read words, sentences, stories, and speak in response.

Objective

1. To compare the Business English speaking skills of second-year undergraduate supplementary-class management students at the Faculty of Business Administration, North Bangkok University, before and after using role-play.
2. To evaluate the students' satisfaction with the use of role-play as a method to develop their Business English speaking skills.

Expected Benefits

1. Teachers can use it as a guide for selecting speaking activities for teaching management, in order to make the teaching and learning process more effective.
2. Teachers can use it as a guide for organizing teaching and learning activities in related subjects, to encourage learners to feel confident speaking English in public.

Related literature

Role play teaching

Teaching speaking is a complex and difficult skill in learning English as a second or foreign language. Many educators have discussed the principles of speaking teaching on several issues, as follows:

Bygate (1995) states that teaching the skills of using language involves speaking in a given situation, including pronunciation, using vocabulary and grammar to convey the correct meaning [5].

Lynch (1996) posits that good speech teaching principles involve teaching students to have good interactive speech, allowing them to use more initiative and practice expressing their opinions through various methods, in order to solve communication problems in real life. [6]

Richards and Rodgers (2001) state that good teaching principles should consider the learning process in a variety of situations, rather than a fixed methodology in which learners must use language for communication in the classroom [7].

Thupthong Kwangsawat (2015) emphasizes that organizing speaking activities that allow learners to use language in realistic situations or goals that align with their daily lives is important for learners of all levels. When learners' speaking ability increases, teachers can also organize activities for students to

practice listening to other people's opinions, knowing when to speak and when to listen. Activities should also allow students to talk about themselves and choose topics to speak about, making them want to participate more. In each activity, teachers must clearly set objectives that correspond to the proficiency level of the learners [8].

Sangravee Donkaewbua (2015) speaking skills are one of the most important skills in today's world. Because speech is a communication between human beings using sound. Language and gestures to convey feelings, thoughts and understanding from the speaker to the listener. enable the speaker and the listener to communicate [9].

Nunan (1991) said that speaking skill is a skill that clearly indicates success in learning English. Students have more opportunities to practice speaking. And in every teaching and learning, learners must be able to use it in their daily lives. The use of role-playing activities as a technique for teaching English It is an activity that consists of selecting content. teaching materials According to the level of learners create conversations for each event to be linked to teaching materials. Students practice speaking by using role-playing. assess knowledge Understandings learned from role-play activities [10].

In addition, Arporn Chaithiang (2007) stated that role-playing activities are teaching methods that allow learners to participate in learning activities. Make learning meaningful for learners because the information comes directly from the learners. It doesn't require a complicated thought process. make the lesson fun lively, suitable for teaching and learning at all levels Enhance the learning experience of the learners [11].

Chantakarn Praisri (2018) said that this role-playing activity It was created to give confidence and increase the flexibility of speaking. It also develops the ability to interact in various situations, which is very useful for learners who No experience in talking to foreigners or no opportunity to speak directly to a native speaker [12].

Satisfaction

Satisfaction is an abstract attitude that cannot be observed in a tangible form. It is reflected in rather complex expressions, making it difficult to discern whether a person is satisfied or not. Directly measuring satisfaction is a challenge, but it can be indirectly gauged through opinions that align with true feelings.

Namlin Thiamkaew (2018) said that satisfaction means feeling of liking or satisfied with any matter or to the elements and incentives in various areas resulting from interest resulting in a positive attitude Upon being satisfied with their own needs [13].

Pattana Phrommanee (2020), satisfaction is the feeling that a person has about what he has received. Experiences and behavioral expressions that respond in different ways, satisfaction in things will be more or less depending on the motivation or stimulation. and meeting existing needs Satisfaction is therefore essential in order for the work or activities to that motivates what to do successful [14].

Research related to the use of role-playing activities to improve learners' speaking skills is as follows:

Suchada Thipmontri (2013), effectiveness of using role-playing in teaching English for service purposes. The results of the research that the students' ability to speak English for service after taking role-play English for service lessons was significantly higher than before learning at the .000 level [15].

Pitchayapa Klawiarn (2017), the development of student's English-speaking skills for grade 6 using role-play activities. The results showed the English-speaking achievements of Prathom Suksa 6 students. Principles of using role-playing activities. higher than before using the activity statistically significant at the .01 level [16].

Sasikan Khotnat (2021) used role-playing activities to develop English speaking skills for Mathayomsuksa 1 students, the results of data analysis revealed that 1) the role-play activities to develop English speaking skills for Mathayomsuksa 1 students, 2) English speaking skills of students using role-playing activities after school were higher, and 3) The subjects were satisfied with the use of role-playing activities to develop English speaking skills at the highest level [17].

Research Methodology

The population and sample used in this research were 32 second-year undergraduate students from the supplementary class who enrolled in the Business English course in the second semester of 2022, selected for this study using purposive sampling.

Research instrument for the data collection

1. The pre- and post-tests consisted of 30 multiple-choice questions that were parallel. The researcher created both tests by analyzing the course content and objectives, as well as studying relevant course documents and research. The quiz was then designed by selecting content that was related to the lesson plan's objectives. After the quiz was created, it was reviewed by an English teaching expert to determine the correctness and accuracy of the content. The resulting classification power was found to be between 0.60 and 0.89.

2. The instructors used Business English books to create 5 learning management lesson plans on topics such as 1) at the airport situations, 2) making phone calls, 3) helping customers, 4) making hotel reservations, and 5) making appointments. The researcher studied the course description and selected content that aligned with the course objectives, and then prepared the learning management plans accordingly. Next, the researcher brought the plans to 3 experts to check for suitability and alignment with learning objectives. The plans were modified based on the experts' feedback and subsequently implemented in teaching business English.

3. The assessment of speaking ability during the experiment, the researcher proceeded with the study of relevant documents and research papers. The model for assessing English speaking ability was adapted from Atcha Wongsothorn (1995) [18] and Wichian Ket Sing (1987) [19] with details of the content and behavior observed at 5 levels, totalling 10 points.

4. The study included a questionnaire designed to measure satisfaction with learning in the Business English course, particularly with regard to the use of role-playing activities. The questionnaire was created by the researcher based on relevant documents and research and was divided into three parts. Part 1 asked for general information such as gender, age, latest English course grades, and cumulative grade point average. Part 2 consisted of 10 items that gathered opinions about teaching and learning management through role-playing activities. Part 3 allowed participants to provide suggestions. After that, take the questionnaire to a specialist to verify its accuracy. Modified according to experts and used to try out with non-sample learners with α values ranging from 0.67-1.00 and applying the questionnaire to the real experimental group.

Data collection

1. Research Design

This classroom action research was used the quasi–experimental research design.

Table 1 Experimental research design

Sample	Pre-test	Intervention	Post-test
E	T_1	X	T_2

E = Experimental group

T_1 = a pre-test.

X represents the five role-play learning activities.

T_2 = a post-test.

2. Duration of the trial

The research was conducted during the second semester of the academic year 2022, specifically from February to March 2023, for a period of 5 weeks. The research involved inserting role-playing activities into the regular Business English curriculum, with each session lasting for 2 hours, totaling 10 hours of instruction.

3. Research procedure

At the beginning of the study week, the researcher explained the study procedures and practices to the students. Then, the students took a pre-test consisting of 30 questions to assess their English-speaking skills and to collect baseline data. The pre-test took approximately 30 minutes to complete. During regular teaching and learning activities, the researcher introduced role-playing activities when the conversational content aligned with the researcher's selection. The activities involved providing students with sample conversations and speech patterns to study, followed by paired conversation practice. The researcher recorded the students' speaking data using the English-Speaking Skill Assessment Questionnaire. The following week, the researcher continued teaching and learning activities according to the content selected for all five lesson plans, with each session lasting approximately 30 minutes. At the end of the course, all students completed a satisfaction questionnaire on teaching and learning management with a role-play activity.

Research results

The researcher presents the research results according to the research objectives as follows.

Objective 1: To compare the Business English speaking skills of second-year undergraduate supplementary-class management students at the Faculty of Business Administration, North Bangkok University, before and after using role-play. The research results are as follows.

Table 2 The comparison results of role-playing business English speaking skills before and after learning.

Results	Pre-test		Post-test		t	p-value
	$\bar{x}$	S.D.	$\bar{x}$	S.D.		
English speaking skills	15.59	5.054	20.13	5.104	-8.955	0.000

From Table 2, it was found that the mean and standard deviation of the pre-test and post-test. There were different values: before learning, $\bar{x}$(S.D.) = 15.59(5.054), after learning, $\bar{x}$(S.D.) = 20.13(5.104) and t = -8.955, indicating that students' business English speaking by role-playing after learning was higher. before class Statistically significant at the 0.001 level.

Table 3 The mean and standard deviation during role-play Business English speaking development (n = 32)

Week	$\bar{x}$	S.D.
week 1	4.50	2.514
week 2	5.28	2.365
week 3	5.90	2.262
week 4	6.31	2.176
week 5	7.72	1.853

Table 3 shows that in the first week of role-playing activities in the Business English course, the mean score of students' English-speaking skills was at a low level: $\bar{x}$(S.D.) = 4.50(2.514). However, in the second week, after one week of practicing speaking skills, many students began to improve their speaking abilities slightly, with a mean score of $\bar{x}$(S.D.) = 5.28(2.365). By the third week, students became more confident, assertive, and less afraid of making pronunciation errors, with a mean score of $\bar{x}$(S.D.) = 5.90(2.262). In the fourth week, students showed greater determination in developing their speaking skills and achieved better fluency, with a mean score of $\bar{x}$(S.D.) = 6.31(2.176). By the fifth week, many students had made noticeable improvements in their speaking skills, with a mean score of $\bar{x}$(S.D.) = 7.72(1.853). They were able to speak more naturally, pronounce words clearly, and communicate their ideas effectively.

Objective 2. To evaluate the students' satisfaction with the use of role-play as a method to develop their Business English speaking skills. The results showed that:

According to the satisfaction questionnaire, it was found that most of the students were female (26 people, representing 81.25 %) and 6 were male (18.75 %). The majority of the students (56.25 %) were 22 years old, followed by 21 years old (15.6 %) and 23 years old (15.6 %). In terms of the most recent English course results (ENG103), the majority of students received a grade of C+ (11 people, representing 34.37 %), followed by C (8 people, representing 25 %). Regarding the cumulative grade point average (GPAX), most of the students had a GPA between 2.50 - 3.00 (12 people, representing 37.5 %), followed by a GPA between 2.00-2.19 (11 people, representing 34.75 %), a GPA between 3.50 - 4.00 (4 people, representing 12.5 %), a GPA between 3.00 - 3.49 (3 people, representing 9.37 %), and a GPA between 1.50 - 1.99 (2 people, representing 6.25 %).

Table 4 the results of student satisfaction assessment after developing business English speaking skills with role-play.

	Student Opinion List	$\bar{x}$	**S.D.**	**Opinion level**
1.	Students find it fun to speak English aloud.	4.66	0.701	Highest
2.	The students were happy to play their roles. to speak English with friends	4.66	0.545	Highest
3.	The students were satisfied with their assertiveness. To speak English and speak more fluently.	4.56	0.759	Highest

	Student Opinion List	$\bar{x}$	S.D.	Opinion level
4.	Students are happy that they remember more words and know their meanings.	4.53	0.671	Highest
5.	Students are happy to express their opinions and participate in activities in the English classroom.	4.63	0.660	Highest
6.	The students felt satisfied and excited every time they practiced role-playing activities.	4.63	0.793	Highest
7.	The students were satisfied with the content of the role play activities.	4.63	0.793	Highest
8.	The students were satisfied with the roles they were paired with peers to perform in front of the class.	4.69	0.535	Highest
9.	The students were satisfied with the practice of speaking English by using easy-to-understand role-plays.	4.72	0.665	Highest
10.	Students feel good and confident when speaking English with friends or with other people.	4.59	0.665	Highest
	Total	4.63	0.590	Highest

From Table 4, it was found that the satisfaction level in developing English speaking skills through role-playing was overall at the highest level, with a mean of $\bar{x}$(S.D.) = 4.63(0.590). The areas with the highest averages were the students' satisfaction with practicing speaking English using easy-to-understand role-plays, with a mean of $\bar{x}$(S.D.) = 4.72(0.665), followed by the students' satisfaction with the role of being paired with peers in front of the class, with a mean of $\bar{x}$(S.D.) = 4.69(0.535). Additionally, students were satisfied with their ability to remember words and know their meanings, with a mean of $\bar{x}$(S.D.) = 4.53(0.671).

Summary of the study

1. The students' business English speaking skills after learning by role playing were significantly higher than before learning at the .01 level.

2. The students' satisfaction towards the teaching and learning management by hypothesis was at the highest level.

Discussion

The use of role-play to develop Business English speaking skills for second-year undergraduate supplementary-class management students, Faculty of Business Administration, North Bangkok University, the researcher would like to discuss the results according to each research objective as follows.

1. The students' business English speaking proficiency, after learning using role-playing activities, was significantly higher than before learning at the .01 level. The use of role-playing activities as a technique for teaching English is an activity that involves selecting teaching materials and creating conversations for each event that are linked to the teaching materials, according to the learners' level. Students practice speaking by using role-playing to assess their knowledge. The understanding gained from the role-playing activity was consistent with Arporn Jaitiang's [11] statement that the role-playing activity was a teaching method that allowed learners to participate in learning activities, making learning meaningful for learners because the information comes directly from them, without requiring complicated thought processes. It makes the lesson fun, lively, suitable for teaching and learning at all levels and enhances the learning experience of the learners. This approach is also in line with Suchada Thipmontri's [13] study on the effectiveness of using role-playing in teaching English for service purposes. The results of the research show that the students' ability to speak English for service, after learning English for service using role-playing, was higher than before learning, with statistical significance at the .000 level, which is consistent with Pitchayapa Klawriman's [16] study on improving students' English-speaking skills in Grade 6 using role-play activities. The results showed that the English-speaking achievements of Grade 6 students, after using role-playing activities, were higher than before using the activity, with statistical significance at the .01 level.

2. The satisfaction of the learners towards teaching and learning through the use of role-playing was at the highest level, probably because improving business English speaking skills through role play meets the needs of students. Satisfaction is an abstract attitude that cannot be seen as a form. To determine

whether a person is satisfied or not, a rather complex expression must be observed. It is difficult to measure satisfaction directly, but it can be measured indirectly by measuring their opinions. And expressing opinions must be in line with true feelings to measure satisfaction accurately. Satisfaction is a feeling of liking or being satisfied with any matter or to the elements and incentives in various areas resulting from interest, resulting in a positive attitude when receiving responses to their own needs. In addition, Pattana Phrommanee (2020) stated that satisfaction is the feeling that a person has about what is received. Experiences and behavioral expressions respond in different ways, and satisfaction in things will be more or less depending on the motivation or stimulation and meeting existing needs. Therefore, satisfaction is essential for the work or activities that motivate individuals to be successful. This finding is in line with Sasikan Khotnat's [20] (2021) study on using role-playing activities to improve English speaking skills for Mathayomsuksa 1 students. The data analysis revealed that the sample group was highly satisfied with the use of role-playing activities to develop their English-speaking skills.

Recommendations

Recommendations from the research:

1. The English language proficiency of each learner varies. Sometimes, during conversations, there may be an obstacle to the interlocutor. In such cases, teachers may use a method to divide students into groups and let those with good English skills spread out in each group to help as conversation partners for those who need support. Alternatively, matching students with similar skills together may also help reduce this problem.
2. In teaching and learning basic English subjects, teachers should manage the teaching and learning to complete all four language skills (reading, writing, listening, and speaking) for learners to gain experience in all necessary skills.

Suggestions for further research:

Research should be conducted to develop English language skills in all four remaining skills in various subjects related to the English language since many students still lack reading, listening, and writing skills. These skills are all necessary for their future careers.

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The Changing of Economic, Social, Digital Technology, Family and Schoolmate Relationship Toxic Relationship with Mental Health Status of a Secondary School Student in Bangyai District, Nonthaburi Province

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Abstract

The purposes of this research were to 1) To describe the economic changing, social changing , digital technology changing, family relationship changing, schoolmate relationships changing toxic relationships and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province 2) To explain the relationship between socio-economic conditions, the relationship among family, school and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.The target population was 750 students at a secondary school in Bangyai District,Nonthaburi Province .The 300 sample sizes were calculated by the Taro Yamane formula, meanwhile selected with a specific method. The data collected by 1) The 300 questionnaires sending to health personnel at the subdistrict community health promotion hospital of Nonthaburi province who perform as prevention and controlling of dengue hemorrhagic fever (DHF.) and The 300 questionnaires were returned (100.00 %) The data analysis was a percentage, mean, standard deviation Pearson's correlation .Both quantitative data were used to synthesis the action activities and the policy for school administrative .The results showed: Personal Characteristic and the situation of economic, social, family, school relationships and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province such as the sample group were almost female and the age were between 12 -15 years 2. The situation of economic, social, Digital Technology, family relationship, schoolmate relationships of students in a secondary school in Bangyai District. Nonthaburi Province. the finding was shown that there were digital Technology changing in the high level meanwhile family relationships changing, social changing, schoolmate relationship changing and economic changing were respectively in the medium level. When considered in all aspect was found that the situation of economic, social, Digital Technology, family relationship , schoolmate relationships of students in a secondary school in Bangyai District. Nonthaburi Province was at high level 3. The 6 Types of toxic relationship were found that the student had the experience in Dropping "Hints" and Others Passive-Aggression in the height level meanwhile holding the relationship hostage, Displays of loving jealousy, The Relationship Scorecard, Blaming your partner for your own emotions and Buying the solutions to relationships were respectively at medium level. When considered in the overview aspect , the information was shown that there were the 6 Types of toxic relationship with the student who had studied in a secondary school in Bangyai District. Nonthaburi Province in medium level 4.The mental health status of students in a secondary school in Bangyai District. Nonthaburi Province in the overall aspect was at medium level and when considered in each aspect the information were shown that the student were boring at high level , had less or more bedtime , non meditate and introvert were respectively at the medium level.5.The analysis of the relationship between economic changing ,social changing ,digital technology changing schoolmate relationship changing ,family relationship changing and the mental health status of students in a secondary school in Banyai district, Nonthaburi province ,the information were shown that both of social changing factor was negatively relationship and family relationship factor were statistically significant positive relationship meanwhile economic changing ,digital technology changing and schoolmate changing factors were not relationship with the mental health status of students. 6.The analysis of the relationship between the 6 Types of toxic relationship and the mental health status of students in a secondary school in Banyai district, Nonthaburi province, the information was shown that dropping "hints" and others passive-aggression was statistically significant positive relationship with the mental health status of students .In the others aspect , blaming your partner for your own emotions was a statistically significant negative relationship and buying the solutions to relationships was a statistically significant positive

relationship with the mental health status of students meanwhile holding the relationship hostage was not relationship with the mental health status of students in a secondary school in Banyai district, Nonthaburi province.

Keywords: Economic Social Digital Technology Family and Schoolmate Relationship, Toxic relationship, Mental health status.

Background and Statement of the problem

Health is meant to the holistic state of being total and complete of the body including physical, mental, social and spiritual aspects while mental health definition is the situation that a person can adjust their thinking and has appropriate behaviors for responding phenomena arising from the environment, both of positive and negative, or is meant that being awareness of emotions changing.The Mental health problems of Thai people are getting serious in this moment. According to statistics from the Department of Mental Health from 2018 was found that many problems are still a silent threat to Thai society. In particular, the first sign of mental illness is suicide. Depression and Emotional disorders such as Bipolar Disorder and mental illness are also used as an excuse to commit crimes. and avoiding legal penalties . 1.5 million people were diagnosed with depression in 2018 meanwhile every two hours there will be an average of one successful suicide. The proportion of male suicides is higher than females. Depression is one of the important causes of suicide. More than 300 million people across worldwide are suffered from depression In 2017 and more than 31,521 people were been diagnosis to bipolar disorder and were admitted to public hospitals across the country and the information is shown about 60 million patients with bipolar disorder. [1]

The students who study in Matayom 1 – 3 in secondary school are the ages of 13-15 who are a group of teenagers who will be transition stage to adulthood and the working group in the future which is an important manpower for the country in the Aged Society Era. According to the National Statistical Office The data in 2022 was found that there were 3,895,704 or 5.89 percent of the population that were aged between 10-14 years meanwhile 12,017,837 people or 18.24 percent of the population that were aged between 60 years and over (National Statistical Office, 2022: online system). From that information was explained that the proportion between teenager population (10-14 years) and elderly population(60 years and over) were as 1 : 3 or a teenager have to take care of three elderly population. The Basic education is meant that the education level before higher education level which is divided into 3 levels such as 1) pre-primary level 2) elementary level and 3) secondary level that was meant Thai student have to study secondary education after them graduated primary education level. The basic education is divided into 2 periods, which are secondary school and high education that is divided into 2 types such as 1) the general type of upper secondary education is Mattayom 4 to Mattayom 6 2) the vocational type certificate program (Vocational Certificate), an intermediate dance diploma program and intermediate art diploma program (The Secretariat of the Council of Education, 2022: online).The secondary school is a basic education level where students are aged between 12-15 years, which is during adolescence age and is possibility to be stressed. from unable to adapt from the rapidly economic, social and digital technology environment changing.

Mae Fah Luang Foundation under the royal patronage[2] said that the happiest people in the world was a person who had a good relationship with people around them with the close relationship and full of happiness of those. The two people had always nourished from love but some relationship conditions can vary from love and goodwill towards each other and became a conflict until causing the other party to suffer and felt a lot of heartbreak. The relationship condition is called toxic relationships that are six types such as 1) The Relationship Scorecard 2) Dropping “Hints” and Others Passive-Aggression 3) Holding the relationship hostage 4) Blaming your partner for your own emotions 5) Displays of loving jealousy and 6) Buying the solutions to relationships. All of these 6 relationships may occur at home or school where are causing students to have mental health problems and will have depression disorder , living problems in the future if there are not treated without appropriate time . Faculty of Public Health Rajapruk university has continuously provided academic services in Bangyai District,Nonthaburi Province. The preliminary data from the Department of Mental Health, it was found that the Thai population had more mental health problems which were silent threats,especially teenagers who must be a very important demographic in the future. According from the reasons, the researcher conducted this research to study the

socio-economic and toxic relationship status on the well-being of a junior high school students in Bangyai District. Nonthaburi Province to study empirical information and propose as policy for further implementation.

Objective

1 . To describe the of economic changing , social changing , digital technology changing ,family relationship changing , schoolmate relationships changing toxic relationship and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.

2 . To explain the relationship between socio-economic conditions, relationship among family, school and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province

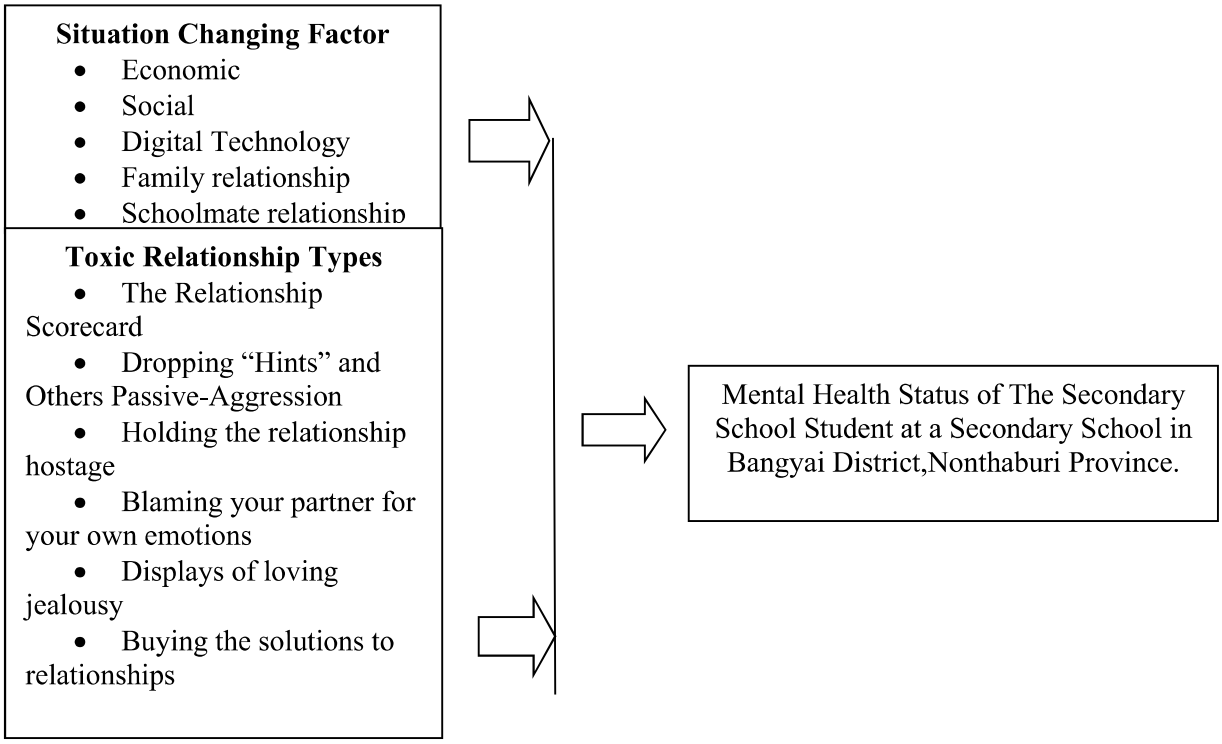
Expected benefits

1. The empirical information and knowledge of economic, social, digital technology , family relationship , school relationships and psychological well-being of students in a secondary school in Bangyai District. Nonthaburi Province.

2. The empirical information and knowledge of the relationship between socio-economic conditions, relationship among family, school toxic relationship and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province

Conceptual Framework

According from research objectives ,The researcher propose the Conceptual Framework as the below



Research Methodology

This survey research That had the research methodology as follows.

1 .The target group were 750 students who had studied at Mattayom1-3[3] The sample size was determined by Taroyamane's formula with 95 % of confident The sample size was 260.86 students and 300 samples were collected. The target population were 750 students at of a secondary school in Bangyai District,Nonthaburi Province .The 300 sample sizes were calculate by Taro Yamanae formula meanwhile selected with specific method.

2.The Data collection and tools. The data was collected by using a questionnaire that had 3 activities as the following:

2.1 The research questionnaires were 24 items that were including with 3 parts for data recording such as 2.1.1) The Personnel Characteristics data were 3 items. 2.1.2) the changes in economy, society and digital technology were 10 items. 2.1.3) Toxic Relationship data from friends and family were 6 items and 2.1.4) Stress disorders were 5 items The questionnaires were determined to 5 rating scale that were highest , high, moderately, low and lowest

2.2 The questionnaire quality determinant

The researcher had determined the quality of questionnaire as the follow.

2.2.1) Content validity testing. The researcher has tested the quality of the tools by consisting of 1) analyzing the content validity or IOC. (The Index of Item-Objective Congruence) from 3 experts and a research advisor for improvement the questionnaire. The criterion of all questions was in the content validity between 0.67-1.00 and IOC totally was found as 0.938. Then The questionnaire was tested for reliability.

2.2.2) Testing for the reliability of the questionnaire. The researcher brought the questionnaire that the research consultant had corrected to pre-test with a sample group that was similar to the actual sample that were 30 secondary school students in Pakret District, Nonthaburi Province. After that the data were analyzed for reliability. The data was found the alpha coefficient was 0.859 that was exceeded to the specified criteria (0.70). Therefore, questionnaires were reliable and applicable to use with target populations.

2.3 Quantitative Data Collection Quantitative Research from Online Questionnaires

3. Data analysis the data analysis was divided into two parts as the following

3.1) Quantitative data analysis (Quantitative Data) in the part that collected data by online questionnaires and analyzed by descriptive statistics such as number, percentage mean and standard deviation

3.2) Pearson's correlation analysis.

Research Results

The researcher proposed the finding as the 2 parts that were related to the research objectives as the following

1. Personal Characteristic and the situation of economic, social, family, school relationships and psychological well-being of students in a secondary school in Bang Yai District. Nonthaburi Province

1.1) Personal Characteristic. The finding was shown that the sample size were male (46.3%) and female (53.1%) meanwhile the age were between 12-13 years (32.7%) , between 13-14 years (35.0%) and between 14-15 years (32.3%)

1.2) The situation of economic, social, Digital Technology, family relationship, school relationships, toxic relationship and psychological well-being of students in a secondary school in Bangyai District. Nonthaburi Province

The researcher proposed the situation of economic, social, digital technology, family relationship, school relationships, toxic relationship and mental health of students in a secondary school in Bangyai District. Nonthaburi Province by arranging with the average mean standard deviation in 3 level (High, medium and low) as the following at Table 1-3

Table 1 shows the average standard deviation and the level of economic, social, digital technology, family relationships, school relationships of students in a secondary school in Bangyai District. Nonthaburi Province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1. Economic changing	2.71	0.94	medium	5
2. Social changing	3.24	0.75	medium	3
3. Digital Technology changing	3.81	0.61	high	1
4. Family relationships changing	3.37	0.85	medium	2
5. Schoolmate relationships changing	3.11	1.11	medium	4
total	**3.49**	**0.47**	**high**	

Table 2 shows the average standard deviation and the level of toxic relationship of students in a secondary school in Bangyai District. Nonthaburi Province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1. The Relationship Scorecard	2.54	1.06	medium	4
2. Dropping "Hints" and Others Passive-Aggression	3.53	0.72	high	1
3. Holding the relationship hostage	2.75	1.13	medium	2
4. Blaming your partner for your own emotions	2.48	1.04	medium	5
5. Displays of loving jealousy	2.59	1.26	medium	3
6. Buying the solutions to relationships	2.47	1.03	medium	6
total	**2.72**	**0.88**	**medium**	

Table 3 shows the average standard deviation and the level of mental health status of students in a secondary school in Bangyai District. Nonthaburi Province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1.Less or more bedtime	3.00	1.19	Medium	2
2. non meditate	2.93	1.26	Medium	3
3.Axiety	2.76	0.94	medium	5
4.Boring	3.76	1.01	high	1
5.Introvert	2.80	1.23	medium	4
total	**2.92**	**0.80**	**medium**	

2.The relationship between socio-economic conditions, relationship among family, school and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province

In this part ,The researcher propose the relationship between socio-economic conditions, relationship among family, school and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province by considering with the whole and each aspect that were shown as the table 4-5

Table 4 shows the relationship between socio-economic conditions, relationship among family, schoolmate and the mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.

Evaluation list	**The mental health status of students in a secondary school in Bang Yai District. Nonthaburi Province.**		**Relationship Level**
	r	**p-value**	
Economic changing	.078	0.178	-
Social changing	-.308	0.000**	Low
Digital technology changing	.075	0.198	-
Schoolmate relationship changing	-.064	0.266	-
Family relationship changing	.370	0.000**	Low
total	**-0.13**	**0.825****	-

Table 5 shows the relationship between toxic relationship and the mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.

Evaluation list	The mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.		Relationship Level
	r	p-value	
1. The Relationship Scorecard	0.289	0.000**	Low
2. Dropping "Hints" and Others Passive-Aggression	0.419	0.000**	Medium
3.Holding the relationship hostage	-0.109	0.060	-
4. Blaming your partner for your own emotions	-0.410	0.000**	Medium
5. Displays of loving jealousy	0.274	0.000**	Low
6. Buying the solutions to relationships	0.476	0.000**	Medium
total	**0.326**	**0.000****	Low

Summary of the Study

The information that was found from the finding as following

1. Personal Characteristic and the situation of economic, social, family, school relationships and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province such as the sample group were almost female and the age were between 12 -15 years

2. The situation of economic, social, Digital Technology, family relationship, schoolmate relationships of students in a secondary school in Bangyai District. Nonthaburi Province. the finding was shown that the problem from situation changing that were including digital Technology changing in the high level meanwhile family relationships changing , social changing ,schoolmate relationship changing and economic changing were respectively in the medium level .When considered in all aspect was found that the situation of economic, social, Digital Technology , family relationship , schoolmate relationships of students in a secondary school in Bangyai District. Nonthaburi Province was at high level.

3. The 6 Types of toxic relationship problems were found that the student had the experience in Dropping "Hints" and Others Passive-Aggression in the height level meanwhile holding the relationship hostage, displays of loving jealousy, The Relationship Scorecard, Blaming your partner for your own emotions and Buying the solutions to relationships were respectively at medium level. When considered in the overview aspect, the information was shown that there were the 6 Types of toxic relationship with the student who had studied in a secondary school in Bangyai District. Nonthaburi Province in medium level

4. The mental health status of students in a secondary school in Bangyai District. Nonthaburi Province in the overall aspect was at medium level and when considered in each aspect the information were shown that the student were boring at high level, had less or more bedtime, non-meditate and introvert were respectively at the medium level.

5. The analysis of the relationship between economic changing ,social changing ,digital technology changing schoolmate relationship changing ,family relationship changing and the mental health status of students in a secondary school in Banyai district, Nonthaburi province ,the information were shown that both of social changing factor was negatively relationship and family relationship factor were statistically significant positive relationship meanwhile economic changing ,digital technology changing and schoolmate changing factors were not relationship with the mental health status of students.

6.The analysis of the relationship between the 6 Types of toxic relationship and the mental health status of students in a secondary school in Banyai district, Nonthaburi province ,the information were shown that dropping "hints" and others passive-aggression was statistically significant positive relationship with the mental health status of students .In the others aspect , blaming your partner for your own emotions was a statistically significant negative relationship and buying the solutions to relationships was a statistically significant positive relationship with the mental health status of students meanwhile holding

the relationship hostage was not relationship with the mental health status of students in a secondary school in Banyai district, Nonthaburi province.

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Discussions

In this part, the researcher analyzed the finding and proposed the information which was according to the objectives of the research as the following.

1. The of economic changing, social changing, digital technology changing ,family relationship changing , schoolmate relationships changing , toxic relationship and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province.

The finding was shown that there were the changing of economic, social, , family relationship changing and schoolmate relationships were at the middle level meanwhile the digital technology changing was at high level. The researcher explain the cause of that phenomenal was from the coronavirus disease 2019 (Covid 19) has expanded across the world since 2019.The people around the word has been impacted in the aspect of economic , social and digital technology because the countries had to lock down and did not allow the people to go out from their residents to stop the cycle of coronavirus disease 2019 epidemiology .The student who studied in secondary school had been the impacted and could not go to school because of social distancing .For solving that problems the students had to use digital technology for their learning and communication to schoolmate and family .The using of digital technology instead of people talking may change the relationship the students from their schoolmate and family meanwhile the economic and social were changed from this disease that caused from the people could not travel and communication for buying and the goods and service [4]

The toxic relationship and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province were at medium level when consideration in each aspect , The toxic relationship ; Dropping “Hints” and Others Passive-Aggression was at high level meanwhile mental health status of students ; The boring of students was at high level. That events may be cause from the social nervous and the increasing of digital technology using ,the people have stress disorders and did the appropriate performance to protect themselves from social stigma that making people had some toxic relationship such as Dropping “Hints” and Others Passive-Aggression and can be relationship to boring situation to the other people that they were communication and contraction. [5]

2. The relationship between economic changing, social changing , digital technology changing , schoolmate relationship changing, family relationship changing,toxic relationship and mental health status of students in a secondary school in Bangyai District. Nonthaburi Province

The finding was shown that social changing factor have a statically negative relationship with mental health status of students and family relationship changing have a statically positive relationship with mental health status of students that cause from the social distancing policy ,the students were boring because of communication with the other people by using digital technology and lack of emphasis situation.[6].In aspect of toxic relationship, The overview was a statically positive relationship with mental health status of students when consideration in each aspect ; Dropping “Hints” and Others Passive-Aggression and Buying the solutions to relationships have a statically positive relationship with mental health status of students meanwhile Blaming your partner for your own emotions have a statically negative relationship with mental health status of students. That evidences were shown that the student mental health status at medium level especially boring because of the lack of serotonin hormone in their body that would lead them to be depression disorders. That finding was related to Parichat Muangkhwa .[7] researched on depression disorders in Thai students: A Critical Role for Educational Institutions. The results were showed that depression disorders in university students was a challenging issue for all educational institutions around the world. Including educational institutions in Thailand that should be a priority if students are not encouraged and protected from depression disorders during the course of study. That disorders may affect the student's inability to complete their studies. The length of time required by the course may lead to unsuccessful study or more severely and may lead to suicide.

In the conclusion The toxic relationship such as may be caused the metal health problem were Dropping “Hints” and Others Passive-Aggression , Buying the solutions to relationships , Blaming your partner for your own emotions ,The Relationship Scorecard and Displays of loving jealousy .Therefore The teacher schoolmate and family reduce those activity the student will have more quality of mental health because the effect of it problem such as Boring , Less or more bedtime, non-meditate, Introvert and anxiety would be decreased.

Recommendations

1.The teacher schoolmate and family should consult the students to be their self-esteem that lead them to be happiness and reduce the depression disorders.

2. The teacher schoolmate and family should promote the students to strength their physiology and mental health by health promotion model such as Exercise, Eating Nutrition food, Emotional management.

3. The alternative research should be mixed methods research for finding the evidence with quantitative and qualitative data in the risk target group of depression disorders.

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The Effectiveness of Surveillance Prevention and Control of Coronavirus Disease (COVID-19) in Community Health Promotion Hospital at Nonthaburi Province

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Abstract

The purposes of this research were to 1) explain the effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) at the community health promotion hospital in Nonthaburi province. 2) To explain the relationship between the literacy factor Administrative resources Management process and surveillance effectiveness Disease prevention and control of in the community health promotion hospital in Nonthaburi province 3) Synthesis of policy recommendations and operational recommendations on surveillance Disease prevention and control of Coronavirus disease (COVID-19)) at the community health promotion hospital in Nonthaburi province The data collected by 1) 77 questionnaires sending to health personnel at sub district community health promotion hospital of Nonthaburi province who perform as prevention and controlling of Coronavirus disease (COVID-19) at the community health promotion hospital in Nonthaburi province .The 75 questionnaires were returned (97.40 %). The data analysis was percentage, mean, standard deviation Pearson's correlation. . Quantitative data was been synthesis the action activities and the policy for public health administration .The results showed: Personal Characteristic were female (70.51%) meanwhile the age were between 31-40 years (54.78%) ,gradated in bachelor degree (82.51%) ,work as academic health personal (53.11%) and working experience between 15-20 years (45.88%) .The management of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province was high level when consideration in each aspect ,The planning was the highest mean at high level and the checking ,The acting and doing was at the high level respectively .

The effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province was at high level (mean= 4.61) when consideration in each aspect ,The prevention and controlling in Host , Environment and Agent were at high level as the respectively .The level of literacy factor in the community health promotion hospital in Nonthaburi province was at high level when consideration in each aspect ,The assessment was the highest mean at high level and the brainstorming ,The decision , Health Behavior Changing and communication at the high level respectively .The analysis of the relationship between the literacy factor and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province,the information were shown that literacy factor was a statistically significant positively relationship meanwhile all aspect was a statistically significant positively relationship the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province.The analysis of the relationship between management and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province ,the information were shown that management factor was a statistically significant positively relationship meanwhile all aspect was a statistically significant positively relationship the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

To solving the problems , 1)The administrator should be continuous improvement for health literacy competency of health personals for the create the appropriate behavior to the people 2)The administrator should advice the personal to integrate the total quality management in each aspect of activity

Keywords: Effectiveness, Surveillance, Prevention and Control, Management.

Background and Statement of the problem

Coronavirus disease 2019 (COVID-19) is an emerging disease that is a major public health problem and there is a current epidemic that affects to public health problems ,economy and Society. The current situation were more than 170 million infected people worldwide and 3.54 million deaths . Thailand had 159,792 confirmed cases, 1,031 deaths, and 108,345 recoveries. [1]. The outbreak of the coronavirus disease 2019 is the vaccine injection for prevention that is under development process in an emergency situation. The treatment of the patient is palliative and may cause of death case in 7 risk groups: 1.) pregnant women, gestational age of 4 months or more 2.) children that are aging between 6 months to 2 years 3.) people with chronic diseases as follows: COPD asthma, heart disease, stroke, kidney failure, cancer patients undergoing chemotherapy, and diabetes. 4.) People aged 65 years and over 5.) People with mental retardation who can not help themselves 6.) Thalassemia and immunocompromised people (Including symptomatic HIV-infected) 7.) Obesity (weight > 100 kg or BMI > 35 kg/m2) that people with Coronavirus disease 2019 may have severe symptoms that may cause quickly pneumonia and death in the risk group. Sub-district health promotion hospitals are at the forefront of the Ministry of Public Health in providing health services to people in sub-districts, villages, and communities in order to develop a standard quality public health system. and have more potential to provide proactive health services to the public with equal access to standardized quality services. and take part in taking care of their own health [2]

The ministry of public health has initiated a project to develop the health station. Currently, there are 9,770 locations throughout the country as sub-district health promotion hospitals by the end of September 2010, the health centers must be developed to 2,000 sub-district health promotion hospitals and the remaining 7,770 locations will be operated from October 1, 2010 .The project has be continued until complete 9,770 locations across the country for develop the health center into a sub-district health promotion hospital with the goals as the following 1) The sub-district health promotion hospital is the front service of the ministry of public health in providing health services to people in the sub district, community and villages 2) to develop a public health system , standard quality , higher potential and provide proactive health services to the public 4) To promote people and service recipients to participation by their own health care meanwhile the development of the health center to be a sub-district health promoting hospital, the mission of the public health hospital is first aid or primary level and rehabilitation Therefore it is a medical facility that takes care of people from birth, life until death, including primary medical examination, antenatal care, immunization services. disease surveillance and prevention, surveillance and prevention of disease nutrition care by school health working, consumer protection, screening for various abnormalities, treatment for diabetes, blood pressure, breast cancer, cervical cancer, care for the disabled in the elderly group, rehabilitation and other services to the community [3]

Surveillance and prevention of disease is one of the important tasks of the national health service hospital to screen infected patients and risk groups out of the normal public. Especially when the Coronavirus Disease 2019 or COVID-19 has spread all over the world, including Thailand. However, public health personnel in the hospital should be high potential in effective disease surveillance by comparing the performance against the goals or objectives of the plan or project. Nonthaburi Province had 6068 cumulative infections, 56 deaths, 4121 recoveries [4] meanwhile the surveillance is an indispensable element of public health action. The information from surveillance can be utilized as follows: 1) To know patterns and changes of the disease. (surveillance for disease monitoring pattern), 2) to surveillance for outbreak detection, 3) for disease prognosis, and 4) to program planning, surveillance and evaluation. , monitoring and evaluation.

The Creating health literacy means the ability and skills to access information, knowledge and understanding for analysis ,performance assessment and self-management that were including being able to give advice on personal health, family and community for good health appropriately and health literacy practitioners There should be an understanding of the factors involved in changing health behaviors that were including with leading, contributing and reinforcing factors meanwhile the effectiveness evaluation was meant measuring outcomes in the management, surveillance, prevention and control of the coronavirus disease 2019 by community health promotion hospital in Nonthaburi province with the goals setting by the Ministry of Public Health in the manual for service inspection and implementation process that was combined to the use of single indicators and evaluating effectiveness in systems.

From the analysis of epidemiological data, it was found that the infection had occurred at community sources such as fresh markets Therefore, it was the role of public health professionals in creating knowledge for surveillance and prevention of disease in the community. The appropriate management processes will able bring the limited management resources to transform to achieve the results of effective operations and from the past operations, The researcher ,who is as a community health professional and university lecturer, has researched to collect, analyze and synthesize policy recommendations and operational recommendations that will be useful in learning of stakeholders in the future.

Objective

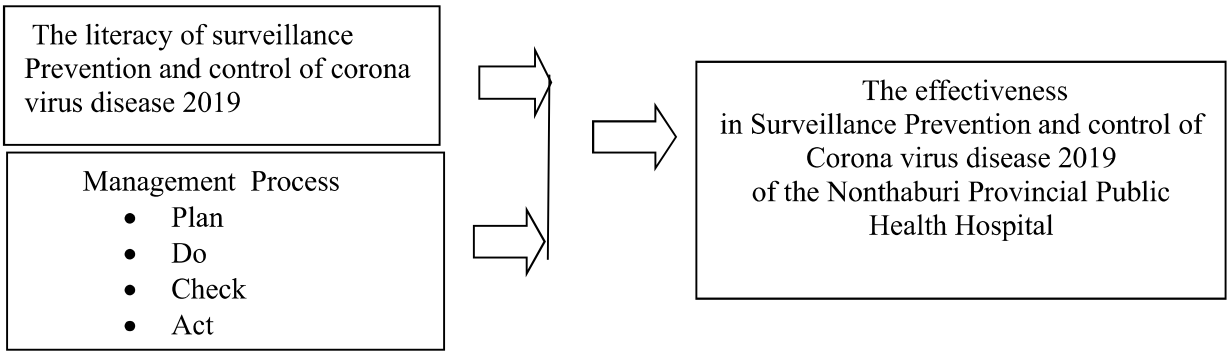
1. To explain the effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.
2. To explain the relationship between the literacy factor Administrative resources Management process and surveillance effectiveness Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province.
3. To synthesize the policy recommendations and operational recommendations on surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.

Expected benefits

1. The evidence information of the effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province
2. The evident information of the literacy factor, management process and surveillance effectiveness disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.
3. Policy recommendations and operational recommendations on surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.

Conceptual Framework

According from research objectives, The researcher propose the Conceptual Framework as the below



Research Methodology

This survey research That had the research methodology as follows.

1.The target group were 77 health personals who work at community health promotion hospital.

2.The Data collection and tools. The data was collected by using a questionnaire that had 3 activities as the following:

2.1 The research questionnaires were 3 parts for data recording such as 2.1.1) The Personnel Characteristics data. 2.1.2) the evaluation of health literacy for disease prevention , management process and the effectiveness in surveillance Prevention and control of corona virus disease 2019 of the Nonthaburi Provincial Public .The questionnaires were determined to 5 rating scale that were highest , high, moderately, low and lowest

2.2 The questionnaire quality determinant. The researcher had determined the quality of questionnaire as the follow.

2.2.1) Content validity testing. The researcher has tested the quality of the tools by consisting of 1) analyzing the content validity or IOC. (The Index of Item-Objective Congruence) from 3 experts and

research advisor for improvement the questionnaire .The criterion of all questions were in the content validity between 0.67-1.00 and IOC. Then the questionnaire was tested for reliability.

2.2.2) Testing for the reliability of the questionnaire .The researcher brought the questionnaire that the research consultant had corrected to pre test with a sample group that was similar to the actual sample that were 30 health personals at Patumthani Province. After that the data were analyzed for reliability. The data was found the alpha coefficient was 0.852 that exceeded to the specified criteria (0.70). Therefore, questionnaires were reliable and applicable to use with target populations.

2.3 Quantitative Data Collection Quantitative Research from Online Questionnaires

3. Data analysis the data analysis was divided into two parts as the following

3.1) Quantitative data analysis (Quantitative Data) in the part that collected data by online questionnaires and analyzed by descriptive statistics such as number, percentage

3.2) Pearson's correlation analysis.

Research Results

The researcher proposed the finding as the 2 parts that were related to the research objectives as the following

1. The effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.

1.1) Personal Characteristic. The finding was shown that the sample size were female (70.51%) meanwhile the age were between 31-40 years (54.78%) ,gradated in bachelor degree (82.51%) ,work as academic health personal (53.11%) and working experience between 15-20 years (45.88%)

1.2) The management of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province was high level when consideration in each aspect ,The planning was the highest mean at high level and the checking ,The acting and doing was at the high level respectively (mean= 4.78,4.51,4.45 and 4.36)

1.3) The effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province was at high level (mean= 4.61) when consideration in each aspect ,The prevention and controlling in Host , Environment and Agent were at high level as the respectively (mean= 4.85, 4.72 and 4.61)

2 . The evident information of the literacy factor , management process and surveillance effectiveness disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.

The researcher proposed evident information of the literacy factor , management process and surveillance effectiveness disease prevention and control of Coronavirus disease (COVID-19) at the community health promotion hospital at Nonthaburi province by arranging with the average mean standard deviation in 3 level (High ,medium and low) as the following at Table 1-3

Table 1 shows the average standard deviation and the level of literacy factor in the community health promotion hospital in Nonthaburi province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1. Assessment	4.51	0.91	high	1
2. Understanding	3.47	0.65	high	5
3. Brainstorming	3.78	0.68	high	2
4. Decision	3.71	0.82	high	3
5. Health Behavior Changing	3.54	0.88	high	4
6. Communication	3.45	0.91	High	6
total	**3.72**	**0.81**	**high**	

Table 2 shows the average standard deviation and the level management process and surveillance prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1. Plan	4.78	0.75	high	1
2. Do	4.36	0.86	high	4
3. Check	4.51	0.63	high	2
4. Act	4.45	0.77	high	3
total	**4.53**	**0.75**	high	

Table 3 shows the average standard deviation and the level of the effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

Evaluation list	Evaluation			
	Mean	S.D.	Results	raking
1.Host	4.85	0.82	high	1
2. Agent	4.72	0.71	high	2
3.Environment	4.61	0.85	high	3
total	**4.72**	**0.79**	high	

2.The relationship between the literacy factor Administrative resources Management process and surveillance effectiveness Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province.

In this part, The researcher propose the relationship between the literacy factor ,management process and surveillance effectiveness Disease prevention and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province with the whole and each aspect that were shown as the table 4-5

Table 4 shows the relationship between the literacy factor and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

Evaluation list	**The effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province**		**Relationship Level**
	r	**p-value**	
1.Assessment	0.811	0.000**	High
2.Understanding	0.531	0.000**	Medium
3.Brainstorming	0.621	0.000**	Quite high
4.Decision	0.736	0.000**	Quite high
5.Health Behavior Changing	0.695	0.000**	Quite high
6.Communication	0.712	0.000**	Quite high
Total	**0.672**	**0.000****	**Quite high**

Table 5 shows the relationship between management and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

Evaluation list	the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province		Relationship Level
	r	p-value	
1. Plan	0.881	0.000**	High
2. Do	0.721	0.000**	Quite high
3. Check	0.779	0.060	Quite high
4. Act	0.758	0.000**	Quite high
total	**0.791**	**0.000****	**Quite high**

Summary of the Study

The information that was found from the finding as following

1. Personal Characteristic were female (70.51%) meanwhile the age were between 31-40 years (54.78%), gradated in bachelor degree (82.51%), work as academic health personal (53.11%) and working experience between 15-20 years (45.88%)

2. The management of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province was high level when consideration in each aspect ,The planning (Situation analysis , Strategic Plan and Program creating and Plan Evaluation) was the highest at high level (mean = 4.78) and the checking (Monitor and Control , Supervision) ,The acting (Evaluation ,Report and Standard setting) and doing (Organization ,Implementation and Coordination) was at the high level respectively

3. The effectiveness of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province was at high level (mean= 4.61) when consideration in each aspect ,The prevention and controlling in Host , Environment and Agent were at high level as the respectively

4. The level of literacy factor in the community health promotion hospital in Nonthaburi province was at high level when consideration in each aspect ,The assessment was the highest mean at high level and the brainstorming ,The decision , Health Behavior Changing and communication at the high level respectively

5.The analysis of the relationship between the literacy factor and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province , the information was shown that literacy factor was a statistically significant positively relationship meanwhile all aspect was a statistically significant positively relationship the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

6.The analysis of the relationship between management and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province ,the information were shown that management factor was a statistically significant positively relationship meanwhile all aspect was a statistically significant positively relationship the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province

Discussions

In this part, the researcher analyzed the finding and proposed the information which was according to the objectives of the research as the following.

1 . The effectiveness of surveillance disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province.

The finding was shown that the effectiveness of surveillance disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province was at High level when consideration at in each aspect ,The prevention and controlling in Host , Environment and Agent were at high level as the respectively because of the ministry of public health has established the policy to protect the disease by promotion appropriate behavior such as D-M-H-T-T-A Model including with

Distancing ,Mask wearing Hand washing Temperature testing , ATK. Testing and health application using for surveillance and control Coronavirus disease (COVID-19) in epidemiology factor such as Host, Agent and environment. [5]

2.The management of surveillance Disease prevention and control of Coronavirus disease (COVID-19) in the hospital in Nonthaburi province was high level when consideration in each aspect ,The planning was the highest mean at high level and the checking ,The acting and doing was at the high level respectively because Community health prevention have the policy of health center accreditation to control the standard and quality of management process by using TQM (Total Quality Management) that have main activity such as plan ,do ,check, act .The finding was related to Naret Maneethet who conducted a research on factors related to the quality development level of sub-district health promoting hospitals in Sakon Nakhon Province. The results showed that (1) there were 93 health hospitals that had been certified for the development of PCA level 1 quality standards; 48 PCA were 2 levels (3) Successful results in operations of Deming's hospital development in accordance with the guidelines of the ministry of public health in all 4 activities is almost complete or has been achieved. (4) Quality development according to 14 Deming principles is at a high level. [6]

3. The relationship between literacy factor and the effectiveness control of Coronavirus disease (COVID-19) in the community health promotion hospital in Nonthaburi province because the health literacy is the policy of the ministry of public health to motivation the appropriate behavior and the health personals were trained about the competency for facilitation to changing their behaviors . The finding was related to Seksan Chanmaneerat who conducted research on knowledge assessment, opinions and performance were according to the policy of sub-district health promoting hospitals of the head of the health station in the 5th public health service inspectorate area. The results showed that the sample group had moderate knowledge, opinions and performance. The operational factors were including with the duration of working at the community health promotion hospital has a statistically significant relationship with the performance and job satisfaction was significantly correlated with opinions about the policy. [7]

Recommendations

1.The administrator should be continuous improvement with health literacy competency to health personals for the create the appropriate behavior to the people in community.

2. The administrator should advice the personal to integration the total quality management in each aspect of activity

3. The alternative research should be mixed methods research for finding the evidence with quantitative and qualitative data in the risk target group of Coronavirus 2019

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The innovation factors of business affecting the performance of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand

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Abstract

The purposes of this research were: 1. To study business innovation factors of small and medium enterprises (SMEs), service sectors, in Bangkok and the central region of Thailand. 2. To study the performance of SMEs (service sectors). The sample group used in this research consisted of 375 cases, which were collected by Proportion sampling. The instrument for this data collection was a questionnaire. The business innovation as an independent variable and the performance of SMEs as dependent variables. The statistics used in the data analysis were Mean, Standard Deviation and Multiple Linear Regression analysis with a confidence level of 95 percent.

From the research results, it was found that opinions on business innovations of SMEs, service sectors, in Bangkok and the central region of Thailand. as a whole, were categorized as the most in the following order: information, process, planning, personnel, and leadership. The opinions on the performance of SMEs, service sectors, as a whole, was classified as the most criterion. In descending order of averages: customer, learning and development, internal process and finance. Results of the study, the organizational innovation had a direct influence on the performance of the organization when considering each aspect of its performance. The result was found that business innovation in leadership and people affecting to performance in learning and development at statistically significance level at .01.

***Keywords**:* Innovation factors, business performance, small and medium enterprises

Background and Statement of the problem

At present, small and medium enterprises (SMEs) in Thailand still not very focused on innovation. As a result, many organizations do not focus on becoming business innovation organizations. Moreover, many businesses still have little knowledge about how to adjust their business strategies to become innovative business may focus solely on technology innovation while others focus on technology innovation. often ignored, for example, innovation in economics is the introduction of new ideas or the use of the existing in new ways. to bring economic benefits or doing something different from others by using various changes (Change) that has happened to become an Opportunity and transfer to ideas that benefit oneself and society [1].

Creating an innovative business is very important to business today because if an organization can't develop and change itself with new things, then it will be difficult to make that organization. Long-term success, especially from the success of a market-leading organization, is often driven by an innovative model in one way or another. such as product innovation in working process, service management or marketing Innovative business is a new concept of corporate management innovation. To modify organizational characteristics or change organizational behavior which is something that has never been modified before to respond or to the stimuli of a globalized context where knowledge and innovation are the main factors in adding value. Develop and produce good quality products and services to meet the needs and satisfaction of customers for the survival of the organization and the competitiveness of the organization in the global free trade market businesses in Thailand to be able to develop themselves into innovative businesses must start with business executives who are committed to promoting their business as an innovative business. by highly innovative business which components were: Leadership, Planning, Information, People and Processes [1] and Enterprise Innovation Center Spring Singapore [2].

Additionally, when innovations are put into practice, organizational performance must be measured. This will let the company know how successful it is now. How far are the company's operations relative to its goals? The company's processes remain in control and are as efficient and effective as expected. In order to know what areas, the company has weaknesses or opportunities for development, several factors of the company are different. The company's desire to increase sales as well as growth benefit and market development understanding, the company's potential allows the company to develop in various areas. for survival and operational stability performance measurements currently have a wide variety of measurement criteria. Some criteria are solely aimed at measuring financial performance. But for this research to be able to measure the overall performance. Organization assessment at present concept or methods that are widely used is the concept of Balanced Scorecard (BSC), which is a tool used to measure and assess organizational results from four perspectives: financial, customer, internal process, and learning and development [3]. The researcher chose to study in Bangkok and the central region of Thailand because such areas are considered to be areas with readiness in various fields such as economy, society, culture, financial potential. and growth business tourism of small and medium enterprises. Therefore, the researcher is interested in studying the factors of business innovation affecting the operations of small and medium enterprises, service sectors, in Bangkok and the central region of Thailand. By the results obtained from the research, can be a guideline to develop the operational potential of SMEs to become innovative businesses that can grow which will create jobs, generate income and as a strategy for building the quality of operations of SMEs. Including, it can strengthen the business and economy of the country as a whole.

Objective

1.To study business innovation factors of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand.

2.To study the performance of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand.

Expected benefits

1. To be information for small and medium business entrepreneurs who want to develop their organization into an innovative business.

2. To be a guideline for small and medium business entrepreneurs. To improve business innovation management model to increase the performance of their organization.

Literature Review

Kulratanavichitra, W. (2017) [4] conducted a research study on Business innovation factors affecting operations the small and medium businesses (service sector). In her study found that the highly innovative organizations must include the following elements: leadership, planning, information, people and processes. Business innovations will affect operations in four areas: customers, finance, and internal processes. learning and development.

Thongpuang, C and others (2018) [5] conducted a research study on the causal relationship of business innovations affecting organizational effectiveness of small and medium-sized businesses. The results of the research found that business innovations in leadership, planning, information, people, processes and organizational effectiveness of small and medium businesses are interrelated.

Kaplan's Balanced Scorecard (BSC) (1996) [3] was a concept developed as a performance measurement tool that provided a clear, quick and logical picture of the future. In addition, this measurement tool allows activities to recognize the strengths and weaknesses of the entity at all times. Therefore, the business could be used as a warning signal in a timely manner. to be used to create an organization that was ready to change This equilibrium performance measurement has divided the perspectives to be used to measure the performance into 4 perspectives, namely [6].

1. Finance
2. Customer
3. Internal Process
4. Learning and development

Kulchittri, S. and Khasamart, S. (2022) [7] conducted a research study on Innovation for small and medium business management for society in the digital economy era. The results of the study found that recognizing the importance of driving Thai SMEs to be able to grow and survive Emphasis is placed on creating an environment in which digital businesses are interconnected. in order to generate income turnover within the country create opportunities for access to digital technology for small enterprises. Because it was a group of enterprises that were like the backbone of the country. as well as preparing for business upgrading by applying digital technology to bring Thailand into the digital economy era

Conceptual Framework

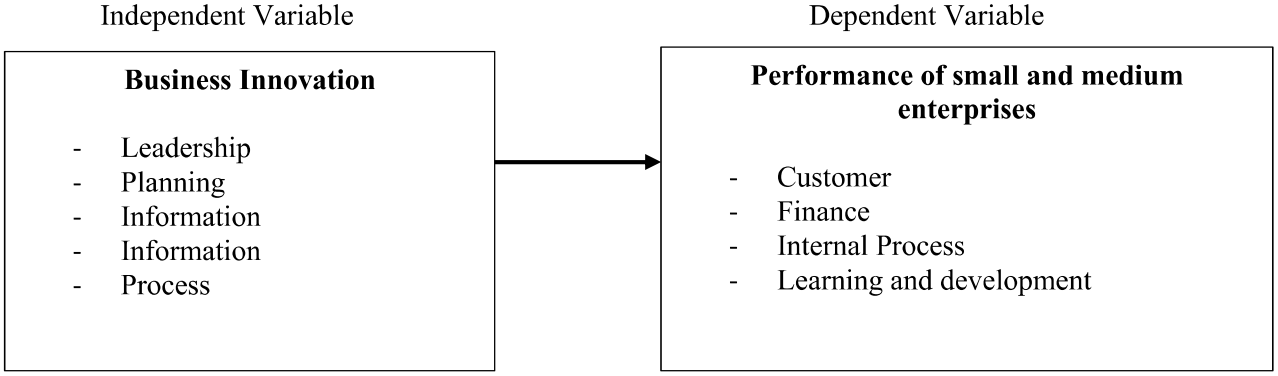


Figure 1: Research Framework

Hypotheses

Business innovation factors will affect the operations of small and medium enterprises (service sectors} in Bangkok and the central region of Thailand.

Research Methodology

Population and Sample Group

The population of this study included SMEs of service sectors in Bangkok (1,521 cases) and provinces in the central region of Thailand that registered to Commercial offices, which are Samut Prakan Province (851 cases) Samut Sakhon (590 cases), Ayutdhaya (577 cases), Nakhon Pathom (620 cases), Pathum Thani (855 cases) and Nonthaburi (913 cases), totaling 5,927 cases (Office of Small and Medium Enterprises Promotion, 2022: online) [8]. Since the exact population is known, the sample size can be calculated using the Taro Yamane Formula with the exact population. The error level of 5% was used and the sample size to be used in this research was 375 cases.

Collecting Data Method

The sampling method was a proportion sampling method.

District/Province	No of Sample
Bangkok	96
Samut Prakarn	54
Samut Sakhon	37
Ayutdhaya	37
Nakhon Pathom	39
Pathum Thani	54
Nonthaburi	58
Total	**375**

Research Tool

The research tool was a questionnaire which, before proceeding with the actual data collection, was tested for Reliability by finding the Cronbach's alpha coefficient) and the alpha Cronbach coefficient level in terms of business innovation was 0.803 and the alpha Cronbach coefficient level in the performance of small and medium enterprises was 0.887.

The score level in the questionnaire is a Rating Scale, with 5 scores according to the Likert Scale method as follows:

Rating Score	Meaning Opinion Level
5	Most agree
4	Totally agree
3	Moderately Agree
2	A little agree
1	Least agree

Criteria of Mean score range and their meaning [9]

Mean Range Criterion	Opinion Level
4.21-5.00	Most agree
3.41-4.20	Totally agree
2.61-3.40	Moderately Agree
1.81-2.60	A little agree
1.00-1.80	Least agree

Range = Max – Min = 5 – 1
No. of level 5 = 0.8

Statistics for Data Analysis

1.Descriptive statistics were used Frequency, Percentage, Mean, and Standard Deviation (S.D.)
2.Inferential statistics was Multiple Regression Analysis for testing research hypothesis.

Research Results

General information of SMEs entrepreneurs (service sectors) in Bangkok and the central region of Thailand were mostly male accounted for 84.32%, aged between 41-50 years, or 41.05%, most had a bachelor's degree. accounted for 78.14% with a monthly income of more than 70,000 Baht or 67.20% and a period of business between 5-10 years or 67.80%

Opinions on business innovations of SMEs entrepreneurs (service sectors) In Bangkok and the central regions of Thailand, as a whole, it was classified as the most agree criterion ($\bar{X}$ = 4.56). When considering each aspect in descending order of average values, it was found that the information aspect ($\bar{X}$ = 4.80) was the most agree criterion followed by the process aspect ($\bar{X}$ = 4.72) which was the most agree criterion, planning aspect ($\bar{X}$ = 4.53) was the most agree criterion, people aspect ($\bar{X}$ = 4.31) was the most agree criterion, and leadership aspect ($\bar{X}$ = 4.27) was the most agree criterion, respectively, as detailed in Table 1

Table 1 Mean and standard deviation of SMEs entrepreneurs' opinions for business Innovation (service business sector) in Bangkok and the central region of Thailand as a whole

Business Innovation	Opinion Level			
	Mean ($\bar{X}$)	Standard Deviation (S.D.)	Meaning	Ranking
Leading	4.27	0.61	Most agree	5
Planning	4.53	0.52	Most agree	3
Information	4.80	0.28	Most agree	1
People	4.31	0.64	Most agree	4
Process	4.72	0.45	Most agree	2
Total	**4.56**	**0.18**	**Most agree**	

Opinions on the performance of SMEs (service sectors) in Bangkok and the central region of Thailand as a whole was the most agree criterion ($\bar{X}$= 4.57). When considering each aspect in descending order of average value, it was found that the customer side ($\bar{X}$= 4.65) was the most agree criterion followed by learning and development ($\bar{X}$= 4.60), which was the most agree criterion, internal processes ($\bar{X}$= 4.54), it was the most agree criterion. and finance ($\bar{X}$ 4.44) was classified as the most agree criterion, respectively, as detailed in Table 2.

Table 2 Mean and standard deviation of SMEs entrepreneurs' opinions for performance (service business sector) in Bangkok and the central region of Thailand as a whole

Performance	Opinion Level			
	Mean ($\bar{X}$)	Standard Deviation (S.D.)	Meaning	Ranking
Customer	4.65	0.48	Most agree	1
Internal Process	4.54	0.55	Most agree	3
Learning and Development	4.60	0.62	Most agree	2
Finance	4.44	0.67	Most agree	4
Total	**4.57**	**0.28**	**Most agree**	

Multiple regression analysis of business innovation factors affecting to performance. Of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand in 4 areas: customers, internal processes learning and development and finance. The results revealed that business innovation factors affecting the performance of SMEs (service sectors) in Bangkok and the central region of Thailand only in terms of learning and development at the level of statistical significance of .01 as detailed in Table 3.

Table 3 Multiple regression analysis of business innovation factors affecting performance of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand in Learning and Development

Business Innovation	Unstandardized Coefficients		Standardized Coefficients	t	P - value
	B	Std. Error	Beta		
Constant	4.26	0.60		7.12	0.01
Leadership	0.17	0.07	0.12	3.21	0.02*
Planning	0.12	0.08	0..11	1.13	0.26.
Information	0.17	0.11	0.15	1.27	0.32
People	0.19	0.07	0.17	2.92	0.00**
Process	0.17	0.09	0.15	1.86	0.11
$R = 0.41$, $R^2 = 0.07$, Adj. $R^2 = 0.06$, SSE = 0.14, F = 4.68, P-Value = 0.00**					

**Statistical significance level at .01 * Statistical significance level at.05

Table 3 show that only people and leadership factors affect small and medium enterprises (service sectors) in Bangkok and the central region of Thailand in learning and development at statistical significance level .01 and .05, respectively.

Summary and Discussion

From the research results can be summarized and discussed as follows.

The SMEs entrepreneurs (service sectors) in Bangkok and the central region of Thailand were mostly male, aged between 41 - 50 years, a bachelor's degree, a monthly income of more than 70,000 Baht and a period of business between 5-10 years.

Opinions on business innovations of small and medium entrepreneurs (service sectors) in Bangkok and the central region of Thailand when considering each aspect in descending order of average value, it was found that the first order was information technology, which was the most agree criterion because the entrepreneurs of small and medium enterprises in today's era have begun to introduce various

innovations. be applied to the management of to be more efficient that make organizations want to transform their organization into an innovative business in line with the Office of Small and Medium Enterprises Promotion [8]. Technological advances have resulted in innovation being developed rapidly and continuously. Its main purpose is to meet the changing needs and tastes of consumers. [10] have studied whether innovation leads to performance of SMEs in Taiwan or not. The result found that the progress of technology and information effected to increase more competition. It is also consistent with research by [11]. which has conducted research on Innovation Management and Control in SMEs. The results showed that changing the organizational environment through the adoption of innovative management will provide a substantial competitive advantage to small and medium enterprises through the process of business control.

Opinions on the opinions on the performance of small and medium enterprises (service business sector) in Bangkok and the central region of Thailand when considering each aspect in order of average from highest to lowest, it was found that the customer aspect was classified as the most agree criterion. Customer satisfaction is the most important index because if customers are satisfied with products and services. They will be loyal and come back to use the service again. [12] has conducted a study on service quality affecting the intention to reuse the service of Bank of Ayudhya customers. The results of the study found that satisfaction, service quality, and attitude could affect the reuse of current or future customers as same as [13] the important factor that made customers came back to buy again was customer satisfaction and customer loyalty, so customers were very important to the business performance.

From the results of the multiple regression analysis, it was found that business innovation factors affect the performance of small and medium enterprises (service sectors) in Bangkok and the central region of Thailand only learning and development, which will be consistent with the research of [4] did the research on Business innovation factors affected the operations of small and medium businesses (service sector). The results showed that business innovations in leadership and people affected to performance in learning and development.

Recommendations

1. Recommendations from this research

From this research, the researcher would like to suggest things that would be useful to those involved as follows.

1.From the research results business innovation factors affecting the performance of small and medium enterprise (service sectors) in Bangkok and the central region of Thailand; especially in the part of multiple regression analysis, it can be seen that leadership and people affect the performance of small and medium enterprises. in terms of learning and development in the same direction. Therefore, a business to be successful must depend on the leadership of the business executives as one of the important factors. It also depends on how well the people have the knowledge base. Are you ready to learn and develop? If you are ready to learn a lot, it has the opportunity to help the performance of the business grow and progress as well.

2.Innovation must be developed all the time. when new things or innovation are Introduced to use in the organization. The organization must have a human resource planning. Human resource development and training is required. to the point and suitable for the position and work performed both present and, in the future, as well.

2. Recommendation for further research

1. Should conduct an in-depth research study for a specific service business group, the results of the study will be more clearly.

2. The same research study should be conducted. but change the study population to other regions instead to see whether the research results are the same or different.

. 3. Should conduct a research study on Leadership influences on the success of an organization and its performance of small and medium businesses in Thailand.

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THE RELATIONSHIP BETWEEN SERVICE QUALITY AND CUSTOMER LOYALTY: A CASE STUDY OF VTUBER IN CHINA

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Abstract

The objectives of this research were 1) to study the level of service quality of VTuber, 2) to study the level of customer loyalty of VTuber, 3) to study the relationship between service quality and customer loyalty of VTuber, and 4) to give the recommendation on the service quality and customer loyalty of VTuber. In this study, there were 400 samples selected proportionally from VTuber group and used simple random sampling methodology. The data were collected by using a questionnaire. Frequency, percentage, mean, standard deviation, and Pearson correlation were used to analyze the data.

The results showed that 1) most of VTuber group strongly agree with the service quality in overview, which consisted of tangible factors were the highest level; followed by assurance factors, and reliability factors were the lowest. 2) Most of VTuber group strongly agree with the customer loyalty in overview, which consisted of inherited factors were the highest; followed by compulsive loyalty, and critical loyalty was the lowest. 3) Service quality is positively correlated with customer loyalty at the significant level of 0.01. It was SERVQUAL and meaning-based loyalty. 4) Recommendations suggest that VTuber should focus on 4.1) Service quality, especially tangible, and improve reliability. 4.2) For customer loyalty, inherited loyalty can gain maximum loyalty. Moreover, VTuber should focus on improving the performance of the whole service quality rather than specialization.

Keywords: Service quality, Customer loyalty, VTuber

Background and Statement of the problem

1.What is VTuber?

VTuber, it means Virtual youtuber, also be called for short as ‘v’. It originally refers to the virtual streamers on the YouTube platform, and later refers to various virtual streamers. VTubers are associated with Japanese popular culture and aesthetics, such as anime and Manga (comics for Japanese language), and Moe (similar to cute) anthropomorphism with human or non-human traits. Some VTubers use anthropomorphic images, non-human characters such as animals.

A VTuber has two parts: a virtual anime character and a ‘People in the middle’ (the word comes from Japanese; it means the performer under the virtual images). The operator may be an entire team, including programming, motion control, voice actors, etc., or it may be just one person. VTuber images are usually 2D or 3D models, through the webcam and software for motion capture, the expressions and movements of the People in the middle are mapped on the model. Some also supporting virtual reality hardware, or hand tracking devices such as the Leap Motion Controller [1]. And that could use finer motion capture effects to make the image show more movement. The action ability of VTuber is positively correlated with the technical ability of operation.

The concept of virtual images came from science fiction such as cyberpunk. Described in the novel as an AI idol that simulates human beings projected by electronic signals. But the current AI technology can't do it, so people are used to play the role behind the virtual image. Actually, the virtuality of the web demonstrated this concept in the early 2000s, when the web became widespread. People hide their real information through their screen names and images, isn't it an virtual image? That can be seen that people's demand for virtual good things on the Internet is indeed important. If we look back like humans traced the evolutionary history, the birth and popularity of Hatsune Miku proved the feasibility of virtual idols. Miku was born in 2007, using speech synthesis software and Japanese-style animation character modeling,

singing and dancing in the video like a real idol. And Miku's popularity quickly spread from Japan to other countries [2].

From a single animated image to a modern VTuber, it has a certain history of development. Just like the history of human evolution from ape to man. With the help of technology, VTuber has gradually developed into what it is today. On June 13, 2011, British Japanese vlogger Ami Yamato uploaded her first video of an animated image speaking to the camera [3]. In 2014, Airi got her own solo program every Thursday and began live broadcasting with motion capture.In 2014 the FaceRig indie software launched on Indiegogo as an EU crowdfunding project, and later that year it was released on Steam becoming the first software suite that enabled live images at home via face motion capture that started being actively used on steaming website and YouTube. The Live2D software module enabling 2D images and was added one year later in 2015 in collaboration with Live2D, Inc [6].

Kizuna AI is recognized as the first VTuber. She became active with YouTube on November 29, 2016. Unlike Miku focuses on music, her functions are almost the same as other anchors, including live game, singing and dancing, and chatting [4]. With the popularity and success of AI, VTuber in Japan developed like a blowout since 2017. As VTuber ushered in a boom, some VTuber organizations also emerged, forming companies and multinationals. And VTuber is popular all over the world through the Internet. After Japanese VTuber, there are more and more English VTuber, Chinese VTuber, and more languages. By now, VTuber has become the trend of the Internet.

Now, VTuber's main business is video and live streaming, including but not limited to online platforms. TV stations will also use virtual idols to participate in program recording. Video and live content, including singing and dancing, doodling, chatting with fans, discussing hot topics on the Internet, sharing daily activities, live games, etc. Fans' superchat (a conspicuous way of chatting and speaking, which can be understood as a reward) is the main channel of VTuber's income.

2. How important it is?

Nowadays, with the popularity of the Internet, people can choose more and more entertainment methods. For example, in the last century, people liked to watch TV series or variety shows on TV. But now, most young people (12 to 35 years old or Generation Z) prefer to watch videos or live streaming through online platforms. Comprehensive video sites such as Bilibili (from China) and YouTube, and live streaming platforms such as Douyu (from China) and Twitch, these online platforms are the rage to prove this point. Therefore, grasping the trend of new media is very important to the development of the information age.

In China, there is a new term called Wanghong economy (Internet Celebrity Economy). It is an economic phenomenon in the Internet age. Influencers can get a lot of traffic through social platforms. In the Internet age, traffic is profit. VTuber is the product of this era.

If you want to say the world's largest subculture group, it must be Japanese animation fans. The important difference between Japanese animation characters and European and American animation characters is that she is not like a real person. Japanese animation characters are characterized by Moe. And Moe makes the characters more beautiful and cuter. This kind of performance is also more deeply disconnected from the real world. One can clearly distinguish the virtual and the real as two worlds. VTuber uses images in the style of Japanese animation characters, which are cute and virtual at the same time, and can better meet the expectations of fans.

People are more willing to open up to a virtual character than to a real person. What's more, they are Moe. People are more willing to be friends with VTuber because you know she is fake and she can't interfere in your real life. Because it is a virtual world, it gives fans a beautiful fantasy that is far higher than reality. That’s why VTuber has thus become popular.

It is also much easier for entertainment companies to cultivate virtual idols than idols. Appearance is the hardware of idols. But for virtual idols, their appearance can be set by themselves. And virtual idols are also easier for companies to manage. If the appearance of the idol itself is regarded as his own technical shares, the virtual idol belongs to the people of IP, technology, operation, and People in the middle. That means for companies, capital occupies a greater proportion in planning. In fact, virtual idols are also replacing traditional idols.

For various reasons, VTuber has more and more fans in the subculture. For past traditions, VTuber's market is undoubtedly a blue ocean. More and more companies and individuals see the prospect of the market and enter this nascent industry. So how to stand out here has become a new problem that needs to

be studied. Starting from Japan, VTubers spread all over the world has become a new wave in the Internet age.

3. The difference between VTuber and traditional anchor

Webcasting has emerged and become an industry some years ago. There are many anchors who entered the industry first and have already achieved success. But these traditional anchors are different from VTuber.

VTuber's fans are mostly formerly not much watch live. VTuber fans are to a large extent fans of ACG culture. They usually prefer virtual animated character images to real people. For the live streaming industry, it belongs to the blue ocean market. These people don't spend on socializing, not under pressure to survive, and more comfortable with paying for their hobbies.

4. Live Streaming

Live streaming is self-published media that is recorded and broadcast in real time over the Internet. The technology for both live and recorded video is streaming, with the difference only being that the live stream is in real time. Users can watch the live performance of the anchor through online video platforms or live streaming platforms.

Activities that will be performed by the anchors during the live steaming include, but are not limited to just chatting, live game play, music, creating art or craft work, etc. The categories listed above are generally viewed by more people.

An example of a live streaming platform is Twitch. Twitch is a live video platform owned by Twitch Interactive, an Amazon subsidiary [7]. This platform is also the preferred platform for many VTubers.

5. Anime

Its meaning is similar to cartoon. But there are still differences. The word "anime" originated from the Japanese pronunciation. It is hand-drawn and computer-generated animation from Japan. So the term "anime" refers specifically to animation produced in Japan [5].

In terms of drawing style, there is a very significant difference between anime and American comics.

6. ACG

ACG is an abbreviation for anime, comics, and games. ACG is a subculture set. It is a subcultural trend that is now becoming popular among contemporary youth. VTuber fans in this article largely overlap with ACG subculture fans.

7. Why do this research

Although VTuber is a new industry, the number of VTuber has exploded since 2018. Not only many individual VTubers have emerged, but many entertainment companies have also established subsidiaries to enter the industry. For example, Japanese companies Nijisanji, hololive, which are also famous today. These companies cultivate VTuber in batches, called "first-stage students", "second-stage students", etc. In China, such as Tencent and ByteDance, these giant IT companies can quickly grasp the context of the Internet and enter the VTuber industry. So, as you can see, while VTuber is a new thing and a new market, it is already full of competition. In the fierce competition, how the newly entered VTuber stands out is a complicated issue. Will the quality of service affect the number of fans of VTuber and bring more fans? Will good service quality make fans more loyal to VTuber and bring more traffic? Why do people who watch become loyal and be fans? That's why I study service quality and customer loyalty.

Objective

1. To study the level of service quality of VTuber.
2. To study the level of customer loyalty of VTuber.
3. To study the relationship between service quality and customer loyalty of VTuber.
4. To give the recommendation on the service quality and customer loyalty of VTuber.

Expected benefits

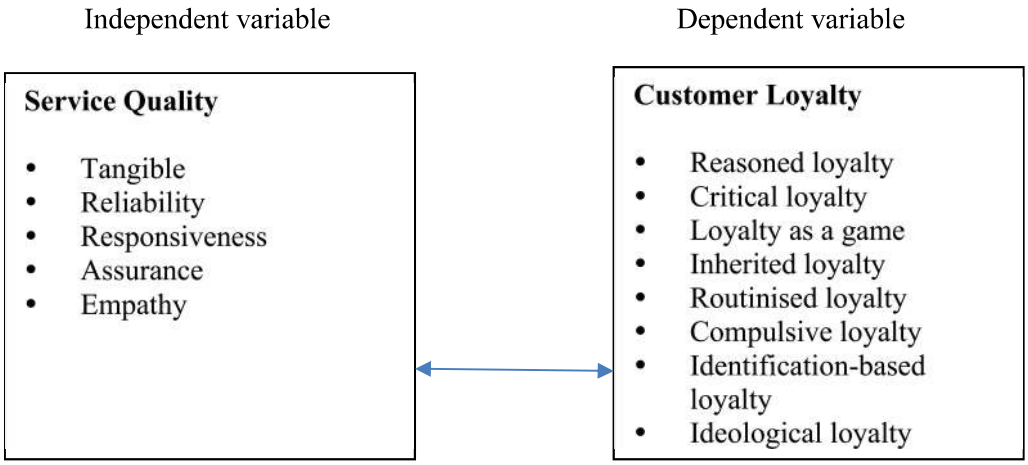
1. From this research, the relationship between service quality and customer loyalty will be shown clearly. The results can serve as a company's market research on what kind of services consumers prefer and are willing to pay for.

2. The result of the research shows the relationship between service quality and customer loyalty will be shown clearly. It can be used as a guideline to build up a paragon for what kind of VTuber the company should cultivate.

3. The result of the research can be used as an example for other companies in the same type and size of the industry.

Conceptual Framework

The independent variable of research was the Servqual of Parasuraman et al [8]. The dependent variable is the customer loyalty of Närvänen, Kuusela, Paavola, and Sirola [10].



Research Methodology

The sample population of this study is the Chinese Internet community of VTuber fans in the Generation Y and Generation Z range (The age range of the people in this study were between 10 and 40 years old.). The sample was located in the China region and used the Internet to collect data. The total population could not be counted, so Cochran Formula [9] was used, and a final sample size of 401 was collected. a questionnaire was used as a tool to collect 401 data from the VTuber hobby group randomly. The statistics for data analysis included frequency, percentage, mean, standard deviation and Pearson correlation.

Research Results

Most of the respondents were male, at the range of age between 10 to 20 years old, and still students. But the difference between the number of people over 20 and under 20 is small, as is the difference between the number of students and those already working. There was a larger number of male than female respondents by about 3/1.

Table 1 Mean and Std. Deviation of Service Quality

Service Quality	$\bar{x}$	S.D.	Level	Ranking
1. Tangible	3.883	1.073	High	1
2. Reliability	3.862	1.050	High	5
3. Responsiveness	3.874	1.025	High	4
4. Assurance	3.877	1.067	High	2
5. Empathy	3.875	1.066	High	3
Total	**3.874**	**1.001**	**High**	

From the Table 1 it had shown that service quality of VTuber was at a high level, the mean value is 3.874 and SD is 1.001. The highest aspect was the Tangible factors at a high level, the mean value is 3.883,

and SD is 1.073. The second highest was Assurance factors at a high level, the mean value is 3.877 and SD is 1.067. The last one was the Reliability factors at a high level, the mean value is 3.862 and SD is 1.050.

Table 2 Mean and Std. Deviation of Customer Loyalty

Customer Loyalty	$\bar{x}$	S.D.	Level	Ranking
1. Reasoned loyalty	3.877	1.055	High	6
2. Critical loyalty	3.865	1.092	High	8
3. Loyalty as a game	3.899	1.085	High	3
4. Inherited loyalty	3.909	1.031	High	1
5. Routinised loyalty	3.892	1.070	High	4
6. Compulsive loyalty	3.903	1.042	High	2
7. Identification-based loyalty	3.870	1.056	High	7
8. Ideological loyalty	3.886	1.030	High	5
Total	**3.888**	**0.992**	**High**	

Table 2 is customer loyalty of VTuber. This table show that the customer loyalty in the overview was at a high level, the mean value is 3.888 and SD is 0.992. The highest level was inherited loyalty at a high level, the mean value is 3.909 and SD is 1.031, the second level was compulsive loyalty at a high level, the mean value is 3.903 and SD is 1.042, and the lowest level was critical loyalty at a high level, the mean value is 3.865 and SD is 1.092.

Table 3 Pearson correlations for Service Quality and Customer Loyalty

Service Quality		**Customer Loyalty**								
		Reasoned	**Critical**	**As a game**	**Inherited**	**Routin-ised**	**Compul-sive**	**Identific-ation**	**Ideolo-gical**	**Total**
Tangible	r	.860**	.856**	.857**	.869**	.861**	.857**	.863**	.860**	.918**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Reliability	r	.853**	.852**	.872**	.861**	.858**	.847**	.857**	.875**	.917**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Responsive	r	.854**	.854**	.861**	.851**	.833**	.841**	.838**	.857**	.906**
ness	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Assurance	r	.861**	.868**	.869**	.869**	.877**	.855**	.858**	.870**	.924**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Empathy	r	.885**	.886**	.893**	.871**	.876**	.869**	.866**	.879**	.937**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000
Total	r	.913**	.913**	.921**	.913**	.911**	.903**	.905**	.918**	.973**
	Sig.	.000	.000	.000	.000	.000	.000	.000	.000	.000

**. Correlation is significant at the 0.01 level (2-tailed).

From the Table 3 had shown that service quality and customer loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.937), the second was assurance had a very strong positive correlation (r=0.924), and the last was responsiveness had a very strong positive correlation (r=0.906) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.973) than empathy.

For service quality with reasoned loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.885), the second was assurance had a very strong positive correlation (r=0.861), and the last was reliability had a very strong positive correlation (r=0.853) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.913) than empathy.

For service quality with critical loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.886), the second was assurance had a very strong positive correlation (r=0.868), and the last was reliability had a very strong positive correlation (r=0.852) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.913) than empathy.

For service quality with loyalty as a game had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.893), the second was reliability had a very strong positive correlation (r=0.872), and the last was tangible had a very strong positive correlation (r=0.857) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.921) than empathy.

For service quality with inherited loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.871), the second was tangible and assurance had a very strong positive correlation (r=0.869), and the last was responsiveness had a very strong positive correlation (r=0.851) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.913) than empathy.

For service quality with routinised loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was assurance had a very strong positive correlation (r=0.877), the second was empathy had a very strong positive correlation (r=0.876), and the last was responsiveness had a very strong positive correlation (r=0.833) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.911) than assurance.

For service quality with compulsive loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.869), the second was tangible had a very strong positive correlation (r=0.857), and the last was responsiveness had a very strong positive correlation (r=0.841) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.903) than empathy.

For service quality with Identification-based loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.866), the second was tangible had a very strong positive correlation (r=0.863), and the last was responsiveness had a very strong positive correlation (r=0.838) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.905) than empathy.

For service quality with ideological loyalty had a very strong positive correlation with statistically significant at .01 level. For SERVQUAL model, the highest correlation was empathy had a very strong positive correlation (r=0.879), the second was reliability had a very strong positive correlation (r=0.875), and the last was responsiveness had a very strong positive correlation (r=0.857) with statistically significant at .01 level. But focus on all tangible to empathy, total of loyalty even had a higher very strong positive correlation (r=0.918) than empathy.

Summary of the Study

The service quality in the overview was at a high level. The highest level was tangible factors at a high level, the second level was assurance factors at a high level, the third level was empathy factors at a high level, the fourth level was responsiveness factors at a high level, and the lowest level was reliability factors at a high level.

The tangible factors were at a high level, the highest level was the factor "satisfaction with your favorite VTuber's existing technical support such as motion capture and face capture" at a high level, the second level was "satisfaction of VTuber's image" at a high level, and the lowest was "satisfaction with the detail and mobility of your favorite VTuber model" at a high level.

The customer loyalty in the overview was at a high level. The highest level was inherited loyalty at a high level, the second level was compulsive loyalty at a high level, the third level was loyalty as a game at a high level, the fourth level was routinised loyalty at a high level, the fifth level was ideological loyalty at a high level, next level was identification-based loyalty at a high level, the seventh level was reasoned loyalty at a high level, and the lowest level was critical loyalty at a high level.

The inherited loyalty was at a high level, the highest level was "answerer will be interested in another VTuber because of the linkage activity between anchors" at a high level, the second level was "answerer will watch the recommended VTuber because your friend recommends her" at a high level, and the lowest was "answerer may have a good feeling for other anchors of the group because of the same company or project" at a high level.

The service quality in the overview had a very strong positive correlation with the customer loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with customer loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the reasoned loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with reasoned loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the critical loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with critical loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the loyalty as a game. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with loyalty as a game with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the inherited loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with inherited loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the routinised loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with routinised loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the compulsive loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with compulsive loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the identification-based loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with identification-based loyalty with statistically significant at .01 level.

The service quality in the overview had a very strong positive correlation with the ideological loyalty. All of the tangible, reliability, responsiveness, assurance and empathy had a very strong positive correlation with ideological loyalty with statistically significant at .01 level.

Discussions

VTuber is a newborn industry in recent years. It's been just 5 years since its birth. Almost no one has done any research on VTuber. This paper is a study for VTuber, which is filling a gap in the field of VTuber research. This study examines VTuber's service quality and customer loyalty and ultimately determines that VTuber has strong similarities to the traditional industry. This means that some of the experiences of past management can also be applied to the VTuber industry. This study is a pioneer in the study of VTuber and can be used as a basis for the study of VTuber to support subsequent studies of VTuber.

1. The level of Service Quality

From the research results show that the service quality in the overview was at a high level. The highest level was tangible factors at a high level, the second level was assurance factors at a high level, the third level was empathy factors at a high level, the fourth level was responsiveness factors at a high level, and the lowest level was reliability factors at a high level.

The study of the related theories of service quality, we find that service quality in tangible, reliability, responsiveness, assurance and empathy can have a positive impact, consistent with the study findings of Chuang, et al [11] for e-service quality. SERVQUAL has the best measurement model in service quality, which supports this research on service quality in the VTuber Industry.

But there are also subtle differences between VTuber and the rest of the industry when it comes to the quality of service that deserves the most attention. For VTuber, the most important thing is the tangible service. On Fida et al [12] study of service quality on the banking industry, the highness level of reliability instead of tangibility. That shows that while VTuber is similar to other industries in the general direction of service quality, VTuber should have its own focus on tangibles that the audience can visually see. This result suggests that the experience of past studies cannot be directly applied to VTuber without selecting and adapting to the VTuber industry environment.

2. The level of Customer Loyalty

The research results show that the customer loyalty in the overview was at a high level. The highest level was inherited loyalty at a high level, the second level was compulsive loyalty at a high level, the third level was loyalty as a game at a high level, the fourth level was routinised loyalty at a high level, the fifth level was ideological loyalty at a high level, next level was identification-based loyalty at a high level, the seventh level was reasoned loyalty at a high level, and the lowest level was critical loyalty at a high level.

In previous studies, such as Akroush et al [13] on service quality, customer satisfaction and loyalty, customer loyalty is influenced by customer satisfaction. In such studies, customer satisfaction with current services is used as a measurement tool, and improving service quality is seen as a standard for increasing loyalty. But that does not apply to the VTuber industry, which don't have a value that can be determined and whose quality of service is reflected in the psychological assessment of the viewer. The same quality of service has different values for different viewers. Therefore, this study abandons customer satisfaction with the service and chooses to study loyalty based on the meaning of customer recognition.

This study uses a very novel research tool proposed by Närvänen et al [9] to study why they are loyal based on meaning from the customer's perspective. That helps the VTuber understand the thoughts and preferences of the viewer. The conclusion from the results of the study is that inherited loyalty is the sense in which viewers are most inclined to be loyal. However, the comparison reveals that the means and standard deviations of all scalars are relatively close and at high levels, which can prove that viewers' loyalty is indeed influenced by meaning-based loyalty. That is consistent with the study of Närvänen et al [10] and confirms that it can be a new research tool for consumer loyalty.

3. The relationship between Service Quality and Customer Loyalty

The analysis data show that service quality is positively correlated with customer loyalty, which is statistically significant at the level of 0.01. There was a significant positive correlation between each of SEVRQUAL and meaning-based loyalty.

This result confirms the positive relationship between VTuber's service quality and customer loyalty, in consistent with the findings of Karunaratna [14]. It shows that there is a positive relationship between all service quality dimensions and meaning-based loyalty one by one. The consistency of the findings also suggests that meaning-based loyalty by Närvänen et al [10] could be a new tool to study customer loyalty instead of the previous tool.

VTuber is an emerging industry in recent years. In the past, service quality and customer loyalty have been studied, but no research has been done on VTuber. This study fills the gap on VTuber. The findings are generally consistent with study of Berg et al [15], which suggests that the relationship between service quality and customer loyalty in the VTuber industry is also similar to that of other industries. Therefore, VTuber should focus on providing high quality services that can make viewers more loyal. The finding of a positive correlation between service quality and customer loyalty still applies to the VTuber industry and is relevant to its growth.

Recommendations

1. Recommendation from the research results

1) For service quality, Vtuber should focus on the Tangibles that viewers pay the most attention to.

1.1) VTuber should continuously innovate the VTuber image design to maintain its appeal. For example, VTuber companies can adopt different personas, costumes and color schemes, etc. to inject new elements and creativity into the VTuber image so as to attract the attention and love of more viewers.

1.2) The company should invest in the technical development of VTuber. Making more beautiful moveable models, as well as improving face capture and motion capture technology, all of which could help VTuber attract more popularity. It can use technical advantages to create technical barriers to other practitioners.

1.3) VTuber should pay attention to details in peripheral products, image design and stage performance to improve VTuber brand value and viewer satisfaction and further strengthen VTuber's competitive position in the market.

2) For the lowest level of SERVQUAL was reliability, VTuber should also focus on improving the shortcomings.

2.1) VTuber's live content should be guaranteed to be of high quality to ensure that viewers can have an enjoyable viewing experience.

2.2) VTuber is a performance that plays a virtual image, and the anchor should keep in mind her character setting. VTuber should grasp the sense of distance and virtualness with the viewer, which is fundamental to virtual anchors.

2.3) The company also has an obligation to project a good corporate image in the public. The company should show that it is cooperating with VTuber's actors and not exploiting them, so that fans trust the company's operation.

2.4) The company should actively provide assistance and support for the technical development of virtual idols so that viewers can feel the importance the company places on the VTuber project.

3) Inherited loyalty is the highest level of loyalty meaning for the viewer, so this factor should be improved.

3.1) Vtuber companies can adopt a similar way to idol trainee, debuting Vtuber as a group and continuously launching new groups. Use the relationship between VTuber of the same company to hold the fan community.

3.2) Through the VTuber program, the company transforms viewers from a single Vtuber fan to a fan of the entire company's program, which in turn generates loyalty to the company's brand. For example, it makes them think that the VTuber launched by this company are all fine ones.

4) There are some recommendations for identification-based loyalty.

4.1) The company should be presented to the viewer as a fellow enthusiast. This will give the viewer a sense of identity-based and therefore more trust in the company. And this identity is more conducive to the company to go among the consumer groups to understand the needs and feelings of consumers.

4.2) Companies can often hold unique activities specifically for their fan base. These events can be attended only by people with fan status. This small injustice to the general public can often make those who enjoy the privilege more inclined to be loyal. This kind of activities for fan identity can enhance the loyalty and unity of the fan base.

5) From the relationship between service quality and customer loyalty, any individual dimensions have less positive correlation with each other than the total. So, for each point of SEVRQUAL, the company should pay some attention. The loyalty gained by VTuber is highest when all five dimensions of service quality are improved. It is more useful than focusing on strengths or improving shortcomings. This means that the company should focus on improving the overall performance of the VTuber rather than specializing in improving it.

2. Recommendation for further study

2.1 The researcher can apply this study on the service quality and customer loyalty on other industry

2.2 The researcher can conduct a more in-depth study of the differences and trends between individual VTubers and corporate VTubers.

2.3 The researcher can further study the customer relationship management between VTuber and viewers.

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Implementing the Concept of Data Warehousing to Improve Performance of the Relational Database System: A Case Study of the Rainfall Database in Chiang Mai Province

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Abstract

This research aimed to enhance the efficiency of the rainfall database system, which has over 750,000 data entries in the transaction table, by applying the concept of data warehousing to reduce the time taken to retrieve data. The study began with an investigation of the relational database structure in the existing system, followed by the design of a new database structure for the system. The query times of both systems were compared through four test cases. The results showed that the query time of the new designed was on average 53.09% less than the original database. Additionally, the structure of the new database system was easier to maintain, especially in terms of data backup. This approach of enhancing the performance of the database system implementing the principles of data warehousing can be applied to the database structure of any system with a large amount of data in the transaction table.

***Keywords**:* Data warehousing, Relational database system, Database tuning

Background and Statement of the problem

A database system is a vital component of today's digital world. It plays a crucial role in managing data in various domains, including business, healthcare, education, government, and social media. The contribution of database systems in these domains has revolutionized how data is managed, organized, and accessed. As the volume of data continues to increase, database systems will continue to play a vital role in managing this data and providing insights to aid decision-making.

The importance of database systems cannot be overstated. With the increasing volume of data being generated daily, a database system is essential in managing and analyzing this data. A database system helps organizations in making data-driven decisions, improving operational efficiency, and enhancing customer experience [1].

A database system is essential in the government sector for managing citizen records, tax information, and other critical data. It helps in maintaining public records, tracking criminal activities, and improving the efficiency of government operations.

The 16th Conservation Area Management Office in Chiang Mai is a government agency responsible for managing conservation areas in Chiang Mai province. The agency has been collecting rainfall data from 292 monitoring points throughout the province for over 14 years (since 2009). Every day at 8 a.m., officials read the amount of rainfall, minimum and maximum temperatures, and air humidity value from measuring devices and submit the data into a relational database system. The management information system is designed to support the display of daily rainfall data in the data table format and the framework of Google Maps.

Currently, the transaction table contains more than 750,000 rows of data. System users have started to experience slow data retrieval, and officials are concerned about maintaining the database, such as backing up the data, which has become increasingly difficult. They fear that the system may not be usable in the long term.

To address these issues, this research proposes the implementation of data warehousing. The goal is to improve data retrieval time and facilitate easier data backup. Details of the research will be presented in the following report.

Objective

The objective of this research is to improve the efficiency of the rainfall database system by applying the concept of data warehousing.

Expected benefits

The contributions of this study include:

1. Improved efficiency of the rainwater quantity database by reducing the time required for data retrieval.
2. A database system that is reliable and easy to maintain for long-term use.

Theory and related works

Relational database

A relational database is a type of database that organizes data into one or more tables or "relations," each of which consists of a set of columns with unique names and data types, and rows representing instances of data that are related to one another [2]. The relational model was first proposed by Edgar F. Codd in 1970, and it has become one of the most widely used database models in the world today.

In a relational database, data is organized into tables, which are made up of columns and rows. Each column has a unique name and data type, and each row represents an instance of data that is related to other rows in the table. Relationships between tables can be defined by creating foreign keys, which allow data to be shared between tables in a controlled and efficient way.

The main advantages of using a relational database are that it provides a flexible and efficient way to store and retrieve data, allows for complex queries to be performed on the data, and supports the normalization of data to minimize redundancy and improve data integrity.

The relational database was implementing for a university course management system [3]. The database design is based on the Entity-Relationship (ER) model, and the implementation is done using Oracle. The paper discusses the database schema, the data types used, the relationships between tables, and the queries used to retrieve data from the database. The performance of the database is evaluated using various metrics, and the results show that the implementation is efficient and scalable.

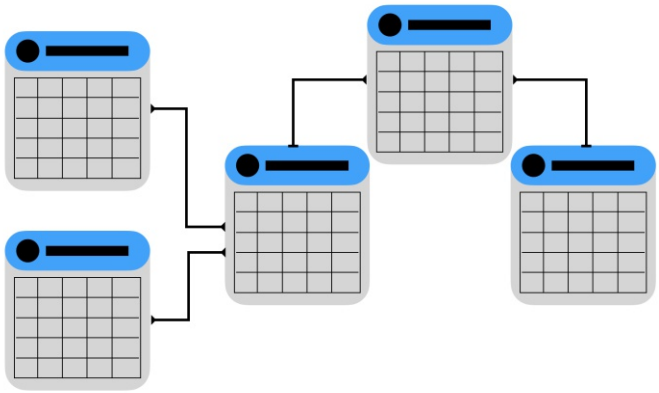


Figure 1 The concept of Relational database

Data warehousing

Data warehousing refers to the process of collecting, storing, and managing data from various sources in a centralized repository to support business intelligence and decision-making activities [4]. A data warehouse is designed to support OLAP (Online Analytical Processing) and data mining applications and typically involves the integration of data from multiple heterogeneous sources.

Roll-up is a fundamental technique used in data warehousing to summarize large amounts of data by grouping them into higher-level categories [5]. It is a process of aggregating data from a lower-level (more detailed) to a higher-level (less detailed) category.

For example, suppose a data warehouse contains sales data at the transaction level, with each record representing a sale of a particular product on a particular date. Using the roll-up technique, the data can be aggregated by various dimensions such as product, region, and time period. For instance, we can roll-up

the data from transaction level to product level to see total sales for each product or roll-up the data from product level to region level to see the total sales for each region.

Roll-up is often performed using SQL aggregation functions such as SUM, COUNT, AVG, MIN, and MAX, which operate on groups of records based on a common attribute. The resulting summary data can then be used for business analysis and reporting.

In summary, the roll-up technique is a crucial aspect of data warehousing and is used to summarize large amounts of data into meaningful insights for decision-making.

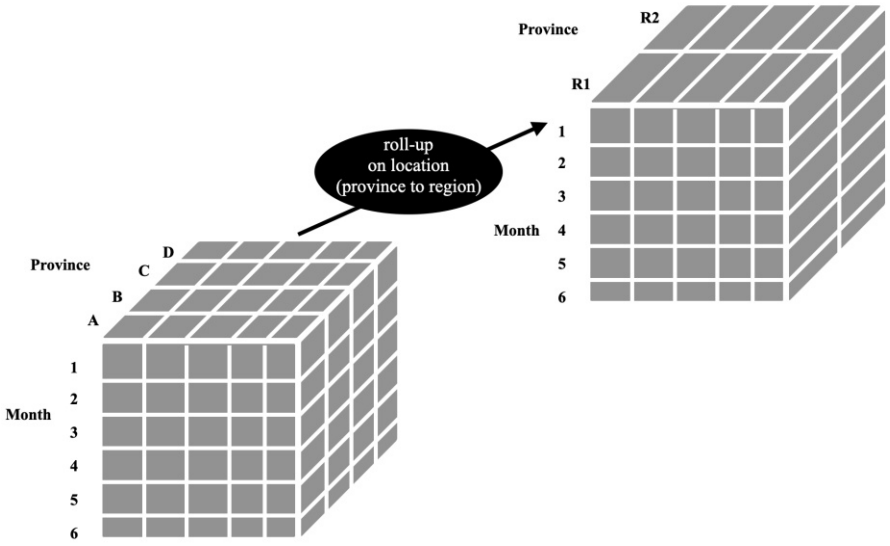


Figure 2 The roll-up technique of data warehousing principle

The examples of data warehousing implementation can be reported as following.

Walmart [6]: Walmart's data warehousing implementation is a well-known example in the industry. Walmart uses a centralized data warehouse to store data from multiple sources, including point-of-sale systems, online sales, and supply chain systems. The data warehouse supports business intelligence and analytics applications that help Walmart make better decisions and improve its operations.

Netflix [7]: Netflix uses a data warehouse to store and analyze data about user behavior, content consumption, and other factors that influence user engagement. The data warehouse supports Netflix's recommendation engine, which helps users discover new content that they might enjoy.

Data warehousing implementation in Thailand is becoming increasingly popular, as more and more companies are recognizing the importance of data-driven decision making. A data warehouse is a centralized repository of data that can be used for business intelligence, reporting, and analysis [8].

In Thailand, there are several software vendors and consulting firms that specialize in data warehousing implementation. These firms provide a range of services, including data modeling, ETL (Extract, Transform, Load) development, data integration, data governance, and reporting.

Some of the popular data warehousing software used in Thailand include Microsoft SQL Server, Oracle, and SAP [9]. These software tools offer powerful data management capabilities, including data integration, data quality, and data governance features.

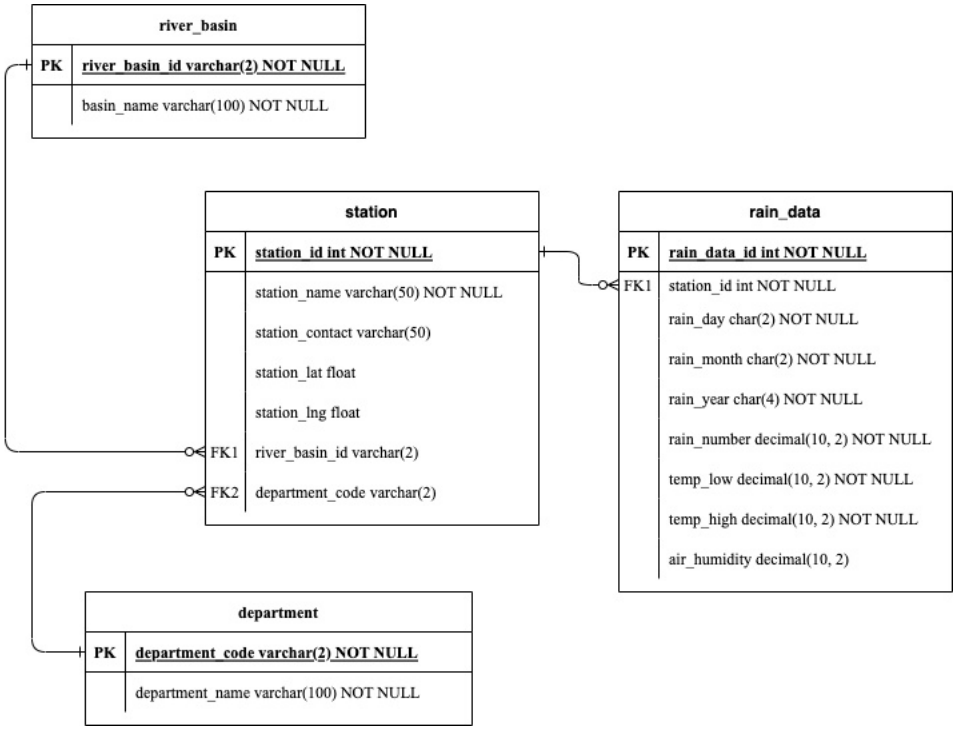
However, implementing a data warehouse requires a significant investment in terms of time, money, and resources. Therefore, companies in Thailand need to carefully evaluate their data management needs and assess whether a data warehouse is the right solution for them.

Overall, data warehousing implementation in Thailand is growing [10], and companies that invest in this technology are likely to see benefits in terms of improved data management, better decision making, and increased competitiveness.

Research Methodology

Original database relational review

The first step is a study of the relationship databases in the original system, in order to gain an overall understanding of the system. This can be illustrated in Figure 3.



Note: All of table name and attribute name was changed for the information security policy

Figure 3 Relational of original database

Cases for system performance caparison

After studying the original database system, the researcher established four cases for comparing the performance of the database, as follows:

1. X1: Retrieve all records of transaction table for one year.
2. X2: Query for specific month of every year.
3. X3: Retrieve daily data.
4. X4: Retrieve daily data with basin name and department.

Performance evaluation methods

To compare the performance of the system, Query time measured by the Node JS framework will be used for all four cases. Table 1 shows the tools used to find Query time.

Table 1 Tools Used for Query Time Measurement

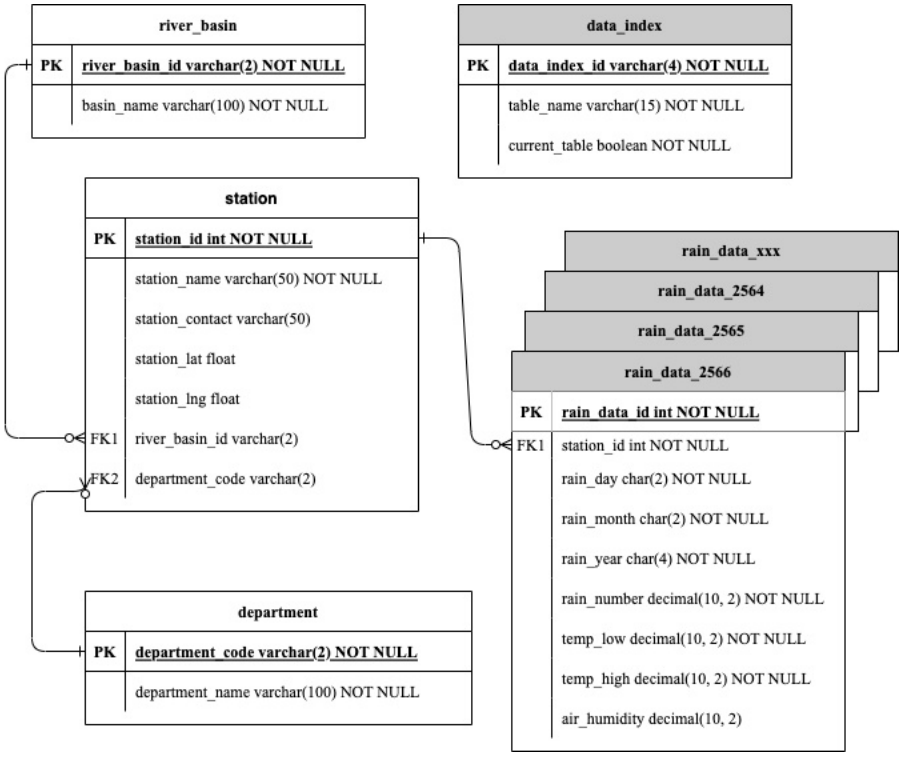
Tools	Tools name	Version
Framework	Node JS	16.13.0
Library	Express JS	4.17.1
	mysql	2.18.1
Database engine	MySQL	MySQL Community Server 5.5.27
API front-end	Postman	10.9.4

To reduce latency time, the verification process will call commands on the real server at 11:00 PM, which is a time when the server provides minimal service to the legacy system. The API will be called alternately between the original database and the data warehouse, three times each, with a 5-minute pause between each API call.

Research Results

Data warehousing design

After analyzing the original system, the researcher designed a new database based on the principles of data warehousing. Figure 4 shows the system architecture of the new database.



Note: All of table name and attribute name was changed for the information security policy

Figure 4 The new database structure with data warehousing implementation

Figure 4 illustrates the system architecture of the new database with the addition of the 'data_index' table. This table is responsible for storing the names of the tables that contain data, separated into sub-tables. The 'data_index_id' attribute acts as the primary key and stores the year information and it is linked to the sub-tables via the 'table_name' attribute, as shown in the sample data in Table 2.

Table 2 Sample data of data_index table

data_index_id	table_name	current_table
2564	rain_data_2564	false
2565	rain_data_2565	false
2566	rain_data_2566	true

If users need to access rainfall data for the year 2565, they will have to access the table named "rain_data_2565", just as they would access the current year's table. Users must find the table that has a "true" value in the "current_table" attribute, which can be seen in Table 2. The "data_index" table has been added to the new system, which is responsible for storing the names of the tables that store the data as separate sub-tables. The "data_index_id" attribute serves as the primary key and stores the year of the data. It is connected to the sub-tables through the "table_name" attribute. As for the transaction table, data is divided by year. Therefore, when the year ends, the database manager must create a new table, such as "rain_data_2567," and add the information to the "data_index" table while updating the "current_table" attribute to reflect the current table as showed in Table 3.

Table 3 New sample data of data_index table

data_index_id	table_name	current_table
2564	rain_data_2564	false
2565	rain_data_2565	false
2566	rain_data_2566	false
2567	rain_data_2567	true

Coding for performance testing

Before query execution, we capture starting time. When we got the completed result, we need to capture the stopping time. Finally, compared it in unit time of second. Figure 5 showed the sample code of original database testing.

```
// Case X11
router.get( path: '/test/x11/:year', ((req : Request<P, ResBody, ReqBody, ReqQuery, Locals> , res : Response<ResBody, Locals> ) => {
    const testYear =req.params.year;
    const sqlText = 'SELECT station_id, rain_number, temp_low, temp_high, air_humidity, rain_year FROM rain_data WHERE rain_year = ?';
    let startQueryTime = new Date().getTime();
    let stopQueryTime = null;
    mysql.query(sqlText, [testYear], (err, result) => {
        if (!err) {
            stopQueryTime = new Date().getTime();
            res.status( code: 200).json( body: {result: 1, data: result, duration: (stopQueryTime = startQueryTime) / 1000});
        } else
            res.status( code: 400).json( body: {result: 0, data: err});
    });
}));
```

Figure 5 Sample code to capture query time for case X11

The Postman, the API front-end software, is used to request the query. The result displayed in Figure 6. It is showed the query time of case X11 in value of duration about 8.165 second.

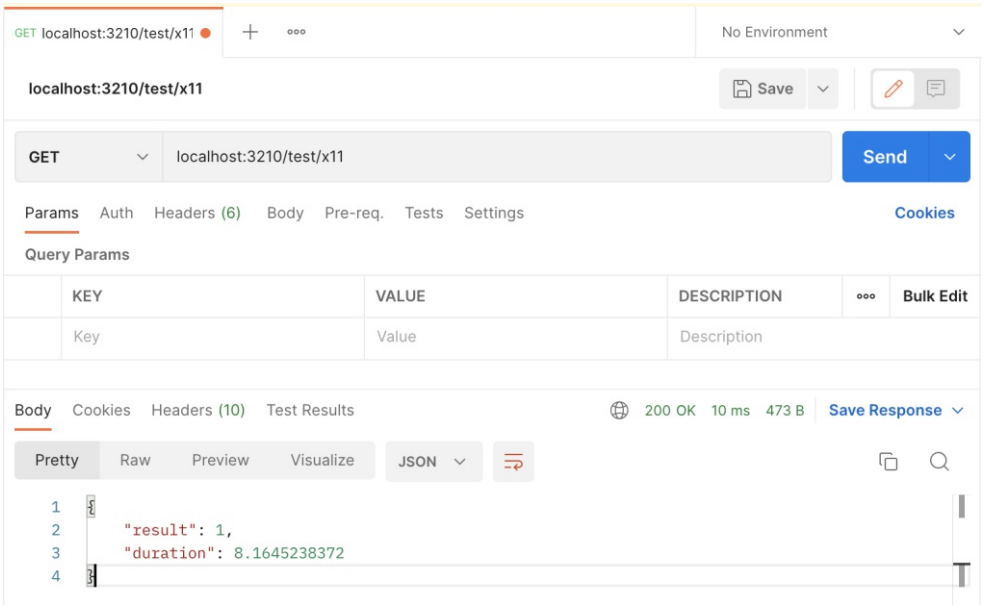


Figure 6 The result of query time for case X11

The result of all cases

The tester requests each case three times at the nighttime. He does not want to interfere with the normal operation of the server. He spent 5 minutes between tests for server refreshing. Finally, all results of 4 cases can be displayed in Table 4.

Table 4 the result of all cases

case	Query time (second)								Percentage
	Original database				Data warehousing				
	1	2	3	Average	1	2	3	Average	
1	8.165	8.513	8.043	8.240	4.006	4.556	4.733	4.432	53.78
2	11.352	11.770	11.570	11.564	6.059	6.703	6.495	6.419	55.51
3	4.005	4.515	4.537	4.352	2.815	2.170	2.110	2.365	54.34
4	5.044	5.043	5.033	5.040	2.743	2.168	2.457	2.456	48.73

In Case 1, after conducting 3 tests, the average query time was 8.240 seconds in the original system, while the API of the Data Warehousing system showed an average query time of only 4.432 seconds, which is 53.78% less than the original database. Table 4 shows that the results of all cases were consistently in favor of Data Warehousing, providing lower query times than the original system. Figure 7 illustrates more significant comparison of the experimental results.

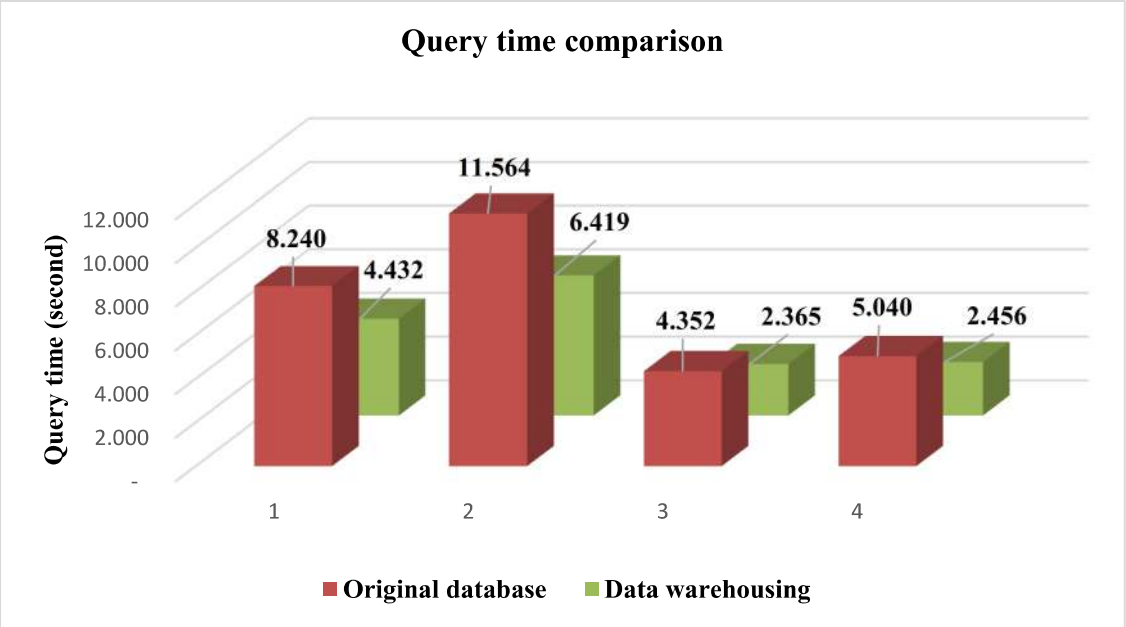


Figure 7 The result chart of all cases

Summary of the study

From the reported experimental results, it can be observed that using data warehousing to enhance database capabilities can reduce query time by half. The results of all 4 cases consistently showed a reduction in query time. Case 1 represents the testing of the system's ability to handle a large volume of data, specifically querying data for an entire year, which resulted in more than 50,000 records. Case 2, on the other hand, represents the analysis of high-level data, such as comparing rainfall data for November of the past 10 years, which is not a typical use of the database. This case is only used on certain occasions.

For test case 3 and 4, they represent normal operations of the information system, which involves retrieving daily data for display. In test case 3, the data is retrieved from a single table. However, for test case 4, there are linkages to other related tables, such as linking to search for data on river basin names and the names of affiliated organizations.

Although querying data in a Data Warehousing system can be more complex and requires more SQL commands than a traditional database system, such as when querying data for the current year. In a traditional database system, database administrators can use only one SQL command, but in Data Warehousing, they may need to use more than one command to locate which table contains the data for the current year before querying the data from that table. However, the query time is usually less than about half, meaning that regardless of how much time passes, if the system is still in operation, the query time will not differ significantly from this report. Because the system is designed to divide the data into yearly partitions. If the organization does not increase the number of rainfall measurement points, the amount of data will not significantly differ over time.

In terms of system maintenance, from the Figure 4 that shows the structure of the new system using data warehousing principles, there were no updates to the transaction table from the previous year. Therefore, for data backup, it is not necessary to back up it every time as planned. The data backup plan can be adjusted to back up the transaction table from the previous year twice a year, which is sufficient. However, for the current working transaction table, there still needs to be a strong emphasis on backing up the data. In the new system, the transaction table is much smaller in size compared to the original system, which makes it more convenient to back up the data according to plan. This will result in increased security of the organization's information data, while reducing the risk of data loss during system maintenance.

Discussions

By implementing the concept of data warehousing, the performance of the rainfall database system, which contains a large amount of data that continuously increases in size, can be enhanced. The new designed system can reduce the time required to retrieve data by an average of 50% across all four test cases (53.78%, 55.51%, 54.34%, 48.73%). Additionally, the new database system design, which separates the working tables by year, can support future usage without compromising efficiency. Furthermore, this new structure provides convenience in maintaining the system, particularly in terms of data backup. This approach can also be applied to improve the efficiency of other large-scale database systems.

Recommendations

In this research, the aim is to improve the performance of the database system implementing the principles of data warehousing, specifically focusing on reducing the time required for data retrieval. However, it is important to consider other system factors such as the database size, memory usage, compatibility with other systems, and system scalability, as these factors also contribute to the overall system efficiency. Any additional test results related to these factors will be presented in future articles.

Acknowledgment

We would like to express our gratitude to chairman of information technology and communication center, The 16th Conservation Area Management Office (Chiang Mai) for his invaluable support in providing the data set for our research experiment. Your contribution has been pivotal in ensuring the success of our project, and we are incredibly grateful for your generosity and willingness to assist us.

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Total Quality Management Factors Affecting the Efficiency of Accounting Firm Operations in Nonthaburi Province

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Abstract

The purpose of this research was to examine the relationship and the influence of generalization of Total Quality Management (TQM) to solve operational issues of accounting firms in Nonthaburi province. TQM had a relationship and was a factor in resolving the operational problems of the accounting firms. The data were collected by random sampling from accounting firms in 6 districts, 170 cases in Nonthaburi province. The questionnaire was used as a tool for data collection. The statistic used in the analysis was Multiple Linear Regression to test the hypothesis. The results revealed that the generalization of Total Quality Management in Process Improvement and Customer and Quality Focus influencing on management to solve the operational problems of the accounting firms in Nonthaburi province with statistical significance at the 0.05 level. The coefficient of improved forecasting (R Square) was used to compare models with different numbers of predictor variables with a value of 0.708. This could explain the positive influence on the management of the accounting firms at 70.8 percent influencing the operational solution of accounting firms in Nonthaburi province significantly at the 0.05 level.

***Keywords**:* Total Quality Management, accounting firms, Nonthaburi province

Background and Statement of the Problem

In a competitive business, accounting is an important factor that can reflect performance and the true financial status of the business. To make operational decisions, businesses must rely on financial information from financial statements. From the statistical data of juristic person registration throughout the year 2022, there were 76,488 cases which increased of 3,530 cases from 2021, representing 4.84 percent. The value of registered capital was 429,828.81 million baht, increasing from 2021 in the amount of 200,020.31 million baht, representing 87.04 percent. [1] In 2022, Thai people still had serious concerns about the COVID-19 epidemic situation, although it was less than 2021. Between January to February 2023, there were 17,003 registered firms with a legal person [2] while Thai economy began to recover the number of legal persons registered and maintained throughout the country until March 2023 amounted to 557,422 persons. These entities are expected to provide bookkeeping for the number of legal entities left in Nonthaburi province until March 2023, which has reached 49,033. [3] When compared to the number of accounting firms in Nonthaburi province, there were 267 firms, resulting in intense rivalry among accounting businesses.

Accounting firms play a critical role in assisting businesses in preparing complete and accurate financial statements in conformity with applicable laws, resulting in economic benefits for financial statement users when making investment decisions. This will have an impact on the country's economy's ability to grow sustainably. Therefore, in order to encourage accounting firms to perform their duties with standards and to be accepted by the public and to have operational standards in accordance with international standard, the Ministry of Commerce's Department of Business Development pushed forward the accounting firm quality certification projects to create a quality of accounting firms. This can be an example of accounting firms that should be maintained and followed. Moreover, it is also an alternative for businesses to have the opportunity to use quality accounting services.

Based on the Department of Business Development's concept of providing accounting firm quality certification projects in accordance with the announcement of accounting firms quality certification criteria and conditions B.E. 2558 (2015) [4] and accounting firm quality assurance concepts and requirements that

are used as criteria for supervising and developing accounting firms to provide accounting for business operators and themselves in line with laws and accounting standards. Including developing and upgrading the accounting business to meet the same standards that are widely recognized. This includes the following factors: 1) Responsibilities of the head of the accounting firms 2) Accounting firms' ethical obligations 3) Accounting firms processes concerning clients 4) Accounting firms resource management 5) The accounting firms' operations 6) Accounting firms follow-up and audit 7) Accounting firms' document management (Department of Business Development, 2015). These factors will help the accounting firms to have guidelines for developing quality customer service in the future. Furthermore, the accounting firms that have been developed to have quality services, resulting in the accounting of the majority of Thai enterprises with strong accounting information and financial reports are of reliable quality which is advantageous to both government agencies and the private sector, financial statement users, investor including other participating people. Thailand now has 4,121 accounting firms throughout the country. [5] Nowadays, there are 166 Thai accounting firms that have received quality accounting firm certification. [6]

Nonthaburi is one of the provinces experiencing rapid economic expansion. It is one of the provinces in the metropolitan area. There is public transportation to and from Bangkok. The business and economic growth is comparable to Bangkok. Moreover, the growth of this province is inseparably integrated with Bangkok.

Therefore, the researchers were interested in the components of quality management that influence the efficiency of accounting firm operations in Nonthaburi province in order to serve as a guideline and resource for the accounting firms in planning to manage operational efficiency which contributes to the success of a quality accounting firms' performance in building credibility and confidence in customers who are interested in using the service in the future.

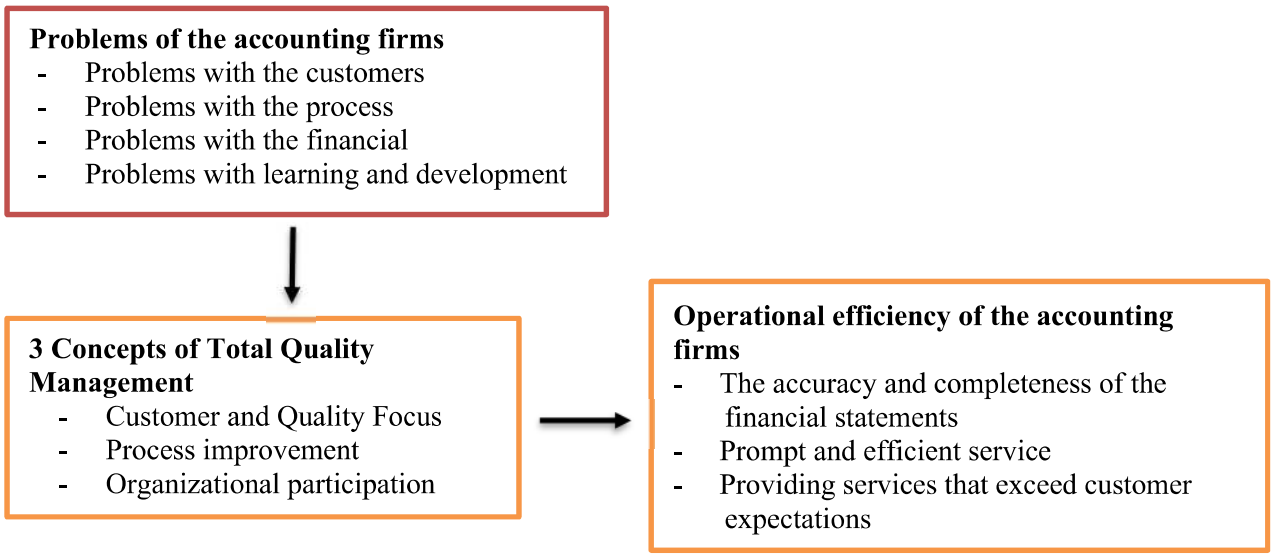
Objective

1. To study operational problems of accounting firms in Nonthaburi province from the perspective of Balanced Scorecard.
2. To study the variables of Total Quality Management that affect the efficiency of accounting firms' operations in Nonthaburi province by using the Balanced Scorecard.

Expected Benefits

1. To improve the operational efficiency of accounting firms and bookkeepers in Nonthaburi province.
2. Accountants in the accounting firms in Nonthaburi province can adapt knowledge to change the quality of life in the accounting firms to develop the accounting firms and create motivation for work and operational efficiency of the accounting firms.

Conceptual Framework



Research Methodology

Research Design

This is a quantitative study with a conceptual framework building method based on document research to study the Total Quality Management factors affecting the efficiency of accounting firm operations in Nonthaburi province. The researchers used a questionnaire especially designed for the study to evaluate the tools' quality in two areas: content validity and questionnaire reliability. The accuracy of the information was confirmed by three specialists. The questions were revised based on professional opinions which had an IOC value of 1.00-0.67, which were regarded as valid content questions that could be used to collect data. In the researcher's data collection instrument, the researcher has investigated the concepts and theories from relevant sources that were studied in this research.

Population and Samples

The population in this research was 267 accounting firms in Nonthaburi province. [7] The sample size was calculated using Taro Yamane's formula, and it was 160 cases. The researchers collected 170 data for analysis which random sampling method to determine the sample size from the formula of Taro Yamane. [8]

Instruments of the Research

The instrument used for data collection was a questionnaire. The researcher has conducted the research consisting of 4 parts:

Part 1 Respondents' general information

Part 2 Information about accounting firm operational problems from the perspective of Balanced Scorecard

Part 3 Information about the implementation of Total Quality Management approach

Part 4 Efficiency of accounting firm operations

To examine the tools' quality, the researchers used a questionnaire created expressly for the study to assess the equipment's quality in two components: content validity and reliability of questionnaire. Three professionals verified the content's veracity. The questions were revised based on professional opinions which had an IOC value of 1.00-0.67, which were regarded as valid content questions that could be used to collect data.

In part 2, the researchers took the questionnaire that validated the content and checked the reliability by collecting data in Nakhon Pathom province 30 sets and the Cronbach Alpha value is 0.961 which can be considered at a high level. [9] The questionnaire is trustworthy and could have been tested on actual samples. [10]

Data Collection Method

The researchers collected data by distributing questionnaires throughout Nonthaburi province by delivering registered letters of acceptance to accounting firms in the following districts: provincial capital, Bang Kruai, Bang Yai, Sai Noi, Bang Bua Thong, and Pak Kret. The questionnaire was delivered in electronic form (Google Form) to the accounting firms in Nonthaburi province's e-mail address and visiting the accounting firms in person.

Data Analysis

Data were analyzed using a software application.

The statistics used in the analysis consisted of descriptive statistics using frequency, percentage, arithmetic average, standard deviation, and inferential statistics using multiple regression equation to study the relationship of Total Quality Management (TQM) affecting the operational quality of accounting firms in Nonthaburi province.

Criteria for interpreting average question score:

Interpretation	Range
Very High	4.21 - 5.00
High	3.41 - 4.20
Average	2.61 - 3.40
Low	1.81 - 2.60
Very Low	1.00 - 1.80

Research Results

Most of the respondents were 103 females (60.6 percent), 112 people (65.9 percent) aged between 25-35 years, 119 people (70.0 percent) were single, 124 people (72.9 percent) have obtained bachelor's

degree. Positions in the accounting department were 6 owners (3.5 percent), 17 partners (10.0 percent), 37 managers (21.8 percent), and 110 employees (64.7 percent). There are 12 firms (7.1 percent) that have been in business for more than 20 years, 12 firms (7.1 percent) that have been in business for 11-20 years, 117 firms (68.8 percent) that have been in business for 5-10 years, and 29 firms (17.1 percent) that have been in business for less than 5 years.

Table 1 shows basic statistics, variables, and accounting firm operational issues from the standpoint of customer service.

Issues	Evaluation		
	$\bar{x}$	SD	Results
1. Customers want additional services such as consulting about business and tax payment.	3.80	0.808	High
2. Most clients are concerned about accounting in order to pay the least amount of tax and not focused on financial statement accuracy and completeness.	3.56	0.935	High
3. Document storage and delivery to the accounting firms are both incomplete and delayed.	3.53	0.949	High
4. Customers do not pay attention to the accuracy of accounting records, generating problems with supporting documentation for accounting entries.	3.50	0.937	High
5. Accounting customers have an inaccurate concept.	3.48	0.851	High

Table 2 shows basic statistics, variables, and operational issues of the accounting firms from the standpoint of operational procedures.

Issues	Evaluation		
	$\bar{X}$	SD	Results
1. The accounting company lacks competence in accounting for all business types because of the complexities of today's business.	3.55	0.876	High
2. The accounting firms are experiencing growing issues. Due to some clients change service providers because the accounting firm industry is highly competitive.	3.40	0.795	Average
3. The accounting firms have not implemented a system for producing clear accounting work such as a system for receiving and transmitting documents from customers.	3.28	0.957	Average
4. The accounting firms deliver services that go above and beyond the call of duty due to a lack of understanding, such as about tax planning.	3.20	0.953	Average
5. The accounting firms provide services to customers in financial statement such as closing, submitting, and filing tax not in time due to insufficient coordination with customers.	3.03	1.119	Average

Table 3 shows basic statistics, variables, and financial accounting company operational issues.

Issues	Evaluation		
	$\bar{X}$	SD	Results
1. Accounting firms have few staff, but the workload is heavy because of an unbalanced workload.	3.70	0.862	High
2. In some cases, cost management in office business management lacks liquidity due to the inability to collect service costs on time.	3.69	0.671	High
3. The accounting firms are at risk due to high competition, offering lower service fees than competitors.	3.61	0.799	High
4. Accounting firms' salary is relatively low, resulting in a labor scarcity. Employee turnover is also a problem.	3.60	0.809	High
5. The accounting firms do not prepare administration budgets and consistently underestimate cash receipts for services.	3.41	0.920	High

Table 4 shows basic statistics, variables, and accounting firm operational issues in the context of continuous learning.

Issues	Evaluation		
	$\bar{X}$	SD	Results
1. Accounting firms must stay up with business changes in order to generate accounting work that keep up with the changing business.	3.85	0.830	High
2. Accounting firms must always stay up with changes in financial reporting requirements, regulatory and tax issues. This has an impact on providing quality service.	3.68	0.866	High
3. Accounting firms must send their workers to continuing education classes in accounting.	3.57	0.804	High

Table 5 shows basic statistical value of Total Quality Management variables to achieve operational efficiency in the accounting firms in terms of Customer and Quality Focus.

Customer and Quality Focus	Evaluation		
	$\bar{X}$	SD	Results
1. Accounting businesses provide trustworthy services. Customer confidentiality is guaranteed.	4.12	0.851	High
2. Service with knowledge, the ability to deliver accurate information, the ability to operate in response to customer requests, and good interpersonal interactions.	4.07	0.874	High
3. Accounting firms must be attentive to customers by taking into account the bookkeeper's expertise and skill in relation to the customer's business.	4.05	0.887	High
4. Customers are well-served by accounting businesses to comprehend consumer needs, all personnel give services in the manner of service-minded people.	4.04	0.855	High
5. Giving clients trust through a positive image of service reliability and service capacity.	4.04	0.879	High

Table 6 shows basic statistics, Total Quality Management variables to achieve operational efficiency in the accounting firms in Process Improvement.

Process Improvement	Evaluation		
	$\bar{X}$	SD	Results
1. Developing a positive image of the accounting firms that are ready to deliver services by providing enough and up-to-date accounting tools and equipment.	4.07	0.818	High
2. The accounting firms determine the service fee in line with the terms of the contract and appropriate for customer service work.	4.04	0.838	High
3. Accounting firms employ qualified accountants in compliance with applicable laws who have experience and knowledge.	4.00	0.839	High
4. Accounting firms must establish trust in their work processes. There is a mechanism in place to track customer work and alert them of progress.	3.98	0.883	High
5. The accounting firms have effective problem-solving skills and be able to solve problems for the business accurately and credibly.	3.95	0.831	High

Table 7 shows basic statistics, Total Quality Management variables to achieve operational efficiency in the accounting firms on the Organizational Participation.

Organizational Participation	Evaluation		
	$\bar{X}$	SD	Results
1. Accounting firms offer an incentive structure for their staff and encourage them to participate in the development of their work.	3.96	0.855	High
2. Accounting firms offer an incentive structure for their staff and encourage them to participate in the development of their work.	3.95	0.812	High
3. Accounting firms compensate employees properly without taking advantage of them and assign work with suitable compensation.	3.93	0.930	High
4. Accounting firms should manage administration with an equitable distribution of power and have detailed job description.	3.91	0.875	High
5. Accounting firms should organize business horizontally. There is no complicated hierarchy in order to be aware of the problem and solution immediately. There are no actions that act as an obstacle.	3.85	0.858	High

Table 8 shows basic statistical variables related to accounting firm operational issues in each aspect of Balanced Scorecard.

Operational Issues	Evaluation		
	$\bar{X}$	SD	Results
1. From the aspect of client service	3.57	0.599	High
2. From the aspect of the operational process	3.29	0.676	Average
3. From the aspect of the financial	3.60	0.590	High
4. From the aspect of the continuous learning	3.70	0.689	High

Table 9 shows basic statistics, Total Quality Management variables to achieve operational efficiency in the accounting firms.

Total Quality Management	Evaluation		
	$\bar{X}$	SD	Results
1. Customer and quality focus	4.06	0.709	High
2. Process improvement	4.01	0.727	High
3. Organizational participation	3.92	0.725	High

The findings of an inferential statistical analysis determine the association between accounting firm operational problems and Total Quality Management for accounting firm operations efficiency. The Pearson Correlation can be calculated as follows:

Table 10 shows the relationship of accounting firm operational problems with Total Quality Management for efficiency in accounting firm operations.

Relation	r	P- value	Stages of Relationship
The relationship between accounting firm operational difficulties and Total Quality Management for accounting firm efficiency.	0.442**	0.00	Average

Table 11 shows basic statistical variables of accounting firm operational efficiency in terms of accuracy of financial statements

Accuracy of Financial Statements	Evaluation		
	$\bar{X}$	SD	Results
1. Financial statements that are well prepared, precise and comprehensive in accordance with financial reporting rules and reflect the genuine image of the organization.	4.01	0.810	High
2. Preparation of financial statements and pay taxes properly.	4.01	0.813	High
3. Financial statements can be used to make choices by client businesses.	4.01	0.824	High

Table 12 shows basic statistical value of an accounting firm operational efficiency in terms of Speed and Timeliness.

Speed and Timeliness	Evaluation		
	$\bar{X}$	SD	Results
1. Providing services and resolving client issues in a timely manner.	4.06	0.843	High
2. Submission of financial statements and tax filing within the specified timeframe.	4.02	0.912	High
3. Customers can use financial statement information to make timely judgments about the business operations.	3.95	0.859	High

Table 13 shows basic statistics of accounting firm operational efficiency variables in terms of customer expectations.

Customer Expectation	Evaluation		
	$\bar{X}$	SD	Results
1. Accounting firms can provide advise as well as other services such as tax, legal, and company planning.	4.03	0.806	High
2. Accounting firms can establish credibility by providing services in accordance with operational standards and have service ethics.	4.02	0.856	High
3`. The accounting firms can properly solve the problems that will not cause damage to the client's business and customer satisfaction.	3.96	0.883	High

Hypothesis Validation

The application of the Total Quality Management (TQM) approach was related and influencing to solve the operational problems of the accounting firm. It could be written as a hypothesis as follows:

H0: Total Quality Management (TQM) strategies were not related and did not impact on the resolution of accounting firm operational problems.

H1: Total Quality Management (TQM) strategies were related and influenced the accounting firm operational concerns.

Table 14 shows the results of multiple regression analysis by stepwise method to study the application of Total Quality Management approach having a relationship and influencing to solve the operational problems of the accounting firm.

	B	SE	t	Sig.
Coefficient	0.585	0.175	3.341	0.001
Process Improvement	0.571	0.083	6.886	0.000
Customer and Quality Focus	0.283	0.085	3.329	0.001

R square = 0.708 F = 11.084 Sig =0.001* Adjust R Square = 0.705

*Statistically significant at the 0.05 level

According to Table 14, the implementation of a consistent Total Quality Management (TQM) approach to Process Improvement and Customer and Quality Focus was prioritized, with a Sig value of 0.05. It indicated that the secondary hypothesis (H1) is accepted while the main hypothesis (H0) was rejected. This meant that Total Quality Management (TQM) strategies in Process Improvement and Customer and Quality Focus were being used while influencing management to solve the accounting firm operational problems statistically significant at the 0.05 level. The coefficient of enhanced forecasting (R Square) was used to compare models with an unequal number of predictor variables with a value of 0.708 which could explain the positive influence of Total Quality Management (TQM) affecting the efficiency of management in the accounting firms at 70.8 percent. This can be represented as the following equation:

$$Y_{\text{Effective management}} = 0.585 + 0.571_{(A)} + 0.283_{(C)}$$

Whereas A is Process Improvement.
C is Customer and Quality Focus

Summary of the Study

Research findings on quality management variables influencing the efficiency of accounting firm operations in Nonthaburi province were published. The research findings are summarized below in accordance with the research objectives:

The purpose of studying the operational problems of accounting firms in Nonthaburi province from the perspective of Balanced Scorecard was found that accounting firms in Nonthaburi province had operational problems in terms of the Balanced Scorecard in Continuous Learning at a high level. ($\tilde{x}$=3.70, SD=0.689) The financial aspect was at a high level. ($\tilde{x}$=3.60, SD=0.590) In terms of customer service, it

was at a high level. ($\bar{x}$=3.57, SD=0.595) And the operational process was at a moderate level. ($\bar{x}$=3.29, SD=0.676)

The purpose of studying the Total Quality Management factors to create operational quality that affected the efficiency of the accounting firm operations in Nonthaburi province was found that the application of Total Quality Management approach to Process Improvement and Customer and Quality Focus influencing management to solve the accounting firm operational issues statistically significant at the 0.05 level. The coefficient of improved forecasting (R Square) was used to compare models with unequal number of predictor variables with a value of 0.708 which could explain the accounting firms a positive impact on management at 70.8 percent.

Discussions

Accounting firms in Nonthaburi province were experiencing operational difficulties according to the Balanced Scorecard perspective in terms of continuous learning, financial, and customer service at high level. The problems in the operational process were at a moderate level. This was consistent with Sangravee Yuthong's (2013) analyzed on the patterns and difficulties in accounting firm services in Thailand which was found that there were problems in providing services. In terms of marketing, services and finance were at low level. In terms of management the problems were at a moderate level.

In terms of Total Quality Management elements, the Balanced Scorecard perspective was effective on the efficiency of the accounting firm operations in Nonthaburi province. This discovered that using the Total Quality Management (TQM) strategies in Process Improvement and Customer and Quality Focus influencing management to solve the problems in accounting firms significantly at a high level of 70.8 percent. According with the research of Parichart Maneemai et al. (2016) [11], studied about the quality and factors that affected the quality of work of Thai small and medium accounting firms. It was found that Thai accounting firms performed according to the Total Quality Management practices in all components at a high level. They can be arranged from the greatest to the least important as follows: 1) Ethical requirements, 2) Document management, 3) Processes involving customers, 4) Operations, 5) Resource management, 6) Monitoring, and 7) Executive Responsibilities.

This is also consistent with the findings of Tararin Chaieurponsukh (2018) [12], investigated the factors influencing the success of accounting firms in Thailand. The following accounting firm quality system factors were as follows: responsibilities of the office supervisor, ethical requirements, processes involving customers, resource management, operations, following-up and auditing, document management have a beneficial influence on the operational success of quality accounting businesses in Thailand statistically significant at the 0.05 level.

Recommendations

Practical Suggestions

The findings of this study are commercially relevant for accounting companies in Nonthaburi province to implement to improve the quality of accounting company operations. It is accepted by clients who utilize the service. Therefore, the accounting firms do not focus on price competition but focus on providing better quality service.

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The Study of Listening Anxiety of Non-English-Major Undergraduate Students

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Abstract

This study aimed to investigate the anxiety of non-English-major undergraduate students. The study population was the 148 third-year students enrolled in the second semester of the 2022 academic year at Valaya Alongkorn Rajabhat University under the Royal Patronage, Pathum Thani Province, Thailand. The instruments of the survey research were 1) the questionnaires asking about listening anxiety (reliability = 0.87), 2) the interview and 3) the observation. The quantitative data was analyzed by descriptive statistics, including frequency, percentage, and standard deviation. The data from the interview and the observation was analyzed by the content analysis technique.

According to the results of the study, it was found that the students were anxious in the English listening at a moderate level ($\bar{x}$ = 117). In terms of the aspects of listening anxiety, the students were anxious in their English language foundation at a high level ($\bar{x}$= 3.57). It was suggested that in teaching English listening, the teacher should prioritize the factors including students' emotions and feelings, the appropriateness of the content taught, the students' fundamental knowledge, the listening strategies given to the students, the teacher's encouragements, and the ways to create the constructive English learning environments. These factors helped the students have a better understanding and less anxiety in their English language listening. Integrating the listening strategies in teaching the non-English major students was constructive and effective in developing the students' English listening skills.

***Keywords**:* listening anxiety, undergraduate students, non-English major

Background and Statement of the Problem

English is a foreign language that plays a very important role in Thailand. Because it is a language used as a medium of communication between countries. English teaching and learning management at present therefore focus on the ability of learners to communicate effectively. The learners' goal is to learn the language so that they can use it to communicate in real life. Classroom teaching activities encourage learners to practice all four language skills: listening, speaking, reading, and writing. Though Thai people had studied the English language for years until their higher education, they were not as good at using English as they should be. According to the results of the EF English Proficiency Index 2022, it was found that Thai people are at a very low level of proficiency (Very Low Proficiency) and are the lowest in Asia. This clearly reflects the problems in learning English for Thai learners. There are many problems in learning English in Thai education and there are many factors involved.

One of the important factors that may affect learners' language learning success is Foreign Language Learning Anxiety. Anxiety is an affective factor affecting cognitive and communication abilities of learners. Researchers and educators in this area have been investigating learner anxiety and its effects on learning achievement for a long time from the 1980s to the present. Research on the learners' anxiety in English as a second or foreign gained greater attentions since there was a study by Horwitz, Horwitz and Cope [9], which found that anxiety was one of the major factors impairing the language learning process. Subsequently, various research findings agree that anxiety is a negative emotional state. This may have a negative effect on language perception and learning. And it is a major obstacle to improving the language skills of learners. Learning a foreign language can create learners' stress and anxiety. Therefore, every language learner experiences varying degrees of anxiety in the learning process. The more stressed and anxious the learner is, the more negative impacts affect the learners' language skills. Teachers should study

to understand how students have anxiety about language learning in order to help them develop their language skills. Language learning anxiety can be caused by a number of factors.

According to Horwitz, Horwitz and Cope [9], language-learning anxiety refers to the complex psychological processes of learners in their perceptions, beliefs, feelings, and behaviors related to language learning in the classroom. Anxiety arises from the specific state of language learning activities. The cause of anxiety is caused by 3 factors including 1) communication apprehension or fear of communication dealing with a feeling of dread or embarrassment when communicating in front of other people, 2) test anxiety or a feeling of fear of failing the exam when being tested and 3) fear of negative evaluation or the pressure being negatively assessed by others for language skills. As mentioned, the theory of Horwitz and Cope [9] is widely accepted based on its related literature. In general, there are six main causes of anxiety in language learning, which come from the learners, the teachers, and the learning activities. According to Young [17], the six causes include 1) interpersonal and personal anxiety, 2) learners' beliefs about learning a foreign language, 3) classroom procedure, 4) employing teacher-centered method, 5) teachers' beliefs about language teaching, and 6) language examination. However, most of the research on language-learning anxiety focuses on speaking skills. It is because speaking is a difficult and complex skill. Speaking as a productive skill requires sufficient language knowledge, such as vocabulary, sentence structure, word composition, and pronunciation. It is the skill that causes the most anxiety to the learners compared to other skills.

Besides speaking, listening is a skill that can cause anxiety to learners. Listening comprehension activities, especially when the learners do not understand the material they are listening to, may cause high levels of anxiety for the learners. When in a communication situation, the learners need to have listening comprehension before they are able to respond appropriately, showing mutual understanding. If the learners do not understand what they hear, it will cause anxiety [16]. Listening anxiety or listening comprehension anxiety means the fear of listening to a foreign language, consisting of receiver's apprehension, fear of misinterpretation, and inability to understand enough to understand messages sent by other people. The cause of listening anxiety is related to the nature of the listening activity. Listening comprehension anxiety plays a very important role in language learning. This is because listening anxiety is negatively associated with listening ability. The more anxious the students feel, the greater their ability to listen is reduced [8].

Listening anxiety is caused by a number of important causes. Auditory anxiety has multiple causes and is related to the nature of listening activity [16], including traditional teaching methods, insufficient listening ability of learners, speed of speech, voice clarity, nature of the content listened to, and the lack of listening materials and illustrations. All of these causes have an effect on listening anxiety. Listening anxiety is associated with the four factors including the teacher factor, the learner factor, the teaching materials and activities factor, and the other factors. 1) The teacher factor is that if the teacher's teaching is traditional, rigorous, and has a bad attitude towards the students' listening mistakes, it may create more pressure and anxiety for the students than classes where the teachers create a relaxed atmosphere. 2) The learner factor is that learners with poor listening ability tend to have a high level of anxiety. There are two types of listening abilities: language knowledge and structure and grammar. Comprehension of language elements and listening skills is the learners' ability to capture keywords, predicting the information that follows when listening, together with employing other techniques that help them understand the content that is easier to listen to. Besides, self-efficacy characteristics of the learners' learning habits and motivation are also common causes of listening anxiety. 3) The teaching materials and activities refer to the content that is difficult to listen to, the unfamiliar vocabulary, length of content listened to, listening repeatedly, or listening once, and listening time limit. All these cause students to be anxious in listening activities. And 4) the other factors refer to the sound quality, and the noisy, poorly ventilated, and uncomfortable classroom. All these cause anxiety in listening. The effect of listening anxiety when learning a foreign language has two characteristics. 1) Facilitating anxiety is a motivating concern, causing a feeling of challenge to the learners. And 2) deliberating anxiety is a concern about the language skills of the learners, causing them to quit when they do not understand.

In addition, Kimura [8] has researched English listening anxiety of Korean learners. Data were collected from the construction and development of a questionnaire for learners to assess their anxiety in English listening, 33 items, which is a very reliable research tool (Cronbach alpha, 0.93). The results of the study showed that the listening anxiety of the learners was high. The cause of anxiety was the three factors, including 1) background knowledge, 2) listening text and strategies, and 3) listeners' characteristics. The major factors that affected the students' anxiety first were the learners were unfamiliar with English

pronunciation and speaking speed, followed by the learners had insufficient basic listening knowledge, using inappropriate listening strategies when listening. The results of the research suggested that teachers should pay attention to the emotional and emotional factors of learners that affect listening ability, especially, in terms of self-confidence, paying greater attention to learners who are anxious and strengthen the willpower to listen to students.

Teaching non-English major students is a challenge for teachers. Listening skills are an important tool for creating awareness, understanding various information and being able to communicate and respond appropriately. In teaching English as a second or foreign language, listening is a receptive skill. It is one of the four most important language skills and necessary for effective communication. The researchers, as teachers, designed learning activities and realized the importance of developing listening skills for learners. The students' listening skills were not yet satisfied and there could be several factors involved. The researchers therefore conducted research on listening anxiety. The researchers' study relies on the theoretical idea that anxiety is an important factor affecting a learner's listening ability. When students' anxiety increases, their listening ability is also impaired [9]. The data collected from this research is important and useful for teachers to manage teaching and learning in accordance with the needs of students whose major is not English.

Objective

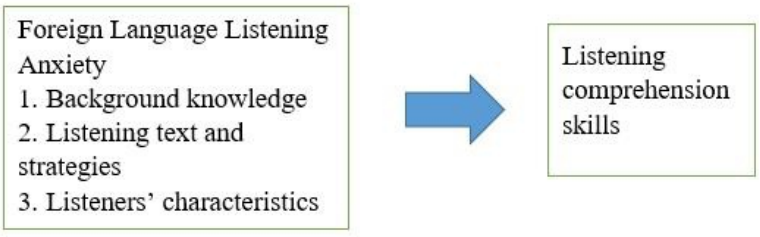
To investigate the English listening anxiety of non-English-major undergraduate students in the second semester of the academic year 2022 at Valaya Alongkorn Rajabhat University under the royal patronage, Pathum Thani Province.

Expected Benefits

The data from this research study can be used as a guideline for designing and organizing English learning activities. Considered as beneficial in creating more-efficient teaching and learning management in the classroom for learners who are not majors in English, it helps teachers to understand the background and characteristics of the learners. The teachers consider suitable learning activities and try to reduce anxiety in learning English in order that the teachers can help develop English listening skills of the learners and achieve the learning management goals in the English subjects.

Conceptual Framework

Based on the theory of language learning, anxiety is one of the key factors affecting the students' success in learning English. When the students are worried, their ability to learn languages is even lower. Reducing anxiety for learners will promote the development of learners' language proficiency skills. Therefore, the researchers were interested in studying the listening anxiety of the non-English-major students. It is considered important information for teaching and learning in accordance with the students to reduce anxiety in listening to English for learners and to help develop their English listening skills effectively. The conceptual framework is shown as follows:



Research Methodology

1. Population and Sample

The samples of this research were 148 third year and non-English-major undergraduate students at Valaya Alongkorn Rajabhat University under the royal patronage, Pathum Thani Province, consisting of 56 male students and 92 female students enrolling in the English subject. In the second semester of the academic year 2022, the researchers selected the sample group to meet the objectives of the research using the purposive sampling method.

2. Research Instrument

The tools used to collect data were Foreign Language Listening Anxiety Questionnaire, a 5-level Likert scale, that was strongly agree, agree, uncertain, disagree, and strongly disagree. This questionnaire is a self-assessment questionnaire for students to assess their anxiety in listening to English in class. The researchers applied the questionnaire created and developed by Kimura [8] to this research, totaling 33 items, divided into three aspects: 1) background knowledge, 8 items, 2) listening text and strategies, 8 items, and 3) listeners' characteristics, 17 items. It is the main tool for measuring English listening anxiety of native speakers. Anxiety scores ranged from 33 to 165. The scores were used to interpret into three levels: high, moderate, and low. Details are shown in Tables 1 and 2.

The researchers translated the questionnaire into Thai using a backward translation technique by analyzing the language and checking the quality of the translated questionnaire to have the most similar meaning to the original by three experts. Both research tools were used to test the validity using the Index of Item Objective Congruence (IOC) and the reliability with Cronbach's alpha statistics at a significance level of .05 with a value of 0.87.

The interview and observation form consisted of questions asking about listening anxiety. They were open-ended questions used to gather additional insights from the questionnaire together with participant observation by observing the behavior of the sampling students in communication activities and taking notes during observation. The validation of the tools was conducted by three experts, using Index of Item-Objective Congruence (IOC) to find the consistency between the questions and research objectives.

Table 1 Measures and Interpretation of Average Listening Anxiety in English

Level	$\bar{X}$	Assessment Level
1	4.50-5.00	highest
2	3.50-4.49	high
3	2.50-3.49	moderate
4	1.50-2.49	low
5	1.00-1.49	lowest

Table 2 Criteria and Interpretation of Listening Anxiety in English

Score	Assessment Level
121-165	high
76-120	moderate
below 76	low

3. Data Collection

The researcher collected data in steps to analyze the results according to the research objectives including preparing and checking the completeness of the questionnaire, distributing questionnaires in class, explaining the importance and benefits of this study to the sample students, requesting for cooperation and clarification of details in answering both questionnaires. It took about 10 minutes to answer the questionnaire. When the sample group of students completely answered the questionnaire, the researcher collected all questionnaires for a response rate of 100%.

The researchers randomly selected 10 students from the sample group to interview on the issue of listening anxiety. After clarifying the details of the interview, it took 10 minutes in observing each student's behavior while doing English listening activities in class.

4. Data Analysis

The sample data about listening anxiety was collected from quantitative and qualitative research tools. The quantitative data from the questionnaire was analyzed by descriptive statistics, including mean, percentage, and standard deviation to explain the general information of the sample and relevant important information according to the research objectives. Qualitative data collected from the interviews and observations were analyzed by content analysis techniques, classifying the types of listening anxiety of the sample group of students.

Research Results

The data analysis was conducted from the sample group of 148 third-year students, whose major was non-English. The sample was 92 female students (62%) and 56 male students (38%). Due to students' self-assessment, they had moderate English proficiency (63%), and most wanted to improve their speaking skills (47%), followed by listening skills, reading skills, and writing skills, respectively.

The results of the analysis of anxiety in English listening of the sample group of 148 students found that overall, the students had a moderate level of anxiety in English listening with a score between 86 and 165. When interpreting the scores according to the specified criteria, an average score was 117, showing that the students had a moderate level of anxiety. Details are shown in Tables 3 and 4.

Table 3 scores in English Listening Anxiety of the Sample Group of Students (N=148)

Non-English Major Students	Lowest	Highest	$\bar{X}$	S.D.
Scores in English Listening Anxiety	86	165	117	3.19

Table 4 Mean, Standard Deviation, and Anxiety Level in English Listening of the Sample Group of Students in Three Aspects (N=148)

Anxiety Level in English Listening	$\bar{X}$	S.D.	Level
1. Background knowledge	3.57	0.14	high
2. Listening text and strategies	3.34	0.06	moderate
3. Listeners' characteristics	3.41	0.27	moderate
Total	**3.44**	**0.09**	**moderate**

From Table 4, the results of the analysis of English listening anxiety classified by aspect of the sample group of students found that overall, the students had listening anxiety at a moderate level ($\bar{x}$=3.44). Students were anxious about English listening because of the background knowledge, considered as the first factor, at a high level ($\bar{x}$=3.57), the listeners 'characteristics, considered as the second factor, at a moderate level ($\bar{x}$=3.41), and listening text and strategies, considered as the last factor, at a moderate level ($\bar{x}$=3.34).

The results of the analysis of data from interviews and participatory observations were found that the students expressed the same opinion that they feel intimidated when listening to English in listening activities. They fear of listening because of unfamiliarity with English accent and pronunciation. They do not know the words heard. They have limitations in listening at various speeds of speaking. They do not know what to listen to because there is no content provided while listening; therefore, they are unable to catch the key words, and feel stressed out and confused while listening, being afraid of not being able to fully comprehend the material being heard.

Summary of the Study

In conclusion, it was found that the students were anxious in the English listening at a moderate level ($\bar{x}$= 117). In terms of the aspects of listening anxiety, the students were anxious in their English language foundation at a high level ($\bar{x}$ = 3.57). It was suggested that in teaching English listening, the teacher should prioritize the factors including students' emotions and feelings, the appropriateness of the content taught, the students' fundamental knowledge, the listening strategies given to the students, the teacher's encouragements, and the ways to create the constructive English learning environments. These factors helped the students have a better understanding and less anxiety in their English language listening. Integrating the listening strategies in teaching the non-English major students was constructive and effective in developing the students' English listening skills.

Discussions

According to the findings from the study on the English listening anxiety of the non-English major students, there were issues discussed in accordance with the objectives of the research as follows:

It was found that the students were anxious about their English listening at moderate to high levels. Considering the listening anxiety aspects, it revealed that the 'basic knowledge' factor made the students

very anxious about their listening skill, consistent with research by Kimura [8], showing that learners had insufficient basic knowledge for listening comprehension, did not know the words they were unfamiliar with pronunciation and intonation, felt worried about not being able to understand what they were listening to, were unfamiliar with the content, and lacked listening strategies and confidence. Besides, the research of Tahsildar and Yusoff [13] reported findings consistent with this study. It was found that the learners had insufficient basic knowledge of listening for understanding as the first factor. This resulted in the learners having listening anxiety at a high level. In addition, the learners used inappropriate listening strategies such as taking notes while listening, keyword capture, setting listening purposes. This was why they did not understand the content and had anxiety when listening to English.

Recommendations

Suggestions for applying the research results for English listening activities are shown as follows:

1) Teachers should pay attention to students' anxiety because it affects the students' development of English listening skills and listening abilities. The teacher should consider selecting the content that is appropriate for the language ability of the learners, demonstrate and improve foundational knowledge for learners before listening, such as teaching vocabulary, improving knowledge about the topics listened to encourage the learners to be ready before listening and help students to have less anxiety. Furthermore, as facilitators, when teachers create a good learning atmosphere, it will encourage learners to feel self-confident. Also, the teachers should provide positive feedback and encouragement to create a relaxing atmosphere, to reduce listening anxiety, and to employ teaching appropriate listening strategies to help develop learners to have better listening skills.

2) Teachers should study students' anxiety in other skills, such as reading skills, writing skills, and speaking skills. Also, the teachers should investigate the relationship between listening anxiety and the use of listening strategies in order to provide the teaching and the learning that is in accordance with the needs and the abilities of the learners.

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Employee Motivation and Employee Engagement: A Case Study of BinZhou Transportation Investment and Construction Co., Ltd.

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Abstract

The purposes of this study were 1) to study the level of employee's motivation of Transportation Investment and Construction Co., Ltd., 2) to study the level of employee engagement of Transportation Investment and Construction Co., Ltd., and 3) to study the relationship between employee motivation and engagement of Transportation Investment and Construction Co., Ltd. Data was collected from 80 employees using a questionnaire. Statistics used to analyze the data were frequency, percentage, mean, standard deviation, and Pearson correlation.

The results had shown that 1) the employee's motivation was at the highest level. The highest aspect was the motivating factors at the highest level. The second highest was hygiene factors at the highest level. 2) The performance management was at the highest level. The highest aspect was 'workplace entertainment' at the highest level, the second was 'performance management', and the lowest was 'salary package' at the highest level. 3) The employee motivation and employee engagement had a very strong positive correlation. The hygiene factors had a very strong positive correlation with performance, and the motivating factors had a very strong positive correlation with performance with statistically significant at .01 level, respectively.

***Keywords**:* employee motivation, employee engagement, Transportation investment and construction company

Background and Statement of the problem

China has been reforming and opening up for more than 40 years. Great achievements have been made in social and economic development. The application of new technologies and technologies has profoundly changed our work, life and thinking concepts. The constant changes in the domestic and international social and economic environments have also caused various enterprises to constantly change and change, which has brought unprecedented and all-round impact and challenges to the development of enterprises. The mixed reform of state-owned enterprises, the transformation of traditional enterprises, and the rise of Internet companies are all undergoing profound changes in talent competition and human resource management. How to retain employees, make good use of them, and improve their contribution is a key topic for modern enterprises to study in human resource management.

In the exploration of human resource management, "employee engagement" has been increasingly proven to be a key factor in improving organizational effectiveness. Engagement was first proposed by Kahn in 1990, and Gallup in the United States[1] took the lead in conducting research on employee engagement. Employee engagement reflects the importance and performance of employees to the company and its work. In recent years, domestic and foreign scholars have begun to conduct research on "employee engagement", and have achieved certain results, which have practical guiding significance for enterprise management. According to the research data of Aon Hewitt Consulting Company Aon Hewitt Consulting Company[2], enterprises with high employee engagement have obvious comparative advantages in terms of operating efficiency, management efficiency, and customer satisfaction, and have strong market competitiveness. Although both China and the West regard satisfaction research as an important topic of human resource management, satisfaction is different in each culture, organization and system. People's satisfaction is different. Its manifestations, presentation status and management requirements are diverse, and the research scope is very wide. Therefore, this paper mainly studies the employee engagement in our country. Other satisfaction indicators in the West and China can be used as reference indicators. One of the

goals of every company is to maintain business continuity and survival, which requires them to have the resources to adapt to changing circumstances. This means that the quality of employee motivation and employee engagement is critical in today's rapidly changing technological world. Consistent with this, employee engagement is reflected in urgency, intensity, focus, enthusiasm, persistence, role extension, and adaptability[3].

Employee engagement is important in providing an optimal physical and mental environment while working because it tends to affect the effectiveness and efficiency of a company[4]. Company leadership is a major player in creating a work ethic mindset and organizational culture. This study seeks to determine the role of active, dynamic, and purposeful democratic movements in improving employee engagement. A good leader has systematic corporate governance that employees can easily emulate, an appropriate framework for internal control system, and a strong corporate reputation is necessary for the company's success. These three factors also affect employee engagement. A study of Haryanto, Suharman, Koeswayo & Umar[5] also found that The Moderating Role of a Democratic Leadership Style can be Enhancing Employee Engagement in Indonesian Logistics and Forwarders Industry.

China is the most populous country in the world, so its investment in transportation is crucial. Transportation investment is the wheel of economic growth, especially in developing countries such as China. This is the first study to investigate the impact of democratic leadership on employee engagement through corporate governance, reputation, and internal controls. China BinZhou Transportation Investment and Construction Co., Ltd. was selected as the research object.

The reason why this paper chooses the grassroots employees of BinZhou Transportation Investment and Construction Co., Ltd. as the research object is mainly because: on the one hand, grassroots employees do the most basic work of BinZhou Transportation Investment and Construction Co., Ltd. to provide daily services for the company. They are also a part of the company's external loyalty and show the company's image; on the one hand, they are the foundation of the company's development, and the construction and management talents in the company's system come from them, and they are one of the important reserve forces.

Objective

1. To investigate the level of employee's motivation of Transportation Investment and Construction Co., Ltd.
2. To investigate the level of employee engagement of Transportation Investment and Construction Co., Ltd.
3. To investigate the relationship between employee motivation and engagement of Transportation Investment and Construction Co., Ltd.

Expected benefits

1. As a guide for developing strategies to motivate employees at work to improve employee performance.
2. The findings of the study can also be used as a guide for other research in the industry as a guide for its employee motivation schemes.

Conceptual Framework

The independent variable in this study was Herzberg's two-factor theory[6] which is composed of Motivation factors: 1) career development, 2) job characteristics, 3) responsibility, 4)achievement, and 5) appreciation; Hygiene factors: 1) wages, 2) improved relationships, 3) working conditions, 4) status, and 5) benefits. The dependent variable was the employee engagement from Gallup[1] which is composed of 1) performance management, 2) personal development and growth, 3) workplace entertainment, and 4) salary package.

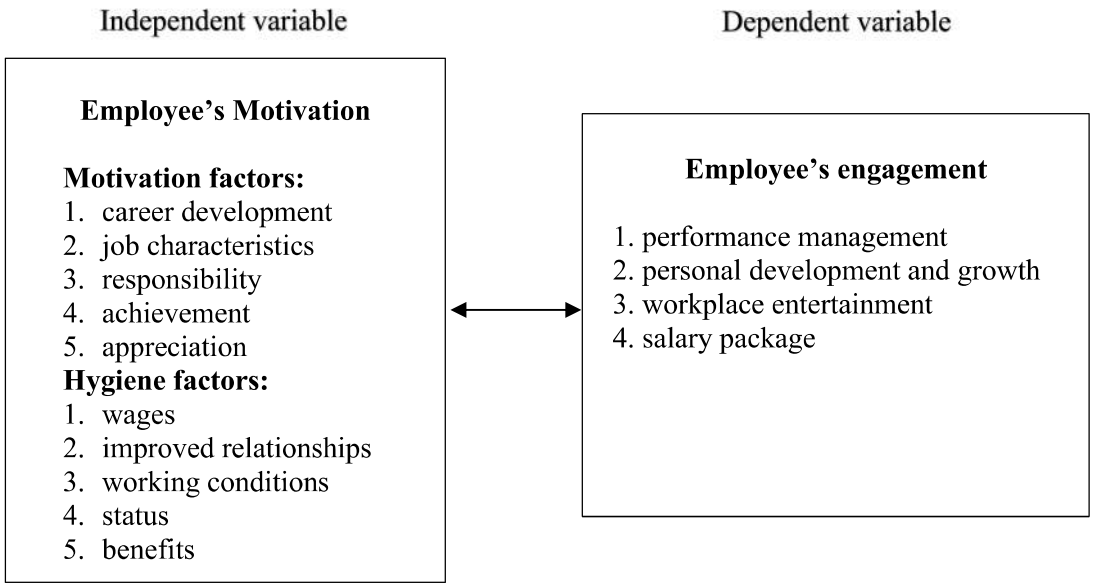


Figure 1 Conceptual framework

Research Methodology

This study is done as a quantitative study by using questionnaires to collect data from the employees of the target company. The details of the research methodology are as follows: The target group of this survey is the employees of BinZhou Transportation Investment and Construction Co., Ltd., and the number of employees in year 2023 was 100 people. The sample size of employees is calculated according to Yamane's formula, calculated using the sample size formula from 100 people (2023) with a margin of error of 5% and a 95% confidence level of 80 employees at BinZhou Investment and Construction Co., Ltd.

The first part investigates the basic situation of employees. Conduct basic surveys on employees' age, gender, education, working years, salary, income, work focus, etc.

The second part is based on Herzberg's two-factor theory. At the same time, theoretical variables are studied. The first is motivating factors, including career development, job characteristics, responsibility, achievement, appreciation. The second is hygiene factors including wages, improved relationships, working conditions, status, benefits

The third part mainly collects feedback on employee engagement: 1) performance management 2) personal development and growth, 3) workplace entertainment, 4) salary and treatment

The questionnaire survey was distributed to 80 employees by quota sampling method. The researcher forwarded the online questionnaire to the employees of each department and waited for the reply. The data collection in April 2023

Research Results

That a total of 80 respondents, most of them were male (38 people, 47.50%), mostly were General staff (50 people, 62.50%), most of respondents were at bachelor's degree (42 people, 52.50%), most of respondents have been working at the company for 1 to 3 years (41 people, 51.30%).

Table 1 Mean and Std. Deviation of Employee's Motivation

Employee's Motivation	$\bar{X}$	SD	Level	Ranking
1. Motivating factors	4.76	0.37	Highest	2
2. Hygiene factors	4.78	0.39	Highest	1
Total	**4.77**	**0.37**	**Highest**	

Table 1 shows that employee's motivation was at the highest level ($\bar{x}$=4.77, SD=0.37). The highest aspect was the motivating factors at the highest level. The second highest was hygiene factors at the highest level ($\bar{x}$=4.59, SD=0.37).

Table 2 Mean and Std. Deviation of motivating factors

Motivating factors	$\bar{X}$	SD	Level	Ranking
1. Career development	4.83	0.41	Highest	1
2. Job characteristics	4.63	0.39	Highest	5
3. Responsibility	4.79	0.42	Highest	3
4. Achievement	4.70	0.51	Highest	4
5. Appreciation	4.82	0.42	Highest	2
Total	**4.57**	**0.53**	**Highest**	

Table 2 shows that the motivating factors were at the highest level ($\bar{x}$=4.83, SD=0.41), the highest aspect of motivating factors was appreciation at the highest level ($\bar{x}$=4.82, SD=0.42), followed by the responsibility at the highest level ($\bar{x}$=4.79, SD=0.42). followed by achievement at the highest level ($\bar{x}$=4.70, SD=0.51). The lowest aspects were the job characteristics at the highest level ($\bar{x}$=4.63, SD=0.39), respectively.

Table 3 Mean and Std. Deviation of Hygiene factors

Hygiene factors	$\bar{X}$	SD	Level	Ranking
1. Wages	4.83	0.40	Highest	1
2. Improved relationships	4.80	0.41	Highest	3
3. Working conditions	4.79	0.40	Highest	4
4. Status	4.81	0.43	Highest	2
5. Benefits	4.68	0.42	Highest	5
Total	**4.78**	**0.39**	Highest	

Table 3 shows that the Hygiene factors was at the highest level ($\bar{x}$=4.78, SD=0.39), the highest aspect of Hygiene factors was the Wages at the highest level ($\bar{x}$=4.83, SD=0.40), followed by status was at the highest level ($\bar{x}$=4.81, SD=0.43). followed by Improved relationships was at the highest level ($\bar{x}$=4.80, SD=0.41). followed by the Working conditions was at the highest level ($\bar{x}$=4.79, SD=0.40). The lowest aspects were the Benefits at the highest level ($\bar{x}$=4.68, SD=0.42), respectively.

Table 4 Mean and Std. Deviation of Employee Engagement

Employee Engagement	$\bar{X}$	SD	Level	Ranking
1. Performance management	4.81	0.41	Highest	2
2. Personal development and growth	4.80	0.43	Highest	3
3. Workplace entertainment	4.81	0.43	Highest	1
4. Salary package	4.54	0.49	Highest	4
Total	**4.75**	**0.41**	**Highest**	

Table 4 shows that Employee Engagement was at the highest level ($\bar{x}$=4.75, SD=0.41). The highest aspect was 'workplace entertainment' at the highest level ($\bar{x}$=4.80, SD=0.43), the second was 'performance management ($\bar{x}$=4.81, SD=0.41), followed by was 'personal development and growth' ($\bar{x}$=4.80, SD=0.43), and the lowest was 'salary package' at the highest level ($\bar{x}$=4.54, SD=0.49).

Table 5 Pearson correlations for employee motivation and employee engagement

Employee motivation	Employee Engagement				
	Performance management	**Personal development and growth**	**Workplace entertain-ment**	**Salary package**	**Total**
1. Motivating factors	0.871**	0.850**	0.813**	0.728**	0.866**
	.000	.000	.000	.000	.000
2. Hygiene factors	0.878**	0.859**	0.809**	0.710**	0.867**
	.000	.000	.000	.000	.000
Total	**0.901****	**0.881**	**0.836****	**0.739****	**0.893****
	.000	**.000**	**.000**	**.000**	**.000**

Table 5 shows that employee motivation and employee engagement in the overview had a very strong positive correlation (r=.893). the hygiene factors had a very strong positive correlation with performance (r=.867) and the motivating factors had a very strong positive correlation with performance (r=.866) with statistically significant at .01 level, respectively.

The motivation and performance management had a very strong positive correlation (r=.901). Hygiene factors had a very strong positive correlation with performance management (r=.878). Motivating factors had a very strong positive correlation with performance management (r=.871) with statistically significant at .01 level, respectively.

The motivation and workplace entertainment had a very strong positive correlation (r=.836). motivating factors had a very strong positive correlation with workplace entertainment (r=.813). Hygiene factors had a very strong positive correlation with workplace entertainment (r=.809) with statistically significant at .01 level, respectively.

The motivation and salary package had a strong positive correlation (r=.739). motivating factors had a strong positive correlation with salary package (r=.728). Motivating factors had a strong positive correlation with salary package (r=.710) with statistically significant at .01 level, respectively.

Summary of the Study

Overall, the employee's motivation and all aspects were at the highest level. The highest aspect was the motivating factors which was slightly higher than the hygiene factors. Focusing on the motivating factors, all the motivating aspects were at the highest level. The appreciation aspect was the highest aspect, followed by the responsibility, achievement and the job characteristics, respectively. For the hygiene factors, all aspects were at the highest level. The highest aspect of Hygiene factors was the wages, followed by status, improved relationships, working conditions, and benefits, respectively.

The employee engagement in the overview and all aspects were at the highest level. The highest aspect was 'workplace entertainment', followed by 'performance management', 'personal development and growth', and 'salary package', respectively.

The employee motivation had a very strong positive correlation with the employee engagement. The employee motivation had a very strong positive correlation with the employee engagement on the aspect of performance management, personal development and growth, and workplace entertainment, meanwhile the employee motivation had a strong positive correlation with the employee engagement on the aspect of salary package, respectively.

Discussions

1. The content of this session mainly discusses the same and different results of the 6 related research literatures. The results of this study show different levels of employee motivation and employee engagement with related research. This and related studies show that employee motivation and employee engagement are positively correlated.

2. Employee incentives. From the research results, Binzhou Transportation Investment and Construction Co., Ltd. uses two-factor theory to motivate employees, thereby improving employee engagement. The research results with David [7] show that the employee motivation of Binzhou Transportation Investment and Construction Co., Ltd. Motivation is primarily achieved through the active

participation of employees in sustainability and corporate social responsibility issues and in this way leads employees to become aware of their work. Meanwhile, the results of Aris Setiyani [8] suggest that employee motivation plays a mediating role in the impact of work environment and flexible working hours on employee engagement. And Binzhou Transportation Investment and Construction Company has achieved the highest degree of professional engagement through the analysis of the two-factor theory and corresponding incentives.

3. Employee engagement, from the research results, Binzhou Transportation Investment and Construction Co., Ltd. has the highest level of employee engagement, which is consistent with Pratima's [9] research showing primary and secondary data analysis and interpretation of the impact of employee engagement on company success, so that employees can improve their engagement, and choose appropriate incentives based on the two-factor theory to improve employee engagement.

4. Arubayi [10] The research has found that engagement strategies such as employer branding and succession planning have a significant impact on employee retention. Binzhou Transportation Investment and Construction Co., Ltd. also uses elite management succession planning as an engagement strategy.

5. Gopika's [11] findings show that employee engagement can be defined as the commitment shown by employees and the degree of enthusiasm employees have for their work and organization. Factors affecting employee engagement, such as compensation, rewards and recognition, job satisfaction, are analyzed. The findings indicate that factors such as growth, rewards and recognition, and peer support contribute more to employee engagement than other factors. The employees of Binzhou Transportation Investment and Construction Company are also directly proportional to the commitment shown by the employees and the enthusiasm of the employees for the work and the organization

6. Rabia & Abdalla [12] research shows that the ability of a company to respond to internal and external changes is crucial even in an economic downturn. Binzhou Transportation Investment and Construction Co., Ltd. is also in the economic downturn, the company's ability to respond to internal and external changes.

Recommendations

1) Recommendation for the company

To enhance the employee engagement, the company should extent the level of employee motivation on both motivation factors and hygiene factors. Even there is the correlation of the employee motivation on the hygiene factors are slightly higher than the motivation factors. But focus on both aspects would give the result of employee engagement higher than focus only a specific aspect.

For the level on motivating factors, even all aspects are at the highest level, but the job characteristics are still lower than the others. The company should make the job characteristics clearer to satisfy the employee. For the level of hygiene factors, even all aspects are at the highest level, but benefits are still lower than the others. The company should give more benefit that fits the employee requirement would give higher engagement too.

2) Recommendation for future research

Expand the sample. In the future, the sample can be further expanded to different transportation investment and construction companies in different regions of the country to obtain better data support.

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TRANSFORMATIONAL LEADERSHIP AND EMPLOYEE ENGAGEMENT: A CASE STUDY OF GENERATION Z PEOPLE IN MAINLAND CHINA

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Abstract

This article aims to 1) study the level of employees' engagement of Generation Z in mainland China, 2) study the influencing factors of transformational leadership on employees' engagement, and 3) study the correlation between transformational leadership and employees' engagement of Generation Z in mainland China. Study collects data on 385 Gen Z employees in mainland China. The data was collected by using a questionnaire with Likert scale. Frequency, mean, standard deviation and Pearson's correlation coefficient were used to analyze data.

The results found that 1) the Transformational leadership in the overview was at an agree level. The highest level was an idealized influence at an agree level, the second level was intellectual stimulation at an agree level, and the lowest level of individualized consideration at an agree level. 2) the Employees Engagement in the was at an agree level. The highest level was a Diversified development at an agree level, the second level was Positive state of mind at an agree level, and the lowest level Dedicated willingness at an agree level. and 3) the transformational leadership had a very strong positive correlation with the employee engagement with statistical significance at the 0.01 level. The transformational leadership on the aspect of Intellectual stimulation, Inspirational motivation, Individualized consideration, and Idealized influence with statistical significance at the 0.01 level, respectively.

***Keywords**:* Transformational leadership, Employee Engagement, Generation Z

Background and Statement of the problem

The COVID-19 epidemic that emerged in early 2020 has spread to the whole world, and many companies have been affected to suspend work. This has had a huge impact on the development of the country and enterprises, and employees are forced to stop work or lay off staff. Generation Z is a new generation of young people who are engaged in various industries. So how are they affected by the COVID-19 pandemic and what factors. Therefore, at this special moment, what the company should do to ensure that employees can complete their tasks at work is particularly important at the moment. It is also the problem faced by similar situations in the future. Executives of enterprises need to know how to manage employees, reduce the impact on employee engagement while the new crown is still in place, and actively create an environment suitable for employees to work normally, so as to achieve the goal of completing organizational production tasks. Gen Z employees are generally around 20-30 years old. In the prime of life, they belong to the backbone of the enterprise. It is an important part of future social development, and it is what these people are facing many problems, because of the decline in work enthusiasm or negative work caused by the new crown epidemic, have a huge impact on enterprises. Based on scientific evidence. Transformational leadership has a strong impact on employee engagement. Therefore, it is necessary to investigate the impact of Transformational leadership on Gen Z employees in order to restore productivity, motivate employees, improve work efficiency, and achieve corporate goals. And have better countermeasures when encountering similar situations in the future.

According to Adi & Basbeth[1], transformational leadership has a significant positive correlation with people's engagement during the COVID-19 pandemic There is a certain influence relationship between them. In the future of COVID-19 or similar situations, what factors will affect employee engagement and how should businesses respond? This study will take the Generation Z employees in mainland China as a

case to analyze and study the factors that affect employees under the new crown virus, so that future enterprises will be in a similar situation. It can better guarantee the professionalism of employees, improve work efficiency and enthusiasm, and ensure that the company can normally complete the company's goals under special circumstances.

Objective

1. To study the level of employees' engagement of Generation Z in mainland China.
2. To study the influencing factors of transformational leadership on employees' engagement.
3. Study the correlation between transformational leadership and employees' engagement of Generation Z in mainland China.

Expected benefits

1. It can be used as a reference for the new crown epidemic or future company managers to improve or maintain employee engagement during special periods.
2. The research results can help more companies and different industries understand the factors of transformational leadership that affect employee engagement under the new crown epidemic or in special times, so as to better manage employees and companies.

Conceptual Framework

Independent variables namely; Transformational leadership which is composed of Individualized Consideration, Intellectual Stimulation, Inspirational Motivation, and Idealized Influence from Bass & Bass [1]. The dependent variable is employee engagement which is composed of Diversified development, dedicated willingness, and positive state of mind from Sun & Bunchapattanasakda [5] .

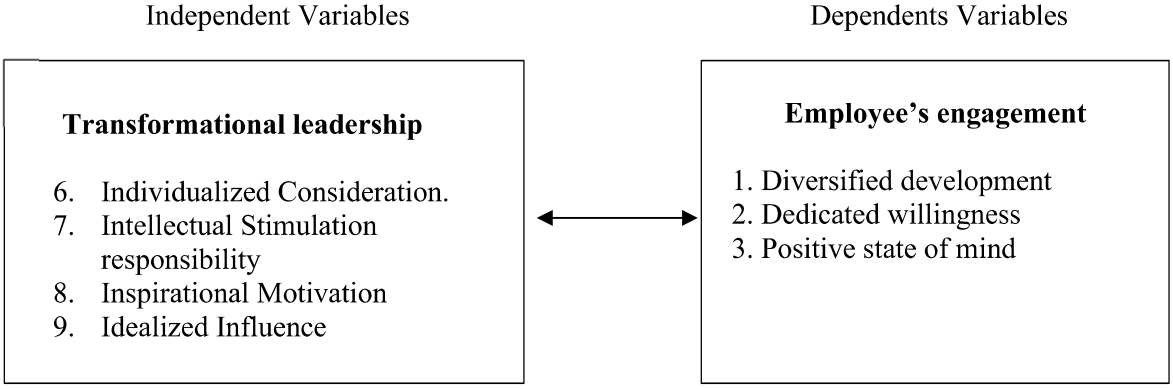


Figure 1 Conceptual framework

Research Methodology

This study is quantitative research using an online questionnaire to survey 385 Gen Z employees. Details of the research methodology are as follows:

The first part is to conduct basic research on the target population of Generation Z, and conduct basic investigations on gender, education level, working years, and salary.

The second part is based on the investigation of leadership theory, and conducts investigations from the perspectives of employees' understanding of company leaders' individual considerations for employees, business or skill development stimulation, inspirational motivation, and leadership's impact on employee development.

The third part is the Gen Z employee engagement survey. Conduct investigations in terms of employee diversity development, employee work enthusiasm, work enthusiasm, etc.

Using the online questionnaire survey method, the target population, that is, the generation Z youth in mainland China, was investigated. After a reasonable screening of the network crowd, relevant questionnaire surveys will be conducted and responses will be awaited. Data will be collected from April 2023. Statistics for data analysis were frequency, percentile, mean, standard deviation, and Pearson correlation.

Research Results

A total of 385 Generation Z was surveyed by the questionnaire research had shown that;

Table 1 Demographic of respondents

Gender	Frequency	Percent
1. Male	153	39.70
2. Female	232	60.30
Education background	**385**	**100.00**
1. Below high school	9	2.30
2. High school	43	11.20
3. Bachelor's degree	292	75.80
4. Master's degree or above	41	10.60
Working years	**385**	**100.00**
1. Less than 1 year	164	42.60
2. 1 to 3 years	128	33.20
3. 4 to 6 years	63	16.40
4. More than 6 years	30	7.80
monthly salary	**385**	**100.00**
1. Less than 2000 Chinese Yuan	67	17.40
2. 2000-5000Chinese Yuan	176	45.70
3. 5001-10000 Chinese Yuan	110	28.60
4. More than 10000 Chinese Yuan	32	8.30
Total	**385**	**100.00**

Table 1 shows that most of respondents were males (153 people, 39.70%), most of respondents had the undergraduate education (292 people, 75.80%), most of respondents have worked for less than one year (164 people, 42.60%), and most of respondents had monthly salary between 2,000-5,000 yuan (176 people, 45.70%).

Table 2 the Mean and Std. Deviation of Transformational leadership

Transformational leadership	$\bar{x}$	SD	Level	Ranking
1. Individualized consideration	3.63	0.79	Agree	4
2. Intellectual stimulation	3.80	0.69	Agree	2
3. Inspirational motivation	3.78	0.71	Agree	3
4. Idealized influence	3.81	0.73	Agree	1
Total	**3.76**	**0.64**	**Agree**	

Table 2 had shown that the Transformational leadership in the was at an agree level ($\bar{x}$= 3.76, SD = .64). The highest level was an idealized influence at an agree level ($\bar{x}$= 3.81, SD = .73) the second level was intellectual stimulation at an agree level ($\bar{x}$= 3.80, SD = .69) and the lowest level of individualized consideration at an agree level ($\bar{x}$= 3.63, SD = .79).

Transformational leadership in overview at agree levels The individualized considerations in the overview are at the level of agree, the highest level of agree is "the leader will consider the actual situation of the employee in the process of dealing with the employee", the second level is "when encountering difficulties at work, the leader will respond appropriately Help me" is at the agree level, and the lowest agreeing degree is "the leader can take appropriate management methods according to my specific situation" at the agree level.

The intellectual stimulation in the overview is at the level of identification. The highest level of identification is "During this period, the training provided by the leader will help you in your future work performance", and the second level of identification is "The training provided by the leader is very important to you. The knowledge and skills you have learned in the training are important to your daily work." At the level of agree, the minimum agreement is "the training program and content provided by the leader can effectively help your complete work tasks "at a agree level".

The inspirational motivation in the overview is at the level of agree. The highest level of recognition is "leaders praise and support the contributions of employees". help me understand how my goals relate to the company's goals", agree level.

The idealized influence in the overview is at the level of agree. The highest level of identification is "leaders can continue to learn and enrich themselves", the second level is "leaders can handle difficult problems", and the lowest level of identification is the level of agree. "Leaders can focus on the impact of their words and actions on employees" level.

Table 3 the Mean and Std. Deviation of Employees Engagement

Employees Engagement	$\bar{x}$	SD	Level	Ranking
1.Diversified development	3.97	0.68	Agree	1
2.Dedicated willingness	3.77	0.72	Agree	3
3.Positive state of mind	3.80	0.73	Agree	2
Total	**3.78**	**0.64**	**Agree**	

Table 3 had shown that the Employees Engagement in the was at an agree level ($\bar{x}$= 3.78, SD= .64). The highest level was a Diversified development at an agree level ($\bar{x}$= 3.97, SD= .68) the second level was Positive state of mind at an agree level ($\bar{x}$= 3.80, SD= .73), and the lowest level Dedicated willingness at an agree level ($\bar{x}$= 3.77, SD= .72).

Shows that employee engagement in the overview is at an agree level. The highest level is the Diverse Development of Consent level. The second level is Agree level of positive attitude and the lowest level of Agreeing level of willingness to focus.

The diversified development in the overview is at the level of agree, the highest level of agree t is "I want to learn more knowledge because of work needs", and the second level of a agree is "learning knowledge and skills in other fields" The field of self-improvement" is at the level of agree Above all, the

minimum agreement is "willingness to learn different skills and knowledge on the job" at the level of agree. The willingness to engage in the overview is at the level of agree, with the highest level of agree being "I know what is expected of the job from me" and the level of agree being "I have the necessary materials and equipment to do the job properly" at the level of agree. The lowest level of agreement It's "My supervisor or co-workers seem to care about me on an agree level."

The positive attitude in the overview is at the level of agree, the highest level of agree is "I am passionate about my work", the second level of agree is "I feel positive about my work" and the lowest level of agree is "I feel positive about my work" Energetic" at the agree level.

Table 4 Pearson correlation on Transformational leadership and Employees Engagement

Transformational leadership		Employees Engagement			
		Diversified development	Dedicated willingness	Positive state of mind	Total
Individualized consideration	*r*	.621**	.698**	.657**	
	Sig. (2-tailed)	.000	.000	.000	
Intellectual stimulation	*r*	.706**	.679**	.704**	
	Sig. (2-tailed)	.000	.000	.000	
Inspirational motivation	*r*	.656**	.690**	.661**	
	Sig. (2-tailed)	.000	.000	.000	
Idealized influence	*r*	.705**	.685**	.675**	
	Sig. (2-tailed)	.000	.000	.000	
Total	***r***	**.759****	**.780****	**.763****	
	Sig. (2-tailed)	**.000**	**.000**	**.000**	

**. Correlation is significant at the 0.01 level (2-tailed).

From table 4, the transformational leadership had a very strong positive correlation with the employee engagement (r=.914) with statistical significance at the 0.01 level.

The transformational leadership on the aspect of Intellectual stimulation (r=.817), Inspirational motivation (r=.807), Individualized consideration (r=.803), and Idealized influence (r=.801) with statistical significance at the 0.01 level, respectively.

While the transformational leadership had a strong positive correlation with the employee engagement on the aspect of Dedicated willingness (r=.780), Positive state of mind (r=.763), and Diversified development (r=.759) with statistical significance at the 0.01 level, respectively.

Summary of the Study

In conclusion, the results shows that Generation Z had an opinion on the transformational leadership at an agree level. While Generation Z had employee engagement at an agree level. The results also shows that the transformational leadership had a very strong correlation with the employee engagement. That means the higher level of transformational leadership would give higher employee engagement. To focus on a specific of the transformational leadership on the aspect of Intellectual stimulation which is the highest would give level of employee engagement higher than the other aspects (Inspirational motivation, Individualized consideration, and Idealized influence). But to implement all aspects of the transformational leadership would give even higher level of employee engagement than focus only on a specific aspect.

Discussions

1. The level of Transformational leadership

Through research on theories related to transformational leadership, transformational leadership is at a agree level, with intellectual stimulation at the top and individualized consideration at the end. We found that transformational leadership has a significant positive correlation with individualized consideration, intellectual stimulation, and idealization of inspirational motivation. In the relevant literature, Nobertus, Ike

& Brahma[4] are consistent with our research results and support Transformational Leadership and Employee Engagement: A Gen Z Case Study IN Mainland China.

2. The level of employee engagement

Through the research on Generation Z employees in mainland China, the level of employee engagement is at the agree level in all aspects, the highest is diversified development, and the last is the willingness to engage. We found that diversity in employee engagement, willingness to engage, and positive attitudes are influenced by transformational leadership. Influencing employee development ideas and employee engagement. In the related literature in Chapter 2 the results of Mala, Yoka & Nur[3] are consistent with our research results and support the research of Transformational Leadership and Employee Engagement: A Gen Z Case Study IN Mainland China

3. The relationship between transformational leadership and employee engagement.

After data analysis, it is found that transformational leadership is positively correlated with employee engagement, which is statistically significant at the 0.01 level. Transformational leadership has a significant positive correlation with the engagement of Generation Z employees in mainland China. This result is consistent with the research of Adi & Basbeth [2]. Therefore, transformational leadership is Employee engagement is influential, and companies should pay attention to the impact of transformational leadership on employees.

Recommendations

Recommendation from the research results

1. Transformational leadership has an impact on the engagement of Generation Z employees in mainland China, so we must pay attention to the positive impact of transformational leadership on employees and improve their work enthusiasm

2. Generation Z employees are a generation with lively thinking and emotional sensitivity, and are more able to feel emotional value and accept new things. At this time, how to use transformational leadership to improve employee engagement is very important

3. Pay attention to the practical application of transformational leadership, especially when young people are very interested in individual considerations, and adopt appropriate methods according to the actual situation to achieve the effect of improving employee engagement

Recommendation for further study

1. It is possible to study the impact of transformational leadership on engagement of employees in different types of companies

2. Study the impact of different types of leaders on employee engagement

3. Conduct employee engagement research on people of all ages

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EFL Learners' Voices: An Action Research on the English Learning Obstacles and Strategies of Thai Students in an International Program

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Abstract

Thai students often choose to study in international programs to enhance their English language proficiency and increase their opportunities for future career success. However, while studying in an international program may provide numerous benefits, it can also present challenges for Thai EFL learners. With this in mind, this action research study explores the English learning obstacles and strategies of Thai students in an international program, as reported through their own voices. The study was conducted with a group of 20 Thai freshmen who were purposively selected after enrolling in an international program of tertiary level in Thailand. The data was collected through surveys and interviews, and qualitatively analyzed using the content analysis. The findings suggest that the main obstacles to English language learning for Thai students are vocabulary, grammar, accents and/or pronunciation, organization of ideas, and fear of making mistakes. The study also identifies various strategies that Thai students use to overcome these obstacles, including doing self-practice, using online applications, being focused in classrooms, taking extra tutorials, and asking friends. The results of this study provide insights into the challenges faced by EFL learners in Thailand and offer recommendations for improving English language instruction in international programs.

***Keywords**:* Action research, English learning obstacles and strategies, EFL learners' voices

Background and Statement of the problem

English has become the global language of communication, and proficiency in English is increasingly important for individuals seeking to participate in the global economy and society. However, for many English as a Foreign Language (EFL) learners, acquiring English proficiency can be challenging due to various obstacles such as limited exposure to English, fear of making mistakes, and cultural differences. These obstacles can be particularly pronounced for EFL learners studying in an international program, where they are expected to learn and communicate in a language that is not their first language.

This study focused on the experiences and perspectives of Thai EFL learners studying in an international program and explored the obstacles they faced in acquiring English proficiency, as well as the strategies they utilized to overcome these obstacles. Thai EFL learners are an important population to study, as Thailand has become an increasingly popular destination for international education, and Thai students often face unique challenges due to linguistic and cultural differences. According to the Office of the Education Council [1], in Thailand, there were 844 international programs offered by 30 public and 23 private universities. In the studies of Sukon and Manon [2] and Prasertong and Leenheeraphan [3], it was found that Thai EFL learners faced significant challenges in all three areas which were pronunciation, grammar, and vocabulary as well as English idioms and cultural references due to cultural and linguistic differences. Furthermore, Thai students often choose to study in international programs to enhance their English language proficiency and increase their opportunities for future career success. However, while studying in an international program may provide numerous benefits, it can also present challenges for Thai EFL learners. For example, they may struggle to adapt to a new academic environment, navigate cultural differences, and communicate effectively in English with their peers and instructors.

Given these challenges, it is important to understand the English learning obstacles and strategies of Thai EFL learners studying in an international program. By doing so, EFL educators can develop more effective teaching strategies and support mechanisms that address the unique needs of this population. This study aims to contribute to this important area of research by exploring the voices and experiences of Thai

EFL learners in an international program and highlighting their perspectives on the obstacles and strategies related to their English language learning.

Objective

The purposes of this action research study were to provide insights into the English learning obstacles and strategies of Thai EFL learners studying in an international program, and to inform effective teaching strategies that support their language learning. Hence, the objectives of this study were as follows:

1. To explore the English learning obstacles encountered by Thai EFL learners who were studying in an international program.
2. To find out what strategies that Thai EFL learners who were studying in an international program used in order to solve their learning challenges.

Research questions

The research questions guiding this study were:

1. What were the English learning obstacles faced by Thai EFL learners studying in an international program?
2. What strategies did Thai EFL learners studying in an international program utilize to overcome these obstacles?

Expected Benefits

The expected benefits of the research are to identify and address the specific obstacles and challenges faced by Thai EFL learners who are studying in international program. By listening to the voices of the learners, the researcher aimed to gain a better understanding of the difficulties they encountered in learning English, as well as the strategies they used to overcome these obstacles. This knowledge could then be used to improve the English language teaching and learning processes for Thai EFL learners in international programs, which could have several benefits, such as:

1. Enhancing the quality of education: Identifying and addressing the challenges faced by Thai EFL learners can lead to more effective teaching and learning processes, which can improve the overall quality of education in international programs.
2. Increasing students' confidence and motivation: By addressing the obstacles of the learners, they may feel more confident and motivated when they realize that their instructors understand their obstacles and be ready to help them.
3. Preparing students for future academic and professional opportunities: Since English is global language, and proficiency in English can extend numerous academic and professional opportunities for Thai EFL learners, they will be better prepared for these opportunities if the instructors address the obstacles and provide them appropriate strategies.

Overall, the expected benefits of this study include improving the quality of education, increasing learners' confidence and motivation, and preparing learners for future academic and professional opportunities. The results of this study can provide valuable information for EFL teachers working with Thai EFL learners in international programs, as well as inform future research on EFL learning obstacles and strategies in similar contexts.

Conceptual Framework

The conceptual framework used in this study was the framework of action research. According to Mills [4] cited in Mertler's book [5], it is a "systematic inquiry conducted by teachers, administrators, counselors, or others with a vested interest in the teaching and learning process or environment for the purpose of gathering information about how their particular schools operate, how they teach, and how their students learn". Arung [6] also added that the purpose of action research was to overcome any problems or concerns in teaching and learning process in a classroom. In this study, the framework was adopted from Arung [6] as illustrated in Figure 1.

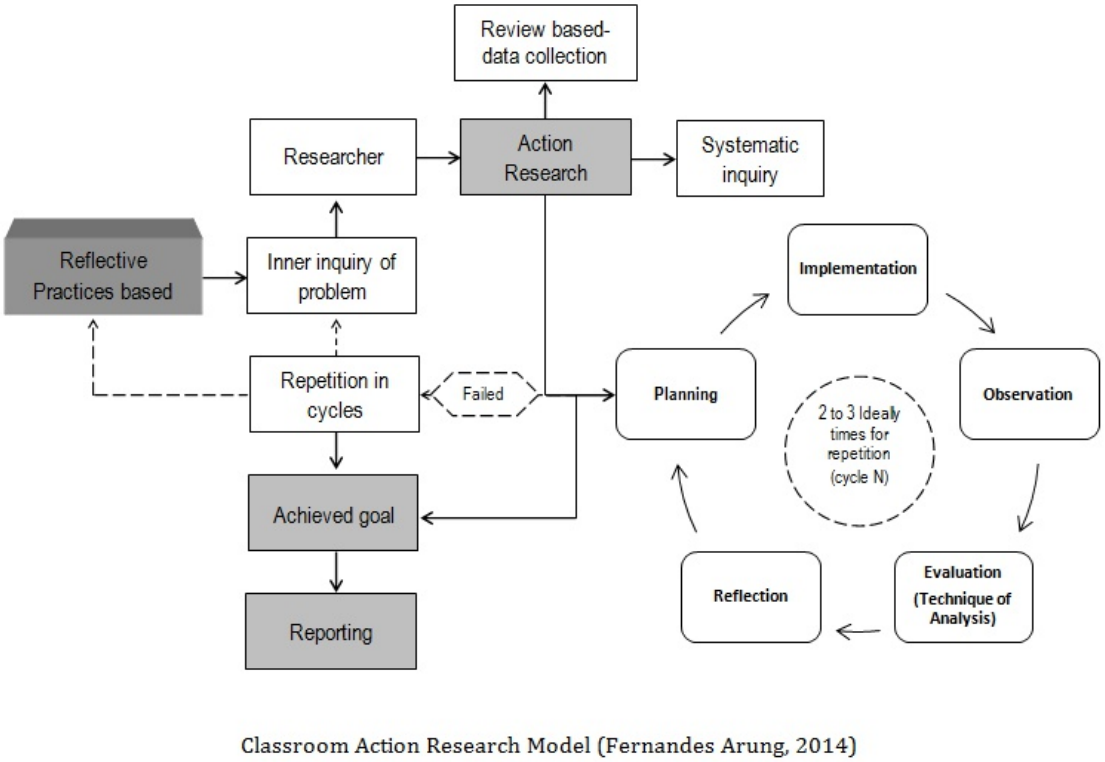


Figure 1 Action Research Model [6]

According to the conceptual framework of Action Research in Figure 1, the initial stage of the classroom action research is a reflective practice-based process that is initiated when the teachers oversee the problem in their classrooms. The teachers' inner inquiry into the problem turns them to researchers who undertake action research with systematic inquiry, gathering data based on a self-review. As part of the study process, the teachers will go through cycles that involve problem identification, planning, implementation, observation, evaluation, and reflection. Each cycle's evaluation stage involves the data analysis necessary to achieve its determined goal - whether it is the expected improvement, changing, maintaining, or just to name a few – that relates to the problem. If the goal has not been attained, the cycle should ideally be repeated. Once the goal has been achieved, a report is given.

The framework of Action Research as demonstrated in Figure 1 was appropriate to be used as a guiding map in this study. The researcher's inner inquiry of the study's participants could be turned into research problem identification, planning, observation, evaluation, and reflection in a systematic way.

Research Methodology

The participants or key informants of the study consisted of 20 Thai students enrolled in an international program as freshmen at one of the private universities in Thailand. Their major was English for Business Communication. A purposeful sampling method was deployed for the sample selection of this study. All the study's participants gave their consents to the researcher before participating in the study. The data were collected by using an open-ended questionnaire and semi-structured interview questions. All twenty participants were asked to complete the questionnaires, and ten of them were randomly selected for interviews. The questionnaire and interview questions were validated for the content validity by three experts who were experienced English instructors. The values of the IOC index for both instruments were high at 1.00, which indicated their high validity. Additionally, the questionnaire and interview questions were prepared in dual languages: Thai and English. This was to facilitate the comprehension of the interviewees. The back translation was conducted to reassure that content of the questionnaire and interview questions were the same in two languages. Furthermore, the key informants were allowed to answer the questionnaire or interview questions in Thai if they found it difficult to answer the questions. As for the interviews, each informant's response was recorded and transcribed for further data analysis. The data were analyzed qualitatively using content analysis, based on the theorizing theory [7] which is "the cognitive

process of discovering or manipulating abstract categories and the relationships among those categories." The data from the open-ended questionnaires and the transcriptions of the interviews were compared and contrasted to find the similarities and differences. Then the data were aggregated to establish relationships. After that, each cluster of the data was coded according to the English skills and challenges.

Research Results

Regarding the first research objective which was about the English learning obstacles faced by Thai EFL learners studying in an international program, the key findings showed that the four foundational skills of English language learning - speaking, listening, writing, and reading, were challenging for them. Specifically, the study revealed that many students struggled with speaking and listening skills, as well as writing, while reading was identified as the least problematic area. When asked whether their struggle with English speaking and listening was due to a lack of knowledge of grammar, most of the key informants reported that the actual causes were the limited size of their English vocabulary and difficulty in selecting appropriate words, with some mentioning pronunciation as a barrier.

As for the listening challenge, the responses were varied, yet some common themes emerged. One significant challenge faced by the participants in English listening was the difficulty in comprehending the accents of foreign lecturers. Additionally, the introduction of new vocabulary could be challenging, as it could cause them to lose focus on the learning materials and miss the context. Another problem encountered was that when the lecturers were native speakers of English, they often spoke at a faster pace compared to Thai lecturers. The vocabulary used by the foreign lecturers also differed from that used by Thai lecturers, adding to the complexity of understanding. The informants also reported facing difficulties in understanding their friends from other countries due to their accents. When asked whether this presented any challenges in group assignments, the responses were mixed. Some of them reported that it did not have much of an impact, as most communication was conducted among Thai students, who outnumbered other ethnic groups in most group projects. In some cases, non-Thai students may be excluded or ignored, leading to less communication with them. However, some interviewees expressed concern over this issue, as they believed in equality in sharing thoughts and ideas. It could be frustrating not to understand each other, and this could create communication barriers within the group.

The writing challenge was considered problematic after the speaking and listening skills. Less than half of the informants reported facing writing problems, which mainly stemmed from grammar issues. However, most of them felt confident in their spelling skills. They attributed the availability of spell-checkers or the convenience of online dictionary. On the other hand, many reported that grammar errors were harder for them to detect when writing essays. One of the challenges was the uncertainty about which tense to use. Furthermore, there were some informants who mentioned that the challenge in writing was the lack of knowledge of how to structure an essay or report, leading to poor organization and coherence in their writing. One interesting finding related to writing obstacles was that some informants pointed out that they faced a psychological barrier when it came to English writing. They expressed fear and anxiety about making writing mistakes.

It was found that reading skill was the least problematic for the participants. However, it was important to note that some informants still faced challenges with English reading. It was discovered that some of them struggled with English vocabulary, particularly in fields where technical jargon and specialized terminology were prevalent, while fewer encountered difficulty with the complexity of the ideas being conveyed in the reading passages.

With reference to the second research objective which was about the strategies that the participants utilized to overcome their English learning strategies, the findings will be reported according to each language skill. For the speaking challenges, the informants indicated that they solved these problems by trying to speak English with their foreign friends in the classroom as much as possible. A few of them informed that they tried to mimic the native speakers of the English language from the movies or video clips on online platforms and practiced English speaking by repeating phrases and/or sentences in front of the mirror.

Regarding what strategies they used to solve their listening problems, it was found that if they had a problem communicating with their foreign classmates because of their strong accents, they would ask

their friends to repeat the sentences again or write messages to them. In other words, some unclear communication with their foreign friends would be done via chats or asking for repetition to avoid the problem of miscommunication. Some of them reported the additional listening practices either by attending listening online courses or by doing their listening self-study at home. Almost all the informants agreed that the only strategy to solve English listening, particularly in the classroom, was to be prepared before attending the lectures, reading, or at least skimming and scanning, the study materials to get an overview of the content and vocabulary and pay close attention to the lectures. They reported that the first few weeks were difficult for them to listen to English lectures conducted with a variety of accents, but when they try to focus their concentration, they gradually got used to the different accents of their lecturers.

In addition to the speaking and listening strategies, it was found that the strategies that the students used to solve their writing challenges were varied. Many of the informants admitted that they used translation and writing applications to help them with the writing, though they realized that it was not a good strategy to solve the writing problem in the long run. Most importantly, they were also aware that those applications could not solve the problem of the organization of idea, which implied the uses of appropriate transitional signals. A few of them reported that they regularly engaged in writing practice activities such as writing in English when chatting with classmates, writing scripts to prepare for the oral presentations in the classrooms, and enrolling in writing classes provided by outside tutoring schools.

Since reading challenge was regarded as the least problematic of all the four skills, the informants indicated a few strategies they used to overcome this obstacle. Most of them mentioned the use of translation applications to help with reading comprehension. Some of them said that they tried to learn more English vocabulary, particularly the jargon or business terms, because they believed that knowing more new words could be useful for their reading.

Table 1 shows the learning obstacles related to English language skills

Learning Obstacles	**English Language Skills**			
1. Vocabulary and jargons	Speaking	Listening	Writing	Reading
2. Grammar (e.g., tenses, use of coherence, etc.)	Speaking	Listening	Writing	-
3. Accents/ pronunciations	-	Listening	-	-
4. Organization of ideas	-	-	Writing	Reading
5. Fear of making mistakes	-	-	Writing	-

Table 2 shows English learning strategies that were used to solve the challenges of English language skills

English Learning Strategies	**Language Skills Being Solved**			
1. Self-practices	Speaking	Listening	Writing	Reading
2. Online applications/websites	-	Listening	Writing	Reading
3. Focus in classrooms	-	Listening	-	-
4. Extra tutorials	-	-	Writing	-
5. Ask friends	-	Listening	-	-

Summary of the Study

In brief, the main purposes of this action research were to systematically inquire about the problems and strategies of Thai students studying in the International Program at the Higher Education Level. It was found that English speaking and listening skills were the most challenging for the participants, followed by writing and reading, respectively. The most significant obstacle in dealing with all the four skills in English was vocabulary. Other challenges were grammar, accents and/or pronunciations, organization of ideas, and the fear of making mistakes in some or a few of the skills. It was found that the strategies used to solve these problems were self-practice, using online applications, staying focused in classrooms, taking extra tutorials, and asking friends.

Discussions

The findings of this study provide valuable insights into the English language learning obstacles faced by Thai EFL learners studying in an international program, as well as the strategies they utilize to overcome these challenges. The study highlighted that speaking and listening skills were the most challenging areas for the participants, followed by writing, while reading was the least problematic. The main obstacle with all the four skills of English was attributed to limited vocabulary and jargon knowledge. A lack of vocabulary can make it challenging for EFL learners to understand English texts, communicate effectively, and express themselves clearly. EFL learners may struggle to understand the meaning of words or phrases, which can impede their comprehension of spoken or written English. The struggle with grammar ranked the second for speaking, listening, and writing. The rules of English grammar can be complex and difficult to master. EFL learners may struggle with the proper use of verb tenses, articles, prepositions, and other grammatical structures, leading to difficulties in communicating their ideas effectively. Moreover, accents and pronunciation also caused difficulty in listening for the students. Accents can affect the pronunciation of words and alter the rhythm and intonation of spoken English, making it more challenging to comprehend. These findings were in line with those of Sukon and Manon [8] and Mohd Aba Sha'ar and Boonsuk [9] which indicated that the main obstacles of learning English for Thai learners were pronunciation, grammar, and vocabulary knowledge.

Apart from vocabulary knowledge, the organization of ideas and fear of making mistakes became the challenges in writing for the participants. As for the parts of vocabulary and organization of ideas in English writing, they were in agreement with the study of Padgate [10], which reported that the English writing obstacles of her participants, who were both English and non-English majors, were vocabulary, the use of transition words, planning ability, and revising ability, even though they thought that English writing was the most difficult of all skills. Furthermore, fear of making mistakes could be a significant obstacle for writing skills as it could lead to a lack of confidence, avoidance behavior, and a limited willingness to seek feedback and engage in the revision process.

For several reasons, vocabulary and the organization of ideas in reading texts could become obstacles for EFL learners. First, it was the cultural and linguistic differences. The organization of ideas in English texts may not follow the same pattern as texts in Thai. Secondly, English academic texts usually use specialized vocabulary and terminology, which make them too challenging to understand the contents. Last but not least, some English texts may contain too many complex sentence structures. This could become problematic for the participants to understand the relationship between ideas in the reading texts. These problems corresponded with those of Sutta [11] and Liangpanit [12], who mentioned that the causes of difficulties in English reading for Thai students were vocabulary and knowledge of sentence syntax, or word order. These affected the students' ability to get the main idea, identify inferences, and draw conclusions from the reading texts.

Regarding the strategies that the participants used to handle their English obstacles, it should be noted that self-practice was one of the strategies that they used to solve the problems of all English skills. It was probably because self-practice allowed them to work on their language skills at their own pace and on their own schedule. They could also choose the materials and activities that suited their level and interests and practice as often as they liked. Furthermore, self-practice could reduce anxiety because it could be done in a comfortable and familiar environment. Practicing with others in a classroom or group setting, on the other hand, could be anxiety-inducing.

Another strategy that the students used to solve their listening, writing, and reading challenges was the use of online applications and websites. These were effective tools for improving language skills because they were not only interactive, flexible, and convenient but also practice resources for all English skills. Many online language learning apps and websites used gamification techniques such as badges, or points, to motivate learners to continue practicing their skills, which helped them stay motivated and focused.

The next strategy that the participants used to solve their listening obstacles was to stay focused in the classrooms. Staying focused in the classroom is a critical component of effective language learning. The finding showed that when the students stayed focused, they were able to comprehend the instructors

better, and this helped them participate in class activities more actively. Consequently, they had more confidence in their language abilities.

The third strategy from the findings for writing challenges was extra tutorials. This technique could be an effective way to improve writing skills because it provides the opportunity for individual attention from a tutor. This personalized attention could help identify specific areas where the students needed improvement, such as grammar, sentence structures, or organization, and provide targeted feedback and guidance to help them improve their writing skills.

The last strategy from the findings showed that the key informants solved their listening problems by asking friends for repetitions, explanations, and/or clarifications. This strategy may sound simple, but it was a valuable tool for EFL learners to practice their listening skills in a comfortable and engaging way, receive feedback and clarifications from peers, gain exposure to different accents and cultures, and build relationships, respectively. By actively engaging with the language and practicing listening skills in a social context, learners can improve their listening skills and feel more confident communicating in English.

Recommendations

Based on the findings of the action research on the English learning obstacles and strategies of Thai students in an international program, the following suggestions can be implemented to enhance these students' English language proficiency:

1. Provide additional support for vocabulary acquisition: The main obstacle for Thai students of English is vocabulary acquisition. It is advised to provide additional support for vocabulary acquisition through context-based learning, such as reading and writing activities that incorporate new vocabulary. Additionally, instructors can encourage the use of online resources to students in learning and practicing new vocabulary.

2. Encourage self-reflection and self-assessment: Giving students the chance to reflect on and evaluate their own language learning can help them become more aware of their strengths and deficiencies. They will be in charge of evaluating their own language-learning experiences, creating language-learning goals, and determining their level of language proficiency.

3. Use of differentiated instruction: Differentiated instruction is a method of instruction that makes sure each student receives the assistance they need. This can be especially helpful for Thai students who learn in different ways and have different levels of English. It is recommended to implement differentiated instruction by offering individualized feedback, multiple levels of instruction, and flexible pacing.

4. Encourage a good learning environment: To encourage language learning among Thai students, it is essential to create a conducive learning environment. It is advised that a good learning environment be created through encouraging a collaborative and supportive environment in the classroom, providing constructive criticism, acknowledging and rewarding student accomplishments, and providing students with meaningful work.

5. Use authentic materials: Using authentic materials, such as newspaper articles, podcasts, and videos, can assist Thai students in developing language skills in a more practical and realistic context. Additionally, authentic materials can expose students to various English accents, vocabularies, and cultural aspects.

6. Offer opportunities for collaborative peer feedback: Peer feedback and collaboration can assist Thai students in enhancing their linguistic skills and self-confidence. It is suggested that opportunities for peer feedback and collaboration, such as peer editing or group presentations, be made available. This can also enhance students' teamwork and communication abilities.

7. Integrate methods of language study into academic routine: Teaching students how to learn a language can help them learn it far more effectively. It is recommended that classroom instruction include language learning strategies such as taking notes, summarizing, and using context indicators. Teachers may also motivate learners to develop and assess their own learning strategies.

8. Provide language support for content areas: It is recommended to provide language support for content areas in order to assist Thai students enrolled in international programs who may have difficulty understanding with content area materials, such as science and social studies. The language support

included the pre-teaching of essential vocabulary and the giving of teaching materials to aid students in understanding complex concepts.

9. Continuously evaluate language proficiency: Teachers can monitor student growth and identify areas for improvement with the assistance of periodic language proficiency assessment. To measure student language proficiency, it is recommended to use a variety of assessment methods, such as tests, portfolios, and self-evaluations. Teachers are also able to use assessment results to inform their instruction and provide students with targeted feedback.

By implementing these additional recommendations, Thai students enrolled in an international program can improve their English proficiency and develop effective language learning strategies. It is essential to tailor instruction to the specific requirements of each learner and to foster a positive and supportive learning environment in order to promote language acquisition success.

The findings of this study imply more studies with a larger sample size. Finally, a longitudinal study is also recommended, even though the main goals of action research are to systematically inquire about the learners' problems and seek for solutions. An extended inquiry period and larger sample size may shed better light on English learning obstacles of Thai learners who are studying in International Programs.

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Situation of Thai Industry Investment Expansion in CLMV Countries in 2023

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Abstract

Due to the rise of Thai industrial investment in CLMV countries, some industries are now expanding investments and operating constantly which includes textile and garment industry, agriculture processing sector and beverage industry, construction industry, mining, and the energy sector. If the potential for increasing investment in the earlier mentioned group is considered, it will be found that the affordable labor costs, the adequate numbers of workers, investment promotion privileges, and benefits from exporting goods which provide the industry in which you are investing the chance to produce bigger returns, promote competitiveness, and reduce the labor shortage problems. The risk factors that investors must consider and focus on before making a choice are the risk of recurring epidemics and the political conflict situation of the invested country which may affect the economy and safety. Therefore, investors who want to expand their investment in CLMV countries should carefully consider the opportunities and risks before making a decision.

Keywords: Investment Expansion, CLMV, Thai Industry

Background and Statement of the problem

The international economy started to recover when the circumstances around the Covid 19 pandemic were handled. Leading countries such as China, the United States, and Europe began releasing economic stimulus schemes and resulting in an improvement in the state of the global economy. As a result, the ASEAN nations profit from the global economic recovery. Especially, CLMV countries are countries that have attracted attention from investors all across the world. Because they are a collection of nations with expanding domestic markets, wages that are low, plentiful natural resource, and the government promotes investment such as getting financial rewards from investments. Including the fact that the CLMV nations have both bilateral and international free trade agreements. [1] This is in line with the ASEAN Investment Report 2022 information. The investment situation report in most ASEAN countries has increased the value of foreign direct investment as shown in Figure 1.

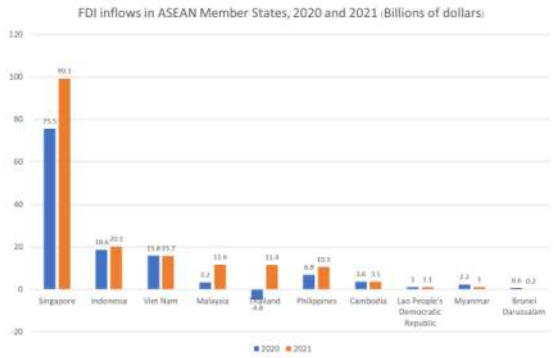


Figure 1 FDI inflows in ASEAN Member States, 2020 and 2021 (Billions of dollars) [2]

Figure 1 showed foreign direct investment in ASEAN in 2020-2021. It revealed that in 2021 the value of direct investment made in the top 3 ASEAN countries were Singapore that has the highest

investment value, followed by Indonesia, and Vietnam respectively. For countries in which the value of foreign direct investment has increased from 2020 were Singapore, Indonesia, Malaysia, Thailand, Philippines, and Laos. Countries that FDI value decreased from 2020 were Vietnam, Cambodia, Myanmar, and Brunei. The countries having the largest foreign direct investment value according to CLMV information for 2021 were Vietnam, Cambodia, Laos, and Myanmar respectively. In 2021, the country that the amount of foreign direct investment increased from 2020 was Laos. Meanwhile, the country that the amount of foreign direct investment decreased from 2020 was Vietnam, Cambodia, and Myanmar. This was consistent with information from a report on the FDI situation following the Covid 19 outbreak by the International Institute for Trade and Development that the value of foreign direct investment in ASEAN has increased. In other words, foreign direct investment value increased by around 42% from 2020 to 2021. [3]

Investment Industry Association in CLMV Countries

From the research, the author can collect investment information for industrial groups investing in CLMV countries as follows:

In Cambodia, investors are attracted to the construction, mining, milling of rice, cement, and textile industries. [4] After the Covid 19 epidemic situation has been resolved, the government sector along with the textile industry will promote business and industrial directions including 1) Electronic Components Industry: in 2020, there was an export growth of 220% due to the expanding worldwide market's demand for electrical components. 2) Coal Fired Power and Solar Power Plants: regarding that Cambodia must generate enough to meet domestic demand. [5]

In Laos, investors who choose Laos prefer the following industry sectors: electric power, mining, service, agriculture, and banking.[6] After the Covid 19 epidemic situation has been resolved, business and industrial directions including 1) Hydropower Plants: the project that has attracted the attention of foreign investors, particularly those from China. 2) The manufacturing industry that gains from connections to international transportation systems such as the railway project between China and Laos. [5]

In Myanmar, investors who prefer to invest in Myanmar prefer the following industry sectors: agro-processing industries, products of wood, copper, lead, tungsten, iron, cement, construction materials, medicines, fertilizers, oil and natural gas, textiles, jade and gems. [7] After the Covid 19 epidemic situation has been resolved, business and industrial directions including 1) production for export has slowed as a result of the political climate's impact on the textile and garment industry. 2) Investors from other countries delayed their investments in sectors relating to electric power. Aside from Chinese investors who invest more. [5]

In Vietnam, investors choose to invest in the following industry sectors: processed food, ready-made garment, footwear, machinery, coal, steel, cement, tires, oil, and mobile phones. [8] After the Covid 19 epidemic situation has been resolved, business and industrial directions including 1) Food Processing Industry: the use of technology in the food business to increase production and add value is encouraged by the government. 2) The manufacture of the packaging used to package processed foods and beverages are encouraged by the packaging industry. 3) Power Plants: the demand for electricity in Vietnam is rising with a focus on raising the production of renewable energy while lowering the production of coal-based electricity. [5]

Thai Corporate Investment Expansion in the CLMV Group

Many businesses are investing in Cambodia. For example, in the textile business which has chosen to relocate its manufacturing base to Cambodia. For example, Thong Thai Textile Co., Ltd. with manufacturing facilities in Cambodia and Myanmar, Nice Group Holding Crop., Ltd. which is a sportswear manufacturing that exports to world-renowned brands like Adidas and Nike has a manufacturing facility in Vietnam with a capacity up to 3 million units. Cambodia plan to raise manufacturing by 17 million units. T.K. Group is a ready-made garment contract manufacturer; fashion clothing for children, men, and women which has customers in over 70 countries both domestically and internationally. Including products manufactured from plain textiles, stretch fabrics, denim fabrics, and chiffon fabrics such as F&M, AIIZ Playboy, and Body Glove. [9]

In Laos, there are companies that have established a manufacturing factory. For example, Hi-Tech Apparel Co., Ltd., a manufacture that produces ready-to-wear clothing under trademarks; Tommy Hilfiger, Target, SanMar, and Nike which has chosen to invest in Laos. Major export markets include the United

States, Europe, Japan, and the Middle East. Mitr Lao Sugar Co., Ltd. is a subsidiary of Thailand's Mitr Phol Sugar Company (Sugar production/cane plantation) which is currently a major sugar producer and exporter in Laos, exporting products to Europe.

Myanmar companies that have invested in establishing production bases include: Thong Thai Textile Co., Ltd. has manufacturing operations in both Cambodia and Myanmar which is located in Myanmar at Langkraya Industrial Estate. A large corporation, such as Saha Phatthana Phibun, has chosen to invest in power plants in Laos and Myanmar.

Companies investing in Vietnam are as follows. Liberty Garment Co., Ltd. which has been contracted to make sportswear has relocated its manufacturing base to Vietnam as the first company. Hong Seng Knitting Co., Ltd. which was chose to relocate its production base to Vietnam as a major export sportswear factory. Oriental Garment Co., Ltd. also chose a facility in Vietnam. Nan Yang Textile Group also chose to relocate the manufacturing base to Vietnam. [10]

The reasons why labor-intensive industries choose to relocate their production bases to CLMV countries can be divided into several factors as follows:

Factors Influencing the Decision to Move Manufacturing Facilities

Wage factor

Wages are a major component in driving production in industries that still require workers. Therefore, if any industry has a high worker employment rate, it will affect production costs, raising product prices and prompting entrepreneurs to relocate their manufacturing bases to neighboring countries. Due to neighboring CLMV countries have lower labor rates, so entrepreneurs are seeking nations with lower minimum wages than Thailand because they want to reduce production costs in terms of wages, especially in factories that use labor intensive industries such as leather, furniture, textiles, and etc.

Labor factor

The labor factor is also important in decision to move the industry's production from Thailand to the CLMV countries especially in labor-intensive sectors. Therefore, if a big number of workers are required, it must affect the wage amount. People aged 15 to 19 account for more than 60% of the total population of 177 million in CLMV countries. Low labor costs can also attract foreign investors looking to significantly expand their investment. In Cambodia, the majority of people are youth, making it an important workforce. Cambodia has the working age of 15-59 years at 61.3 percent of the total population of 16.6 million people. Laos has the number of working people aged 15-59 years at 60.0 percent of the total population of 7.3 million people. Myanmar has a population of working age aged 15-59, accounting for 64.7 percent of the total population of 55.8 million people. In Vietnam, the working population aged 15-59 accounts for 65.1 percent of the total population of 97.3 million people. As a result, based on the average age of the population in CLMV countries, it is between 19 and 30 years old. There is a huge amount of labor, which is predicted to be sufficient for the industry's production capability. [11]

Transportation Costs

The role of transportation can be divided into two parts: transportation of raw materials to the manufacturer for processing and delivery of goods from the production to the consumer. Distance is an important transportation characteristic which is the important variable of transportation because long-distance transportation will incur significant costs. Therefore, when the cost is high, the product price increases. It can be concluded that the most suitable location for an industrial location must be the location with the lowest transportation cost and also the freight path that aims to export products to the target country.

Natural Resources

This is due to the abundance of natural resources in CLMV countries, including agricultural raw materials like rice, rubber, sugar cane, cotton, and a variety of grains. Therefore, if there are natural resources in the nation where the business decides to invest, it will be easier for the business to use those resources. It will result in the business reducing transportation costs because it is close to the source of raw materials and resulting in lower production costs as well.

Facilities and Utilities

It is regarded as a crucial component of production because the readiness of various utilities' fundamentals is necessary for the production process. For example, the power used in the manufacturing facility must be adequate for the industry's needs, industry, water supply system, telephone, traveling, and

the Internet are all crucial components of conducting business in the modern period. It also includes commercial infrastructure such as financial institutions. insurance services, etc. [12]

Governmental and Local Laws

It must adhere to the laws of the nation where we choose to invest, the law is crucial when conducting business abroad. Businesses must assess whether there are any regulations that can facilitate investment. Any laws that restrict their capacity to operate legally consist of government initiatives to encourage investment. Due to the crucial factor that they are a group of nations that offer investment benefits to investors in order to draw in foreign investors, the countries in the CLMV are the target countries that international investors are interested in investing in. In which the students can differentiate the advantages of investments in each nation as follows.

Customs Privileges

Generalized System of Preferences (GSP) is a preferential duty exemption from import tariffs or tax relief from industrialized countries and on specific commodities from some developing countries, and CLMV countries gain these benefits. Investors who choose to put money into CLMV nations in order to expand their enterprises will benefit from this. [13]

Customs Surcharges and Tariffs

Investors will also consider the country they choose to invest in when expanding corporate operations abroad to decide whether to increase investments. For example, is there a procedure for higher-than-normal import duties and surcharges? How much of a policy is currently in existence to protect the country's industry? How much do more substantial tariff barriers exist to protect domestic industries [14]

Investment Privileges in CLMV Countries

Table 1 shows Table comparing the advantages of investment in CLMV countries.

Comparison of investment benefits in CLMV countries			
Cambodia	**Laos**	**Myanmar**	**Vietnam**
- Allowing foreigners to lease land for up to 99 years and to own buildings for up to 70 years.	- Foreign investors can lease land or apply for land concessions for a period of 30-40-80 years and not more than 99 years.	- Foreign investors can lease land for a period of up to 40 years and have the right to extend the period twice, 10 years each time, and can also use the right on the land to apply for a loan.	- Corporate income tax has been decreased to 25%, personal income tax is charged at a rate of 5-35, and VAT collection is charged at 10%.
- Corporate income tax is reduced to 20 percent, personal income tax comes at a rate of 0-20 percent and 10 percent in VAT collection.	- Profit tax exemptions may be given for up to 10 years in places with unfavorable basic availability in order to entice investors to invest; these areas are referred to as investment promotion zones 1.	- Benefits in terms of corporate income tax, customs fees, raw materials, machinery, and equipment, as well as tax benefits for exports.	- The terms of the land rental payment are flexible depending on the needs of each company and product, and the lease term can be as long as 70 years.
- Importing raw materials, machinery, and equipment carries no import taxes.	- The investment period is limited to 50 years, but it may be increased by an additional 25 years with the government's permission and after evaluating the company's size,	- VAT and excise taxes are not collected.	- There is a duty-free customs exemption as well as subsidized workforce training. Every region and industry are different.

Comparison of investment benefits in CLMV countries			
Cambodia	**Laos**	**Myanmar**	**Vietnam**
	personality, and other criteria into account.		
- The number of foreign workers is unrestricted. For skilled workers, chiefs, and managers, but not for more than 10% of the overall workforce.	- Intellectual property protection is available to foreign investors in Laos that have registered with the Customs and the Economic Police, in Science and Technology Authority (STA).	- 30% of corporate income tax is registered in the nation, and 10% of personal income tax is reported for those who work for businesses that receive investment promotion. There is a trade tax in existence with a rate of 5-10%.	- Foreign investors who invest in Vietnam have the legal right to claim compensation for expropriation-related damages.
- One way to encourage investment is to exempt income tax from profits for the first three years and any further time for a total of nine years.	- Infrastructure preparation is required for investment promotion zone 3, which will be exempt from earnings taxes for up to 4 years.	- Permit foreign commercial banks to establish local representatives.	- Exemption from import tariffs on supplies and equipment in the event that Vietnam is unable to manufacture.
- There are tax exemption policies and a policy to submit an application for a VAT refund.	- There is a service unit to facilitate the establishment of a fully integrated business at one point (One-Stop-Service) with no required minimum investment.	- The Myanmar government commits not to expropriate companies that have been approved by the Investment Board during the duration of the investment contract.	- For normal business purposes, foreign investors are only permitted to own up to 49% of listed companies.
- To facilitate investors in investing and approving the project so a One-Stop-Service was established.	- Businesses that are listed on a stock exchange are subject to a 5% reduction in profit tax from the standard rate for a period of 4 years.	- The Myanmar government guarantees that it will not discontinue operations for investments conducted with investment licenses before the contract's expiration.	- In listed financial enterprises, foreign investors are permitted to own a maximum of 30% of the equity.
- Be able to establish a business as a limited company, a regular partnership, or a sole proprietor.	- Investors have unrestricted access to the financial system.	- Investors can lease the land for a period of up to 30 years.	- 15% of the company's equity can only be held by foreign investors, with the potential to propose an increase to 20%.
- There are no limitations on the ownership of shares by foreign investors.	- Import taxes won't be charged if equipment and supplies must be imported because Laos is short on certain resources.	- VAT will be waived or lowered in the special economic zone.	- The benefits to invest are presenting in the High Tech Zone, the Industrial Zone, and the Export Processing Zone.

Analysis of Current Investment Prospects in Thai Industry's CLMV Countries

The research of the CLMV countries' investment promotion data revealed that the investment promotion privileges resulting in lower costs in the investment industry than the primary manufacturing base consisting of: 1) market size in CLMV countries 2) amount of employees 3) lower wages 4) sufficient quality and quantity of raw materials 5) raw materials with affordable costs 6) investment privileges in each country 7) The CLMV countries have both bilateral and multilateral free trade agreements which provides the invested industry with a chance to increase the number of its customers Possibility of development and financial stability which is consistent with Dunning's theory of foreign direct investment. The business will attract foreign direct investment if it has all three advantages which popularly called the abbreviation OLI, there are details of each abbreviation:

1) Ownership Advantages: O

Businesses must have benefits from their own assets, which may be classified into two categories and are as follows. Tangible assets such as producing personnel with knowledge, and strong capital. Intangible assets such as ethnological expertise, brand reputation, management skills, and marketing skills

2) Location Advantages: L

Businesses can take advantage of advantages in the countries where they choose to invest to get an advantage above their competitors such as market size, labor efficiency, natural resources, infrastructure, society, culture, politics, law of the country, and government policies in such nations are favorable to conducting business.

3) Internalization Advantages: I

It is the ability to effectively manage marketing and manufacturing inside a particular branch. Because the company believes that if knowledge is shared with third parties, it could put the company at a competitive disadvantage in the future. According to the previously mentioned theory, if a corporation determines that a business has all three benefits, it may decide to invest directly abroad. [15] and in line with the competitive advantage of nations presented by Michael E. Porter which has examined excellent international trade and takes into account the competitive advantages of different countries. Porter used a diamond-shaped model which can be divided into 4 factors:

1) Factors of production is the number of factors available and the ability to increase productivity to be more efficient and effective than competitors such as human resources, natural resources, knowledge resources, capital resources, and basic utilities.

2) Demand condition is the variety of requirements that people have in the country influences how to encourage the company to have a competitive advantage. If the company can develop goods that will satisfy both international and domestic demand and there is a global demand for the product, businesses will be able to compete on the international market because of it.

3) Support industry is a key industry that can gain a competitive advantage by relying on strong supporting industries that enable it to develop and become a market leader. For example, raw material industry which will benefit major industries in terms of raw material cost and quality, advertising industry, and trade industry.

4) Business strategy and competitive context, in order for a sector of the economy to prosper and stand out from its rivals, the nation's comparative advantage helps the organization's management, strategy, and goal-setting processes be successful. Governmental possibilities and duties can also have a positive or negative impact on the diamond model's form.

In line with Assakorn Panpetch's [16] findings, many businesses strive to improve their competitiveness. In addition, these population groups are considered to be in demand for goods and have the power to purchase household goods, including luxury goods. Moreover, most of the CLMV countries have the working-age population, between the ages of 19 and 30 which demonstrates that businesses that invest will hire more people over time. In the future, this population will have a higher rate of 220 million people. When examining CLMV's economic growth rate from 2010 to 2023, take this into account. As of Figure 1 that shows statistics of the country's economic growth rate in CLMV was found to have a growth rate of 6-7% and which earns income from exports and foreign investment. Additionally, the export factor is influenced by trading partners' decisions of goods produced by CLMV countries which is permitted in trade and investments. Following the outbreak of the Covid 19 epidemic situation, the expected economic growth rate in 2023 is that Cambodia's growth rate will remain at 5.5%, Laos grows by 3%, Myanmar is probably at 3%, and Vietnam's economy will grow by 6.2 percent. Marketing potential can be divided into two categories: domestic market and foreign market. From the average income of the population, it can be

deduced that the domestic market has a large amount of purchasing power. In the CLMV group, Vietnam is the country with the highest purchasing power following by Laos, Cambodia, and Myanmar. There is a chance to export products from the European Union that qualify for GSP privileges if they take into account the opportunities in international markets. The four countries also have export opportunities in other markets such as exports to China, which border several areas of the countries.

Cambodia is located in the southern part of the Indochina Peninsula and obtain preferential tariffs in international import markets. Laos is in the north borders with China which obtain special benefits for exporting to the Chinese and Japanese markets. Myanmar shares a northern border with China. It has the ability to export goods from the West to the Indian market and obtain special benefits in accordance with the ASEAN agreement's framework. In Vietnam, there is an area in the north that borders China and the eastern side has a coast where goods can be exported to markets in the Pacific Ocean. From the above reasons, cost reduction, production, resources, labor, wages increase, and obtaining GSP tax privileges, and geography have influenced numerous business owners to adopt the strategy of moving their production bases.

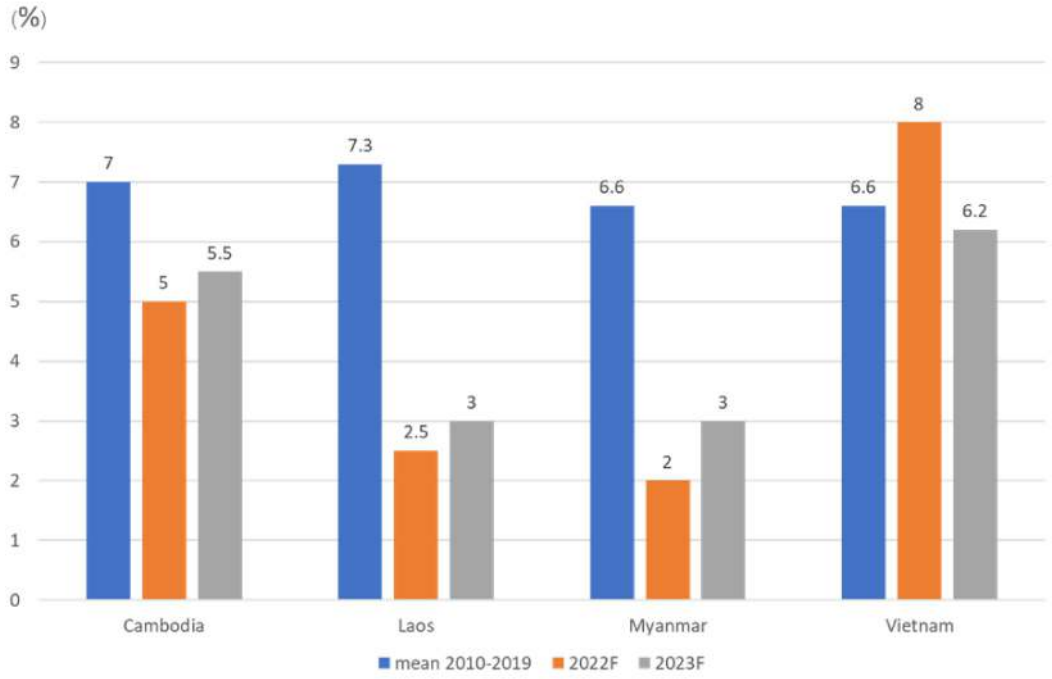


Figure 2 The economic growth rate of CLMV countries in 2010-2023. [17]

Analysis of Investment Expansion Risk Variables for CLMV Countries

Currently, investing in the political situation of Myanmar poses a risk in the CLMV countries that experienced a coup on February 1, 2021. This incident affected as follows. 1) The Covid 19 pandemic issue is worsening the economic downturn more than ever. Fitch Solutions estimates that the Myanmar economy after the Covid 19 pandemic will recover by 6%. However, after the coup, it was determined that the economy would expand by only about 3%. 2) Western bloc countries boycott which is considering banning products manufactured from Myanmar. If the product is actually banned it will have a significant effect on suppliers and investors in Myanmar. 3) The effects of the Thai-Myanmar border trade checkpoint being closed, which halted border trade. [18]

Discussions

The current status of Thai industry's investment expansion in CLMV countries revealed that the value of direct investment made in the top 3 ASEAN countries in 2021 were Singapore that has the highest investment value, followed by Indonesia, and Vietnam respectively. The countries in which the value of foreign direct investment has increased from 2020 were Singapore, Indonesia, Malaysia, Thailand, Philippines, and Laos. The countries that foreign direct investment value decreased from 2020 were Vietnam, Cambodia, Myanmar, and Brunei. In 2021, the countries that had the highest value of foreign

direct investment were Vietnam, Cambodia, Laos, and Myanmar respectively. The country that the amount of foreign direct investment increased from 2020 was Laos. Meanwhile, the country that the amount of foreign direct investment decreased from 2020 was Vietnam, Cambodia, and Myanmar. Thai industries that invest in CLMV countries were textiles, clothing, and food processing. Factors influencing the decision to expand investment in CLMV countries included wage, labor, transportation costs, natural resources, facilities and utilities, governmental and local laws, customs privileges, and customs surcharges and tariffs.

The analysis of the current state of the Thai industrial group's investment expansion in CLMV countries revealed that the entrepreneurs who expanded investment would benefit from operating costs that was reduced because labor costs are less than Thailand's wages. Natural resources are also in plentiful supply. Moreover, there are trade privileges associated with investing in CLMV countries. If the economy recovers more quickly in the future, the industry in which investments have been made will have the chance to develop and increase production. However, risk factors might occur and affect business operations in various industries such as another outbreak of the disease, the political crisis in the investing countries which could have an impact on the security and economy. Therefore, investors who want to expand the investment in CLMV countries should carefully consider the opportunities and risks before making a decision.

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Investigating the Impact of Toxic Leadership on Creativity and Innovation in R&D Fields: Addressing the Challenges Posed by Non-Technical Leaders

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Abstract

This research investigates the influence of toxic leadership on employee creativity and innovation, specifically examining non-technical leaders in R&D fields who may exhibit bias against engineers and academics. Stuttered innovation work by middle managers who are not tech-savvy is a significant problem in the R&D community, and this research aims to develop a tool that HR and senior management can use to detect and address middle management's negative impacts on technology innovation work. The study explores methods to identify the communication gap resulting from prejudiced interactions between leaders and employees and categorizes various types of toxic leadership that affect overall productivity and innovation within organizations. Utilizing a mixed-methods approach, incorporating quantitative and qualitative research techniques, and drawing from disciplines such as psychology, social sciences, and organizational studies, this research delves into the traits of toxic leaders and the subsequent consequences on employee performance, engagement, and motivation. The most significant negative outcome of toxic leadership is found to be the deterioration of employees' well-being. The paper proposes strategies for organizations to confront toxic leadership and foster a positive work environment that supports creativity and innovation in R&D fields.

Keywords : Toxic Leadership Creativity and Innovation

Background and Statement of the problem

In recent years, there has been a growing interest in understanding the role of leadership in fostering creativity and innovation within organizations [1] Research has shown that effective leadership can significantly contribute to an organization's success by promoting employee engagement, motivation, and performance [2]. Conversely, toxic leadership, characterized by destructive behaviors and a lack of empathy, can have detrimental effects on employees and the overall organization [3]

A particular area of concern is the presence of toxic leaders in innovative fields, who may lack technical knowledge and exhibit prejudice against engineers and [4]. This communication gap between non-technical leaders and employees can lead to biased interactions and hinder the organization's ability to foster creativity and innovation[5].

Despite the recognition of the potential negative consequences of toxic leadership, there is limited research focusing on the impact of non-technical leaders in innovative fields on employee creativity and innovation. This study seeks to address this gap by examining the effects of toxic leadership on the creativity and innovation of employees in organizations, with a particular focus on non-technical leaders in innovative fields.

Objective

The primary aim of this study is to investigate the impact of toxic leadership on employee creativity and innovation, particularly focusing on non-technical leaders in R&D fields. In order to achieve this goal, the following research objectives have been established:

1.To identify the characteristics of toxic leaders, especially those without technical knowledge, in R&D fields and their effects on employee interactions [6].

2.To examine the consequences of toxic leadership on employee performance, engagement, and motivation in organizations [7].

3.To explore the relationship between toxic leadership and employee well-being, with an emphasis on understanding the implications for creativity and [8].

4.To develop a tool that HR and senior management can use to detect and address the negative impacts of middle management's toxic leadership on technology innovation work.

5.To provide practical recommendations for organizations to address toxic leadership and foster a positive work environment that encourages creativity and innovation in R&D [9].

By addressing these objectives, this study aims to contribute to the existing literature on toxic leadership and its effects on employee creativity and innovation, with a focus on non-technical leaders in R&D fields.

Significance of the study

This study holds significant importance in the field of organizational leadership, as it investigates the impact of toxic leadership, particularly non-technical leaders in R&D fields, on employee creativity and innovation. The following points highlight the significance of this research:

Contribution to the literature: By focusing on non-technical leaders in R&D fields, this study adds a unique perspective to the existing body of research on toxic leadership and its consequences [10]. This will help in expanding our understanding of how toxic leadership manifests itself in different contexts and industries.

Enhanced understanding of the consequences: By examining the effects of toxic leadership on employee creativity, innovation, and well-being, this study provides valuable insights into the detrimental outcomes associated with such leadership styles [11]. This knowledge can inform future research on the long-term implications of toxic leadership on organizational performance and growth.

Practical implications for organizations: The findings of this research can inform organizational policies and practices aimed at identifying and addressing toxic leadership [12]. By providing actionable recommendations and developing a tool for HR and senior management, this study can help organizations create a positive work environment that fosters creativity and innovation, ultimately improving their competitiveness and success.

Support for employee development: Understanding the impact of toxic leadership on employees can help organizations develop interventions and support mechanisms to mitigate its negative effects [13]. This can contribute to improved employee well-being and retention, as well as increased creativity and innovation.

Scope and limitations

The scope and limitations of this study on the impact of toxic leadership on employee creativity and innovation, with a focus on non-technical leaders in innovative fields, are outlined as follows:

Scope:

The scope of this study includes an investigation of the impact of toxic leadership on employee creativity and innovation, specifically focusing on non-technical leaders in R&D fields. The research will analyze the characteristics of toxic leaders and their effects on employee interactions, performance, engagement, and motivation. The study will also explore the relationship between toxic leadership and employee well-being, with a particular emphasis on the implications for creativity and innovation. Additionally, the research will develop a tool for HR and senior management to detect and address the negative impacts of middle management's toxic leadership on technology innovation work. Finally, the study will provide practical recommendations for organizations to address toxic leadership and foster a positive work environment that encourages creativity and innovation in R&D fields.

Limitations:

1. Generalizability: Although this study focuses on non-technical leaders in R&D fields, the findings may not be directly applicable to other industries or leadership contexts. Further research would be required to validate the results across different sectors.

2. Subjectivity: The study relies on a mixed-methods approach, incorporating quantitative and qualitative research techniques, which may introduce subjectivity in the analysis and interpretation of data. The use of multiple data sources and triangulation can help minimize this limitation.

3. Self-reporting bias: Data collection methods, such as surveys and interviews, may be susceptible to self-reporting bias, as participants may not accurately report their experiences or perceptions of toxic leadership. Implementing robust data collection techniques and ensuring anonymity can help mitigate this limitation.

4. Temporal constraints: The cross-sectional nature of the study may not capture the long-term effects of toxic leadership on employee creativity and innovation. Future research could adopt a longitudinal design to better understand the dynamics of toxic leadership over time.

5. Cultural factors: The study may not fully account for the influence of cultural factors on toxic leadership and its consequences. Additional research could explore how cultural differences may shape the manifestation and impact of toxic leadership in R&D fields.

Literature Review

Defining toxic leadership

Toxic leadership, a complex and multifaceted concept, is generally characterized by destructive behaviors that harm both employees and the organization as a whole [14]. In the literature, several aspects of toxic leadership have been identified, including abusive supervision, narcissism, authoritarianism, and unethical behavior [15].

Abusive supervision refers to a leader's persistent display of hostile verbal and non-verbal behaviors towards subordinates, excluding physical contact [16]. Such behaviors may include belittling, humiliating, or undermining employees, and can lead to negative outcomes such as decreased job satisfaction and increased turnover intentions [17].

Narcissistic leaders, characterized by excessive self-importance, entitlement, and a lack of empathy, may manipulate and exploit others to maintain their image and power[18]. This leadership style has been linked to reduced employee commitment and increased counterproductive work behaviors [19]

Authoritarian leaders tend to exert strict control over their subordinates, often making unilateral decisions and expecting unquestioning obedience [20]. This leadership style can stifle employee autonomy and creativity, potentially hindering organizational innovation [21].

Unethical leaders are those who engage in morally questionable actions and promote unethical behavior among their subordinates [22]. Such leaders may foster a toxic organizational culture characterized by dishonesty, unfairness, and low levels of trust [23].

In the context of non-technical leaders in innovative fields, toxic leadership may manifest itself through prejudice against engineers and academics, leading to biased interactions and a communication gap that hinders employee creativity and innovation [24].

Characteristics of toxic leaders

The following table compares the key elements, types of persons, disadvantages, and advantages of the characteristics of toxic leaders:

Key Element	Type of Person	Disadvantages	Advantages
Abusive Supervision	Hostile, aggressive, and demeaning	Decreased job satisfaction, increased turnover intentions, reduced performance [25]	Maintains control and power
Narcissism	Self-centered, entitled, and manipulative	Reduced employee commitment, increased counterproductive work behaviors [26]	Charismatic and persuasive

Key Element	Type of Person	Disadvantages	Advantages
Authoritarianism	Controlling, dominating, and inflexible	Hindered creativity and innovation, decreased employee autonomy [27]	Ensures order and obedience
Unethical Behavior	Dishonest, unfair, and corrupt	Toxic organizational culture, low trust, negative employee morale [28]	May achieve short-term gains

Theoretical framework: The relationship between leadership and creativity

The relationship between leadership and creativity can be better understood through several theoretical frameworks that explain how different leadership styles impact employee creativity and innovation.

Transformational Leadership Theory [29] Transformational leaders inspire and motivate their followers by articulating a compelling vision, fostering intellectual stimulation, and providing individualized support. This leadership style has been positively associated with employee creativity, as it encourages risk-taking, creative problem-solving, and learning [30].

Leader-Member Exchange (LMX) Theory [31] According to LMX theory, high-quality leader-member relationships are characterized by trust, respect, and mutual support. These positive relationships promote a psychologically safe environment that encourages employees to share ideas, take risks, and engage in creative processes [32].

Ethical Leadership Theory [33]. Ethical leaders exhibit moral behavior, promote fairness, and foster an ethical climate within the organization. By acting as role models and creating a supportive environment, ethical leaders can positively influence employee creativity and innovation [34]. The Conservation of Resources (COR) Theory [35]. The COR theory posits that individuals strive to acquire, maintain, and protect valued resources, including time, energy, and cognitive resources. Toxic leadership, characterized by abusive supervision, narcissism, and unethical behavior, can create a threatening environment that depletes employees' resources, ultimately hindering their creativity and innovation [36].

In the context of non-technical leaders in innovative fields, toxic leadership can undermine employee creativity and innovation by creating a hostile work environment, stifling open communication, and promoting prejudice against engineers and academics [37].

Previous studies on toxic leadership and its impact on employee performance

Author(s) & Year	Sample/Setting	Key Findings	Limitations
[38]	712 employees in various industries	Abusive supervision negatively affected job satisfaction and increased turnover intentions.	Cross-sectional design
[39]	Meta-analysis of 427 studies	Abusive supervision negatively impacted job performance, satisfaction, and increased turnover intentions.	Publication bias possible
[40]	Theoretical review	Toxic leadership contributed to decreased job satisfaction, increased stress, and reduced employee commitment.	No empirical data
[41]	254 employees in a high-tech firm	Toxic leadership significantly decreased employee performance and increased counterproductive work behaviors.	Single organization

Author(s) & Year	Sample/Setting	Key Findings	Limitations
[42]	181 employees in various organizations	Toxic leadership had negative effects on employee well-being, performance, and job satisfaction.	Cross-sectional design
[43]	986 employees in various industries	Toxic leadership was related to increased turnover intentions, reduced job satisfaction, and decreased performance.	Self-report measures
[44]	166 supervisor–subordinate dyads in various industries	Abusive supervision was negatively related to subordinates' organizational citizenship behavior and job performance.	Cross-sectional design
[45,46]	311 employees in a public organization	Toxic leadership led to a decrease in employee creativity through reduced psychological safety.	Single organization, self-report measures
[47,48]	170 employees in Chinese organizations	Abusive supervision had a negative impact on employee creativity mediated by psychological safety.	Cross-sectional design, cultural context
[49,50]	208 employees and their supervisors in various industries	Abusive supervision negatively affected employee performance and increased workplace deviance.	Cross-sectional design, self-report measures
[51]	304 employees in Chinese organizations	Toxic leadership had a negative effect on employee innovation by fostering a hostile work environment.	Cross-sectional design, cultural context

Research Methodology

This research aims to design a tool that can be used to identify the communication gap resulting from prejudiced interactions between leaders and employees, as well as to categorize various types of toxic leadership that affect overall productivity and innovation within organizations. The research methodology comprises the following stages:

Literature Review:

A comprehensive review of the existing literature on toxic leadership, employee creativity, and innovation in R&D fields will be conducted. This review will help identify the characteristics of toxic leaders, the impact of their behavior on employees, and the various types of toxic leadership that exist.

Data Collection:

A mixed-methods approach will be employed, incorporating both quantitative and qualitative data collection techniques. Surveys and structured interviews will be used to gather information from employees and leaders in R&D fields, focusing on their experiences and perceptions of toxic leadership. Additionally, organizational documents and performance metrics may be analyzed to assess the impact of toxic leadership on productivity and innovation.

Development of the Tool:

Based on the literature review and data collected, a tool will be designed to identify the communication gap and categorize various types of toxic leadership. The tool may consist of a set of diagnostic questions or indicators that can be used by HR and senior management to detect toxic leadership and its effects on employees' creativity and innovation.

Validation of the Tool:

The tool will be validated through a pilot study involving a sample of organizations in R&D fields. Feedback from the pilot study will be used to refine the tool and ensure its effectiveness in detecting toxic leadership and its consequences on productivity and innovation.

Data Analysis:

Quantitative data will be analyzed using descriptive and inferential statistical techniques, while qualitative data will be analyzed using thematic analysis. This analysis will help identify patterns and relationships between toxic leadership, employee creativity, innovation, and well-being.

Discussion: The study will conclude by summarizing the research findings, discussing the implications for theory and practice, and suggesting areas for future research.

Recommendations: The findings of the study will be presented, highlighting the impact of toxic leadership on creativity and innovation in R&D fields. The validated tool will be introduced as a practical solution for organizations to detect and address toxic leadership. Additionally, recommendations will be provided on how organizations can foster a positive work environment that supports creativity and innovation.

Research results

Prevalence of toxic leadership: The study found a significant presence of toxic leadership in R&D fields, particularly among non-technical leaders who may exhibit bias against engineers and academics. This negatively affects employee creativity and innovation.

Hypothetical Tool and Framework for Assessing Prevalence of Toxic Leadership in R&D Fields:

1. *Toxic Leadership Assessment Questionnaire (TLAQ):* A self-report questionnaire will be developed to assess the presence of toxic leadership behaviors among non-technical leaders in R&D fields. The TLAQ will include items measuring various aspects of toxic leadership, such as abusive supervision, narcissism, manipulation, and bias against technical employees.
2. *Employee Creativity and Innovation Survey (ECIS):* An employee survey will be created to measure the perceived impact of toxic leadership on creativity and innovation in R&D fields. The ECIS will assess employees' perceptions of their own creative capabilities, motivation to innovate, and willingness to take risks, as well as the overall climate for innovation within their organization.
3. *Semi-Structured Interviews:* In-depth interviews with both leaders and employees in R&D fields will be conducted to gather qualitative data on the prevalence of toxic leadership and its effects on creativity and innovation. These interviews will provide rich, contextual insights into the specific behaviors and attitudes that contribute to toxic leadership among non-technical leaders.

Framework for Assessing Prevalence of Toxic Leadership:

A. Data Collection: Administer the TLAQ to non-technical leaders in R&D fields. Distribute the ECIS to employees working under these leaders. Conduct semi-structured interviews with a diverse sample of leaders and employees.

B. Data Analysis: Analyze TLAQ responses to determine the prevalence of toxic leadership behaviors among non-technical leaders. Examine ECIS responses to assess the perceived impact of toxic leadership on employee creativity and innovation. Conduct thematic analysis of interview data to identify patterns and trends in toxic leadership behaviors and their consequences.

C. Identification of Prevalent Toxic Leadership Behaviors: Use the data collected from the TLAQ, ECIS, and interviews to identify the most common toxic leadership behaviors among non-technical leaders in R&D fields.

D. Assessment of Impact on Creativity and Innovation: Evaluate the relationship between the prevalence of toxic leadership behaviors and the reported impact on employee creativity and innovation using data from the ECIS and interviews.

E. Development of Intervention Strategies: Based on the identified toxic leadership behaviors and their impact on creativity and innovation, develop targeted intervention strategies to address these issues and promote a positive work environment in R&D fields.

4.2 Communication gap identification: The designed tool effectively identified the communication gaps resulting from prejudiced interactions between leaders and employees. It provided insights into the specific challenges and barriers that hinder effective communication and collaboration in R&D fields.

Hypothetical Tool and Framework for Assessing Communication Gaps in R&D Fields:

1. *Communication Gap Assessment Questionnaire (CGAQ):* A self-report questionnaire will be developed to assess the presence and severity of communication gaps between non-technical leaders and employees in R&D fields. The CGAQ will include items measuring various aspects of communication, such as clarity, frequency, openness, feedback, and understanding of technical concepts.

2. *Employee Collaboration and Inclusiveness Survey (ECIS):* An employee survey will be created to measure the perceived impact of communication gaps on collaboration and inclusiveness in R&D fields. The ECIS will assess employees' perceptions of their ability to collaborate effectively with their leaders, their sense of inclusion in decision-making processes, and their overall satisfaction with communication in the workplace.

3. *Focus Group Discussions:* Focus group discussions will be conducted with both leaders and employees in R&D fields to gather qualitative data on the specific challenges and barriers that hinder effective communication and collaboration. These discussions will provide rich, contextual insights into the factors that contribute to communication gaps between non-technical leaders and employees.

Framework for Assessing Communication Gaps:

A. Data Collection: Administer the CGAQ to non-technical leaders and employees in R&D fields. Distribute the ECIS to employees working under these leaders. Conduct focus group discussions with a diverse sample of leaders and employees.

B. Data Analysis: Analyze CGAQ responses to determine the prevalence and severity of communication gaps between non-technical leaders and employees. Examine ECIS responses to assess the perceived impact of communication gaps on collaboration and inclusiveness in R&D fields. Conduct thematic analysis of focus group data to identify specific challenges and barriers that hinder effective communication and collaboration.

C. Identification of Communication Gap Factors: Use the data collected from the CGAQ, ECIS, and focus groups to identify the factors that contribute to communication gaps between non-technical leaders and employees in R&D fields.

D. Assessment of Impact on Creativity and Innovation: Evaluate the relationship between the identified communication gap factors and the reported impact on employee creativity and innovation using data from the ECIS and focus groups.

E. Development of Intervention Strategies: Based on the identified communication gap factors and their impact on creativity and innovation, develop targeted intervention strategies to address these issues and promote effective communication and collaboration in R&D fields.

4.3 Categorization of toxic leadership**:** The study discovered various types of toxic leadership, each with unique characteristics and consequences on employee performance, engagement, motivation, and well-being. The designed tool was able to classify these types and helped organizations understand the specific toxic leadership issues they were facing.

Hypothetical Tool and Framework for Categorizing Toxic Leadership in R&D Fields:

1. *Toxic Leadership Typology Questionnaire (TLTQ):* A self-report questionnaire will be developed to assess the presence and types of toxic leadership behaviors among non-technical leaders in R&D fields. The TLTQ will include items measuring various dimensions of toxic leadership, such as abusive supervision, micromanagement, narcissism, manipulation, and bias against technical employees.

2. *Employee Perception of Leadership Survey (EPLS):* An employee survey will be created to measure employees' perceptions of their leaders' toxic behaviors and their impact on employee performance, engagement, motivation, and well-being. The EPLS will provide insights into how employees perceive and classify their leaders' toxic behaviors.

3. *Expert Interviews:* In-depth interviews with experts in organizational leadership and R&D fields will be conducted to gather qualitative data on the types of toxic leadership commonly observed in R&D fields. These interviews will provide valuable insights into the specific behaviors and attitudes that contribute to different types of toxic leadership.

Framework for Categorizing Toxic Leadership:

A. Data Collection: Administer the TLTQ to non-technical leaders in R&D fields. Distribute the EPLS to employees working under these leaders. Conduct expert interviews with a diverse sample of experts in organizational leadership and R&D fields.

B. Data Analysis: Analyze TLTQ responses to determine the types of toxic leadership behaviors among non-technical leaders. Examine EPLS responses to assess employees' perceptions of their leaders' toxic behaviors and their impact on employee performance, engagement, motivation, and well-being. Conduct thematic analysis of expert interview data to identify patterns and trends in toxic leadership behaviors and their consequences.

C. Identification of Toxic Leadership Types: Use the data collected from the TLTQ, EPLS, and expert interviews to identify and classify various types of toxic leadership among non-technical leaders in R&D fields.

D. Assessment of Impact on Creativity and Innovation: Evaluate the relationship between the identified types of toxic leadership and their reported impact on employee creativity and innovation using data from the EPLS and expert interviews.

E. Development of Intervention Strategies: Based on the identified types of toxic leadership and their impact on creativity and innovation, develop targeted intervention strategies to address these issues and promote a positive work environment in R&D fields.

4.4 Impact on employee creativity and innovation: The study revealed that toxic leadership significantly reduced employee creativity and innovation in R&D fields. Employees under toxic leaders were less likely to engage in creative problem-solving, take risks, and contribute to the development of innovative solutions.

Hypothetical Tool and Framework for Assessing the Impact of Toxic Leadership on Employee Creativity and Innovation in R&D Fields:

1. *Employee Creativity and Innovation Assessment (ECIA):* A self-report questionnaire will be developed to assess employee creativity and innovation in R&D fields. The ECIA will include items measuring various dimensions of creativity and innovation, such as idea generation, risk-taking, problem-solving, and collaboration.
2. *Toxic Leadership Impact Survey (TLIS):* An employee survey will be created to measure the perceived impact of toxic leadership on employee creativity and innovation. The TLIS will assess employees' perceptions of how their leaders' toxic behaviors influence their creative and innovative capabilities.
3. *Organizational Creativity and Innovation Metrics (OCIM):* A set of organizational metrics will be developed to objectively measure the impact of toxic leadership on creativity and innovation within organizations. These metrics may include the number of patents filed, the success rate of R&D projects, and the level of employee engagement in innovation initiatives.

Framework for Assessing the Impact of Toxic Leadership on Employee Creativity and Innovation:

A. Data Collection: Administer the ECIA to employees working in R&D fields. Distribute the TLIS to employees working under non-technical leaders. Collect and analyze the OCIM data within organizations.

B. Data Analysis: Analyze ECIA responses to determine the overall levels of creativity and innovation among employees in R&D fields. Examine TLIS responses to assess the perceived impact of toxic leadership on employee creativity and innovation. Analyze OCIM data to identify patterns and trends related to the influence of toxic leadership on organizational creativity and innovation.

C. Identification of Toxic Leadership Impact: Use the data collected from the ECIA, TLIS, and OCIM to determine the impact of toxic leadership, particularly among non-technical leaders, on employee creativity and innovation in R&D fields.

D. Assessment of Consequences: Evaluate the consequences of toxic leadership on employee creativity and innovation, including reduced creative problem-solving, risk-taking, and the development of innovative solutions.

E. Development of Intervention Strategies: Based on the identified impact of toxic leadership on employee creativity and innovation, develop targeted intervention strategies to address these issues and promote a positive work environment that encourages creativity and innovation in R&D fields.

4.5 Employee well-being: The research highlighted the detrimental effects of toxic leadership on employee well-being. Employees working under toxic leaders were found to experience higher levels of stress, burnout, and job dissatisfaction, leading to increased turnover rates and reduced overall productivity.

Hypothetical Tool and Framework for Assessing the Impact of Toxic Leadership on Employee Well-being in R&D Fields:

1. *Employee Well-being Assessment (EWA):* A self-report questionnaire will be developed to assess employee well-being in R&D fields. The EWA will include items measuring various dimensions of well-being, such as stress, burnout, job satisfaction, and work-life balance.
2. *Toxic Leadership Impact on Well-being Survey (TLIWS):* An employee survey will be created to measure the perceived impact of toxic leadership on employee well-being. The TLIWS will assess

employees' perceptions of how their leaders' toxic behaviors influence their stress levels, burnout, and job satisfaction.

3. *Organizational Well-being Metrics (OWM):* A set of organizational metrics will be developed to objectively measure the impact of toxic leadership on employee well-being within organizations. These metrics may include turnover rates, absenteeism, employee engagement scores, and productivity indicators.

Framework for Assessing the Impact of Toxic Leadership on Employee Well-being:

A. Data Collection: Administer the EWA to employees working in R&D fields. Distribute the TLIWS to employees working under non-technical leaders. Collect and analyze the OWM data within organizations.

B. Data Analysis: Analyze EWA responses to determine the overall levels of employee well-being in R&D fields. Examine TLIWS responses to assess the perceived impact of toxic leadership on employee well-being. Analyze OWM data to identify patterns and trends related to the influence of toxic leadership on employee well-being and organizational performance.

C. Identification of Toxic Leadership Impact: Use the data collected from the EWA, TLIWS, and OWM to determine the impact of toxic leadership, particularly among non-technical leaders, on employee well-being in R&D fields.

D. Assessment of Consequences: Evaluate the consequences of toxic leadership on employee well-being, including increased stress, burnout, job dissatisfaction, and turnover rates, as well as reduced overall productivity.

E. Development of Intervention Strategies: Based on the identified impact of toxic leadership on employee well-being, develop targeted intervention strategies to address these issues and promote a positive work environment that supports employee well-being and productivity in R&D fields.

4.6 Effectiveness of the designed tool: The tool developed in this research demonstrated effectiveness in detecting and addressing the negative impacts of middle management's toxic leadership on technology innovation work. It provided HR and senior management with a practical approach to identify and mitigate the consequences of toxic leadership in their organizations.

Hypothetical Tool and Framework for Assessing the Effectiveness of the Designed Tool in Addressing Toxic Leadership in R&D Fields:

1. *Toxic Leadership Detection Tool (TLDT):* The TLDT is a comprehensive tool designed to identify toxic leadership behaviors and their impact on employee creativity, innovation, well-being, and overall productivity. The tool combines the results from the previously mentioned assessment tools (ECIA, TLIS, TLIWS, and OWM) to provide an overall evaluation of toxic leadership within an organization.

2. *Organizational Intervention Effectiveness Assessment (OIEA):* A self-report questionnaire will be developed to assess the effectiveness of organizational interventions implemented to address toxic leadership. The OIEA will measure the employees' perceptions of the changes in leadership behaviors, communication, and workplace environment following the interventions.

Framework for Assessing the Effectiveness of the Designed Tool:

A. Implementation of the TLDT: Apply the TLDT within organizations to identify toxic leadership behaviors, particularly among non-technical leaders in R&D fields.

B. Development and Implementation of Organizational Interventions: Based on the results of the TLDT, develop targeted intervention strategies to address toxic leadership and its negative impacts on employee creativity, innovation, and well-being. Implement these interventions within the organization and monitor their progress.

C. Evaluation of Intervention Effectiveness: Administer the OIEA to employees in the organization to assess their perceptions of the effectiveness of the implemented interventions. Analyze OIEA responses to determine the overall effectiveness of the interventions in addressing toxic leadership and its negative impacts on employee creativity, innovation, and well-being.

D. Continuous Improvement and Monitoring: Based on the findings from the OIEA, refine the implemented interventions and continue monitoring their effectiveness. Regularly use the TLDT to detect any new instances of toxic leadership and address them proactively.

Discussions

Recap of main findings

The study focuses on toxic leadership in R&D fields, particularly among non-technical leaders who may exhibit bias against engineers and academics, which negatively affects employee creativity and innovation. The research aims to develop a tool that HR and senior management can use to detect and address middle management's negative impacts on technology innovation work. The study explores the communication gap resulting from prejudiced interactions between leaders and employees and categorizes various types of toxic leadership that affect overall productivity and innovation within organizations. The research utilizes a mixed-methods approach, drawing from disciplines such as psychology, social sciences, and organizational studies. The negative outcome of toxic leadership is found to be the deterioration of employees' well-being. Strategies for organizations to confront toxic leadership and foster a positive work environment that supports creativity and innovation in R&D fields are proposed.

Relationships between the key concepts

Key Concepts	Relationship
Prevalence of toxic leadership	Toxic leadership is prevalent in R&D fields, negatively affecting creativity, innovation, and well-being.
Communication gap identification	Toxic leadership creates communication gaps, which hinder collaboration and negatively impact innovation.
Categorization of toxic leadership	Understanding various types of toxic leadership allows organizations to address specific issues effectively.
Impact on employee creativity & innovation	Toxic leadership reduces creativity and innovation by limiting employees' willingness to take risks and problem-solve.
Employee well-being	Toxic leadership harms employee well-being, leading to stress, burnout, job dissatisfaction, and turnover.
Effectiveness of the designed tool	The tool detects and addresses toxic leadership issues, helping organizations create a healthier work environment.

In order to represent the relationships between the key concepts in an equation, we can assign a variable to each concept and create a simplified equation, as.

P = Prevalence of toxic leadership:

This variable represents the extent to which toxic leadership is present in an organization or R&D field. A higher value would indicate that toxic leadership is more widespread, while a lower value would indicate that it is less prevalent.

C = Communication gap identification:

This variable represents the degree to which communication gaps caused by toxic leadership are identified within an organization or R&D field. A higher value would indicate a higher level of communication gaps, while a lower value would indicate fewer communication gaps.

T = Categorization of toxic leadership:

This variable represents the organization's ability to categorize and understand different types of toxic leadership. A higher value would indicate a better understanding of the various types of toxic leadership, while a lower value would indicate a poorer understanding.

I = Impact on employee creativity & innovation:

This variable represents the overall impact of toxic leadership on employee creativity and innovation within an organization or R&D field. A higher value would indicate a more significant negative impact, while a lower value would indicate a less significant impact.

W = Employee well-being:

This variable represents the well-being of employees within an organization or R&D field. A higher value would indicate better employee well-being, while a lower value would indicate poorer well-being.

E = Effectiveness of the designed tool:

This variable represents the effectiveness of the tool developed in the study for detecting and addressing toxic leadership within an organization or R&D field. A higher value would indicate a more effective tool, while a lower value would indicate a less effective tool.

Let:

P = Prevalence of toxic leadership

C = Communication gap identification
T = Categorization of toxic leadership
I = Impact on employee creativity & innovation
W = Employee well-being
E = Effectiveness of the designed tool
Equation:
I = - (P * C * T) + (E * W)

This equation represents the idea that the impact on employee creativity and innovation (I) is negatively influenced by the prevalence of toxic leadership (P), communication gaps (C), and categorization of toxic leadership (T). The effectiveness of the designed tool (E) and employee well-being (W) positively influence the impact on creativity and innovation.

Recommendations for future research

1. Investigating the effectiveness of different strategies for addressing toxic leadership and fostering a positive work environment in R&D fields. This could involve exploring the impact of different training programs, coaching interventions, and organizational policies.
2. Examining the relationship between toxic leadership and other variables, such as turnover intention, job satisfaction, and employee burnout, in R&D fields. This could provide a more comprehensive understanding of the negative effects of toxic leadership on employees.
3. Exploring the impact of toxic leadership on different groups of employees, such as those from different cultural backgrounds or those with different levels of education or experience. This could help to identify any specific challenges or strategies that are more effective for particular groups.
4. Investigating the role of organizational culture in promoting or preventing toxic leadership in R&D fields. This could involve exploring the impact of different organizational values, norms, and practices on leadership behavior and employee well-being.
5. Examining the relationship between toxic leadership and different aspects of innovation, such as the speed, quality, and novelty of innovation outcomes. This could help to identify any specific challenges or strategies that are more effective for promoting different types of innovation in R&D fields.

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STOCK EVALUATION BY FUNDAMENTAL ANALYSIS AND TECHNICAL ANALYSIS: A CASE STUDIED OF HENG LEASING AND CAPITAL PUBLIC COMPANY LIMITED

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Abstract

This study aims to: 1) analyze stock by fundamental analysis of Heng Leasing and Capital Public Company Limited. 2) analyze price trends of stocks by technical analysis of Heng Leasing and Capital Public Company Limited. This study utilized data set of World economic, Thailand economic, Industry economic and focus in Heng Leasing and Capital Public Company Limited; analyzing fundamental data such as financial statement report and important financial ratio (Using the information from 2021 – 2022) and then find out intrinsic value of stocks. This study using two different technical analysis tools, the concept of CAPM combine with the concept of Dividend Discount Model to get first result theory of Multiple PE to calculate and get second result. After the study analyzed range of target price of buying-selling in stocks and use technical analysis to look for trends and candle stick price pattern to help for timing of buy signal. The findings indicated that evaluation of intrinsic value of stocks conform to all of theories. The range of intrinsic value of Heng Leasing and Capital Public Company Limited about 3.50 – 3.60 Baht.

***Keywords**:* Stocks; The Stock Exchange of Thailand; Market Capitalization: Market Cap; Dividend Yield

Background and Statement of the problem

Investors entering the stock market, most of them will encounter a problem in the loss stock market due to them lack understanding of the correct investment principles. Therefore, investing in stocks to be successful, investors should study for various information about economic, social, and financial policies. Including having to follow-up on various news information thoroughly first to decide to invest in stocks which has many different methods of study, whether the study is based on available analytics from analyst reports published through the stock brokerage firms. They are unable to analyze and give opinions on investing in every stock in the stock market due to limitations in many aspects. Therefore, if investors are interested in investing in stocks that do not have analysis from that analyst. It will make it impossible to decide to invest in the stocks that you are interested in. It will cause such problems. Therefore, the investors are aware of the principles of the initial investment allows investors to reduce investment problems a lot. In addition to creating investment opportunities that already received a good return It will also reduce the investment risk as well [8] and the research of the Stock Exchange of Thailand found that Most of the successful or profitable stock traders have trading behavior. securities infrequently Analysts are followed up daily. And if technical stock trading style is used. Making decisions in trading will have a chance to get more success from investments. Therefore, this study Therefore, the principles of fundamental analysis and technical analysis are combined to find a rhythm. To invest at the right price and at the right time to make investments more efficient [3]

When analyzing the economy within Thailand, in the past year 2022, Thailand had a growth rate of economic numbers at a rate of 4 - 6 percent compared to 2021 due to various government disbursements that delayed, but in the second half of 2022, the government has accelerated disbursements, resulting in There are more financial transactions through the business of companies [3]. Heng Leasing and Capital Public Company Limited is a company that receives benefits from various budget disbursements from The disbursement of the public sector, the researcher therefore has analyzed both fundamental factors by using the CAPM method together with the Dividend Discount Model method and valuing stocks by the relative method or and has studied more about technical analysis via bar graphs. Tian [6] to study trends and predict future price direction. In order to provide academic knowledge to understand and be used as information

for investors and those interested in investing to achieve the expected results. And get to know the results of this research that Heng Leasing and Capital Public Company Limited is an interesting stock to invest or not.

Objective

1. To evaluate the stock value by fundamental analysis of Heng Leasing and Capital Public Company Limited.
2. To analyze the trend and direction of share prices by analyzing technical factors of Heng Leasing and Capital Public Company Limited for making investment decisions.

Expected benefits

1. To know about the stock value by fundamental analysis of Heng Leasing and Capital Public Company Limited.
2. Can projection about the share prices by analyzing technical factors of Heng Leasing and Capital Public Company Limited for making investment decisions.

Conceptual Framework

This research study literature. and related research The research variables can be summarized as follows: 1) The independent variable consists of expected rate of return from investing in stocks and Dividend payment per period 2) The dependent variable consists of The relative value or the price to earnings per share method has intrinsic value.

Research Scope

Population scope

The company listed on the Stock Exchange of Thailand, Financial Group, with a registration period of 1 year, namely Heng Leasing and Capital Public Company Limited.

Content scope

This study collected data from secondary sources is listed on [9] During the year 2021-2022 from the registration date to December 30, 2022

Research Methodology

1. collect data used in the study by using information from financial reports, including financial reports of Heng Leasing and Capital Public Company Limited from 2021 - 2022 by collecting secondary information as well as fundamental information of Heng Li Sing and Capital Public Company Limited for further analysis.
2. Analyze the data starting from the overall analysis of the global economy. How does it affect the domestic economy? and analyzing the government's monetary and fiscal policies, and then analyzing the holistic of the commercial finance industry in both fundamental and technical analysis. By analyzing fundamental factors, which uses the concept of the CAPM method in conjunction with the Dividend Discount Model method, which uses the following equations.

$RR_i = RFR + \beta_i (R_M - RFR)$

RR_i : Expected rate of return on investing in HENG stocks
RFR : Rate of return on risk-free securities
β_i : stock beta of i
R_M : market rate of return

The concept of the CAPM method in Equation (1) is to find the expected rate of return from investing in stocks [4] to be used to substitute the values in equation (2), which is the introduction of the concept of the Dividend Discount Model in the future.

$$(P_0) = \frac{D_1 * (1 + G)}{(K_s - G)}$$

D1 : *dividend per share*
Ks : Expected rate of return on investing in HENG stocks
P0 : *The fundamental price of the stock or the intrinsic value of the stock.*
G : *The stock growth rate is obtained from* $^{ROE*(1-Payout\ ratio)}$
ROE*(1-Payout ratio) : Net Profit/Shareholders' Equity
ROE*(1- Payout ratio) : Dividend paid/net profit

By applying the concept of the Dividend Discount Model in Equation (2) to apply to find the true value of technical analysis partners, Charles H. Dow's are used to assess trends and timing in the future. Investing in the right stocks [5] of Heng Leasing and Capital Public Company Limited is a fictitious name for use as a case study only.

Research results

The global economy continues to growing, led by developed nations such as the US, Europe, China and Japan, which has had a positive effect on Thailand. Which causes the economy of Thailand to gradually recover with investment from the government. Heng Leasing and Capital Public Company Limited is a financial business that is ready in lending to retail. and the company has a financial position with a high registered capital in this regard. the company was listed on the Stock Exchange of Thailand on October 19, 2021 and has details of the share value by analyzing fundamental factors. and technical analysis There is important information as follows.

Table 1 Expected returns from investing in stocks

list	Yield (percent)
Government bond yields in the past 10 years	2.47
rate of return on securities	0.58
β	1.91*
Expected rate of return on investing in stocks (CAPM)	1.14

*Source The Stock Exchange of Thailand. (2023)

From Table 1, it was found that the 10-year historical government bond yield in Thailand was 2.47 percent, the daily return on securities from October 19, 2021 to December 30, 2022 was 11.50 percent. The β value was Level 1.91, thus resulting in the expected rate of return on investment in stocks (CAPM) at 19.71 percent for use in determining the relative value or the price-to-earnings ratio method that has the true value.

Table 2: Relative value or price to earnings per share method has intrinsic value

list	Yield (percent)
Dividend payment per period	0.04**
Expected rate of return on investing in stocks	1.14
relative value	3.50

**Dividend payout per period based on the policy dividend payout ratio of 40% of the expected profitability ratio for the financial statements ending Q3 2022.

From Table 2, it was found that the intrinsic value of Heng Leasing and Capital Public Company Limited's securities was at the price of 3.50 baht per share. that know the price range of the securities The stock will be purchased when the market price is lower than its true value.

Compared to the closing price as of December 30, 2022, the stock price of Heng Leasing and Capital Public Company Limited closed for trading at 2.98 baht per share, which is lower than the actual value found. can Technical analysis reveals the timing of suitable investment It is an opportunity to invest in buying shares because the difference between the closing price and the real value is equal to 28.60 percent, in line with



Figure 1 Candlestick chart pattern of Heng Leasing and Capital Public Company Limited

From Figure 1, the candlestick chart of Heng Leasing and Capital Public Company Limited found that the share price level has increased and decreased according to market conditions. That corresponds to the opportunities and expected returns. [8] said that technical analysis through candlestick charts. It is a technical tool for stock price analysis that consists of individual candlesticks on the chart. which indicates the movement of the price Candlestick price action requires forex traders to identify the points where price opened over a certain period of time. The point where the price closes over a period of time. and identifying the highest and lowest points of the price for a period of time, resulting in the trend of the stock price being higher than 3.12 baht per share, which is a factor supporting the price level of 3.50 baht per share. basic and technical analysis

Summary of the Study

Equity valuation result by fundamental analysis of Heng Leasing and Capital Public Company Limited by this CAPM concept to find the expected rate of return from investing in stocks to be used instead of the value of taking the concept of Dividend Discount Model method reveals the level of price per share. Target price for investment decision at 3.50 baht per share for investment in 2023, which analyzes the trend and direction of the stock price by analyzing technical factors of Heng Leasing and Capital Public Company Limited to make investment decisions in line with analysts from the Stock Exchange of Thailand, the target price is 3.60 baht per share, allowing investors to make investment decisions. At an appropriate level, it can reduce the level of investment risk.

Discussions

The intrinsic value of Heng Leasing and Capital Public Company Limited's securities is in the range of 3.50 baht per share. know the price range of the securities The stock will be purchased when the market price is lower than its true value. Compared to the closing price as of December 30, 2022, the share price of Heng Leasing and Capital Public Company Limited closed for trading at 2.96 baht per share, which is lower than the actual value found. Technical analysis reveals the timing of suitable investment It is an opportunity to invest in buying shares because the difference between the closing price and the real value is equal to 28.60 percent, in line with [7] said that it was considered an investment that was quite popular with investors. Buy-sell often, make short-term profits and must be a decisive investor. Able to accept high risks There is a fixed stop loss if the price does not go as expected. For short-term investment, it may focus on investing in medium and small-sized stocks because they have high growth opportunities. And in line with [2] said that it aims for loan growth of 28-30 percent in 2022 and the expected cost, income and credit

loss. will grow strong to the target price as of 2023 remains a "buy" recommendation with a target price of 3.60 baht.

In order to have the accuracy of the analysis results, it should be added as a long-term historical data because if any company Any long-term business shows that the company is able to adapt through various economic crises. come and finally Although the past data of the company was analyzed and found that that company Strong in terms of budget Stable money does not guarantee that a company will perform well in the future, so investors should. to follow up on the performance of the company in every quarter in order to reduce investment risks and develop Consistent Investment Skills And hope that this research will be a guideline for those who are interested in investing in the future, consistent with [1] said that it is a study of past stock price behavior. in order to predict the behavior of stock price movements in the future with the belief that "History always repeats itself" according to human emotions of greed, fear and hope, which is a psychological effect that will reflect on stock prices and trading volume accordingly.

Recommendations

This research, those who are interested can study the valuation of stocks by analyzing fundamental factors. and technical analysis of other companies at to be able to bring data from research to apply to make accurate investment decisions and reduce the level of investment risk.

New knowledge from research

This research, investors can use this concept of CAPM method to find the expected rate of return from investing in stocks to represent the concept of the Dividend Discount Model to find the appropriate stock value. In conjunction with the study of candlestick chart patterns in investments for investment decisions can reduce investment risks and can make reliable investment decisions. details as follows

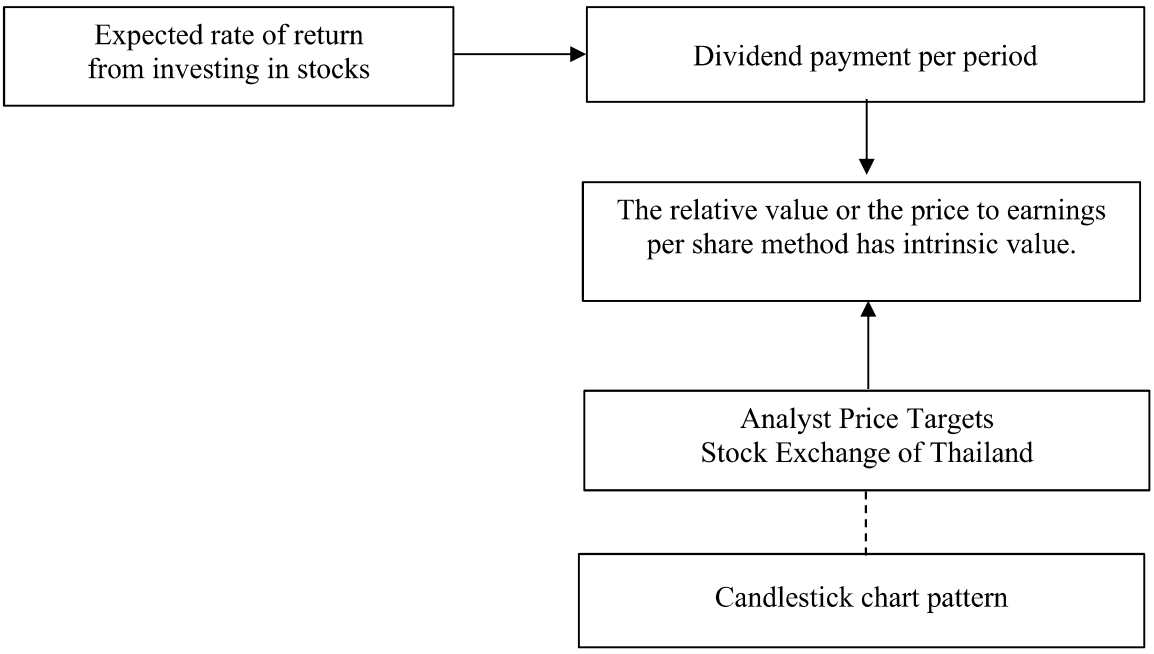


Figure 2 Valuation of stocks by fundamental analysis and technical analysis

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A Study of Communication Problems and Satisfaction of English Native Speaker Tourists with Thai Guides

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Abstract

This exploratory study was mainly designed to identify communication problems concerning verbal and nonverbal language displayed by Thai guides, and to verify the relationship between communication satisfaction and touring satisfaction of English native speaking tourists. Four hundred tourists who used the guide's services were asked to fill out the questionnaire, and three hundred eighty-nine of them cooperated. Furthermore, ten tourists participated in in-depth interviews.

Statistical analyses and the interviews revealed that most of the Thai guides had major difficulties in grammatical structure, accent, and intonation as perceived by foreign tourists. For the nonverbal aspects, hand movement, body posture, and facial expression were the major difficulties of Thai guides.

***Keywords**:* Thai Guides, Communication problem, Satisfaction, Native Speaker

Background and Statement of the problem

Advanced transportation technologies have expanded the movement of people around the word. People can easily travel across their national borders. Tourism is an important part of travelling in foreign lands. The tourism industry is very important for most nations in the world because it directly involves human activities relating to social, political, and economic development. Tourism represents world affairs among nations. Many countries have established state organizations responsible for promoting their tourism at both domestic and intonational levels.

Focusing on Thailand's tourism activities, the Thai government has long emphasized the importance of tourism, especially at an intonational level. Tourism brings about the development of Thailand's social link with other countries because tourism leads to understanding between the host country and the origin countries of the tourists. From a political viewpoint, tourism enhances the political relations between Thailand and the origin countries of the tourists. Finally, tourism stimulates Thailand's economic progress because the tourists. Finally, tourism stimulates Thailand's economic progress because the tourism industry is a form of exchange of economic goods and services. Tourism is an important industry that directly and indirectly impacts Thailand's economic, social, and intonational relations. Foreign tourists are considered as the key for success in the tourism industry. Sharpley [2019, 168] pointed out that "...tourists are seen as a potential source of profit." Specifically, during the current economic down turn, tourism is one of the important means to help Thailand recover from its economic problems.

The tourism industry is a broad term that represents a complex process of management because there are many factors to be manipulated in order to achieve success. It involves many organizations and personnel who function or work together in managing quality tourism industry. In a tourism industry, providing quality services to tourists by the host personnel is one of the most promising activities for success. As a matter of fact, tourist guides are personnel who play a dominant role in providing such services. Broadly speaking, tourists are motivated to travel in a foreign land for many reasons and objectives, such as holidays, vacations and relaxation, social and cultural gratification, and shopping, etc. That is, tourists travel around the world with some expectations to be fulfilled according to their reasons and objectives. Encountering a new and different life and culture in a foreign land can fulfill the tourists' expectations. Specifically, cultural activities, traditions, life-style, language, and history of the host country are valuable oversea experiences of tourists.

However, such differences in life and cultures, in turn, become obstacles in fulfilling tourists' traveling expectations because the differences cause difficulties in their life when traveling overseas.

Tourists are sometimes lost in a foreign land. To ease the difficulties of the tourists, a tourist guide is an important element of the tourist industrial process and their role is recognized around the world. Guides play a vital role in facilitating the feeling of satisfaction among tourists adventuring in a foreign land, although their language abilities might be inadequate for effective communication. Guides communicate with foreign tourists to play their professional role and to fulfill tourists' expectations. One of the guides' functions is to facilitate problems of tourists in effort to eliminate the social-cultural and language differences that can be obstacles in their communication. Guide and tourist interaction are a professional type of relationship which is distinct from other types of interpersonal relationships. The relationship is made possible by communication via a language that is understood by both parties, even though they normally speak different languages.

English is considered as an important international language in the tourism industry in Thailand. It is common for Thai guides to speak English with foreign tourists, especially with tourists whose native language is English. Communication problems between Thai guides and English-speaking tourists are inevitable because English is not Thai's native language. Thus, Thai guides have to be trained to speak English. The complexity and multifaceted of the English language mean that it has become a tedious task for Thai guides to practice. Basically, language consists of both verbal and nonverbal aspects. The verbal aspects concern what a person says, and the nonverbal aspect concerns the body language. They both very often occur simultaneously in actual communication. There is no doubt that fluency in English communicative abilities of the guides is the essential element that contributes positively to the communication satisfaction of the tourists.

In addition, speaking English fluently does not totally eliminate the language gap, but the difference in their cultures becomes a prime source of the problem. Culture and communication are closely related, as Gudykunst [2020; 327] points out, "Communication and culture reciprocally influence each other. The culture in which individuals are socialized influences the way that individuals communicate." Most communication scholars agree that problems naturally arise when people of different cultures communicate. An individual internalizes social rules and norms that guide appropriate communicative behaviors in a society. Indeed, communication problems are usually recognized when people of different cultures come to communicate. Therefore, it is probable that cultural differences between Thai guides and foreign tourists actually cause problems when they communicate with each other.

This problem has long been recognized. Thai guides are required to be trained in both English abilities and in awareness of the cultural differences. At present, the tourist guide is a professional career that many Thais choose to engage in for a living. Their roles in giving information and services to foreign tourists are largely dependent on their ability to use English to communicate, which in turn, may contribute to the tourists' satisfaction. But the question of the guide's language ability still remains the subject of investigation. The data gathered from this research can be used to develop training guidelines to improve tourists guides use of English Communication skills with tourists to be more effective.

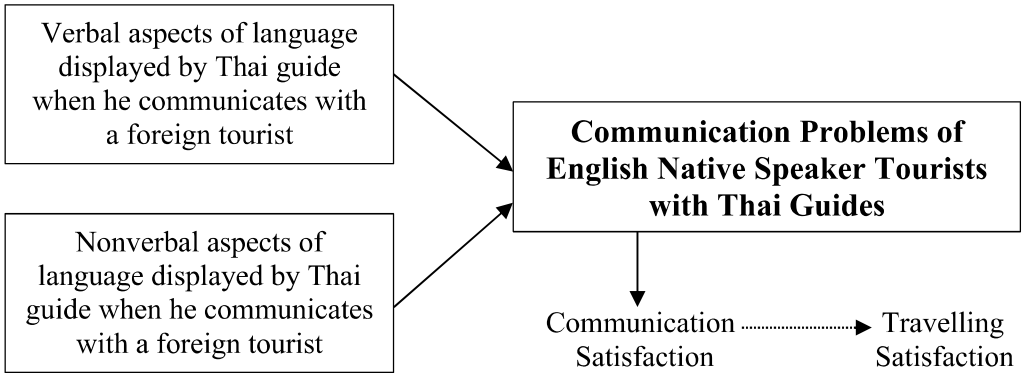
Objective

This study proposes to identify the major language problems of Thai guides in communicating with English native speaker in terms of language barriers, What are the aspects of English language perceived by the foreign tourists as a problem in communication with their guides?

Expected benefits

1. It is a way to improve English teaching more effectively, which will be useful in improving the quality of English teaching for further communication.
2. It is a guideline to improve the guide's use of English communication skills in working with tourists to be more effective.

Conceptual Framework



Research Methodology

Subject and Sampling

The subjects of this study were foreign tourists whose native language was English and who used the services of Thai guides during their visits. These included tourists who were Americans, Canadians, the British, Australians, and New Zealanders. Since the number of the tourists varied and could not be easily and accurately estimated, the subjects were selected randomly at the tourist sites for example : Grand Palace, Wat Pho, Wat Arun, Wat Traimit, Wat Suthat, Gaint Swing, National Museum & Wang Na Palace, Chatuchak Market, Damnoen Saduak, Floating Market, Khoa San Road, Jim Thomson House, Lumpini Park, Terminal 21, Temple of the Emerald Buddha, Wat Mahathat, Chinatown, Skytrain, ICONSIAM.

The number of subjects was 370. This number was justified using Krejcie and Morgan's table which identified the estimated sample size according to the number of population [Dodson, Carley H, 2021, 20]. According to the table, the sample was 370 where the estimated population was 10,000. This sample size would cover English native speaking tourists in Thailand at a certain period of time [Since January – December 2022], and it should facilitate error reduction in the statistical analysis.

Variables

There were a number of variables included in this study. Background characteristics of the subjects, which are theoretically related to language abilities, were sex, age, nationality, and these were nominally measured. Age was measured in years. Another set of variables was touring behaviors, including two nominal variables: purposes of visit, and previous visits to Thailand.

Language variables of this study were verbal and nonverbal aspects of language. Verbal behaviors were pronunciation, stress, intonation, word choice, and grammatical structure. The nonverbal behaviors were eye contact, body posture, hand movement, facial expression, and tone of voice. The manners of verbal and nonverbal appropriateness displayed by the guide were measured intervalley as perceived by the tourists. The four interval levels were very well, well, not well, and not well at all.

Instrument Development

This study employed two types of instruments which were a questionnaire and an interview form.

1. The Questionnaire

The questionnaire employed to collect data was developed specifically for this study, and adapted from an existing scale. Two general open questions were written, and these were asked to tourists whose native language is English and who had direct experience with Thai guides. The tourists were asked to write down their answers in the spaces provided.

2. The Interview Form

Long interviews were planned to collect qualitative data. The interview schedule consisted of three broad questions used as guidelines for the questions. A tape recorder was used to record the informants' answers.

Data Collection

Four hundred questionnaires were distributed to the subjects by hand. Six research assistants were hired. They selectively contacted only English native speakers, and tourists who used guides during their visits. The assistants briefly explained to the subjects about the purposes of the study; then, they asked for

cooperation in filling out the questionnaires. The subjects who agreed to do so received a souvenir as a gift. It took three weeks to complete the distribution of the questionnaires. Ten tourists who had extensive experience with guides were contacted by the researcher for long and in-depth interviews at convenient places and times. The questions in the interview form were used to stimulate the informants to express their opinions and give details of their experience. Probe and follow-up questions were used. Permission to be tape recorded was granted by the informants early before an interview session.

The Analysis of data

The quantitative data were statistically analyzed by Percentage, Mean, Mode, Standard Deviation. The recorded interviews were transcribed and qualitatively analyzed. The problems relating to verbal and nonverbal language that were perceived as crucial among the informants were isolated. The results of qualitative data analysis would facilitate understanding and strengthen the discussion of the statistical analysis.

Research Results

The total respondents of 370 were classified by sex, nationality, and educational level as shown in Table 1.

Table 1 shows respondents classified by their backgrounds.

Background	Frequencies	Percentage
Sex		
Male	210	54.00
Female	178	45.80
Nationality		
American	96	24.70
British	100	25.70
Australian	80	20.60
New Zealander	62	15.90
Canadian	50	12.90
Education Level		
Postgraduate Degree	87	22.40
Bachelor Degree	224	57.60
High School	70	18.00
Lower than High School	2	0.50

From table 1 shows three important issues: For Sex; most of the subject were male (54.00%) and female (45.80%). For Nationality; most of them were British (25.70%), American (25.70%) and Australian (20.60%), New Zealander (15.90%) and Canadian (12.90%). For Educational Level; most of them held bachelor degrees (57.60%), Postgraduate Degree (22.40%), and High School (18.00%) and lower than High School (0.50%) respectively.

Table 2 shows Tourist Behaviors

Tourist Behaviors	Frequencies	Percentage
Purpose of visit		
Pleasure and fun	107	27.50
Sight seeing	124	31.90
Learn and study	47	12.10
Shopping	42	10.80
Vising family	12	3.10
Transit flight	1	0.30
Working	27	6.90
Honeymoon	2	0.50
Other	1	0.30

Tourist Behaviors	Frequencies	Percentage
Previous visit Thailand		
Yes	135	34.70
No	249	64.00
Satisfaction level		
Very high satisfaction	299	76.90
Moderate satisfaction	78	20.10
Low satisfaction	6	1.50
No satisfaction at all	2	0.50

From table 2 shows Tourist Behaviors: For Purpose of visit, most of them to Sightseeing (31.90%), Pleasure and fun (27.50%), Learn and study (12.10%), Shopping (10.80%), Vising family (3.10%), Transit flight (0.30%), Working (6.90%), Honeymoon (0.50%) and Other (0.30%). For Previous visit Thailand, most of them never previous visited Thailand (64.00%) but had previous visited Thailand less than(34.70%). For Satisfaction Level, Most of Tourists had very high satisfaction (76.90%), Moderate satisfaction (20.10%), Low satisfaction (1.50%), No satisfaction at all (0.50%) respectively.

Languages Behavior

Table 3 shows Frequencies, Means ($\bar{x}$), and Standard Deviation (S.D.) of Verbal and Nonverbal Language Behaviors displayed by the tourists guides

Behavioral aspects	1	2	3	4	$\bar{x}$	S.D.
Grammatical Structure	11	92	204	80	2.918	0.749
Intonation	7	70	244	65	2.951	0.649
Accent	8	33	260	87	3.098	0.619
Stress	4	41	253	25	3.099	0.609
Word Choice	3	43	215	128	3.203	0.656
Tone of voice	6	24	201	156	3.310	0.657
Eye contact	2	18	172	195	3.451	0.614
Hand movement	2	14	180	192	3.452	0.597
Facial expression	6	9	178	195	3.452	0.627
Body posture	1	19	158	210	3.491	0.608

Note: 1 = not very well 2 = not well 3 = well 4 = very well

From table 3 shows verbal and nonverbal language behaviors displayed by Thai guides were analyzed. The descriptive results showed that the tourists perceived that Thai guides had good abilities in all of the measured aspects of the behaviors as shown in Table 3. It should be noted that the three low averages were grammatical structure ($\bar{x}$ = 2.918, S.D. = 0.749), intonation ($\bar{x}$ = 2.951, S.D. = 0.649), and accent ($\bar{x}$ = 3.098, S.D. = 0.619) respectively.

Communication Satisfaction

Table 4 shows the descriptive statistics of the communication satisfaction items.

Behavioral items	1	2	3	4	5	$\bar{x}$	SD
Enjoy talking	1	3	77	194	112	4.067	0.735
Like to speak with guide	1	3	86	185	144	4.049	0.735
Pay attention	-	3	56	232	97	4.090	0.647
Interested in his words	9	18	45	217	200	3.979	0.876
Feel free to tell	-	3	107	200	79	3.913	0.709
Exchange information	2	11	90	215	70	3.913	0.747
Understand me	16	79	239	54	1	3.853	0.698
Talk effectively	1	16	110	184	77	3.825	0.801
Like to talk with	3	3	140	189	53	3.737	0.728
Talk smoothly	5	282	108	183	62	3.697	0.870

Behavioral items	1	2	3	4	5	$\bar{x}$	SD
Know my feeling	2	28	166	157	36	3.506	0.782
Support view points	-	221	197	136	28	3.444	0.782
Laugh	14	16	127	178	53	3.169	0.900
Achieve my intention	48	118	107	90	24	2.804	1.116
Waste my time	123	120	59	74	10	2.295	1.178
Not interested in topics	93	144	109	35	7	2.276	0.985
Not satisfied to talk	104	136	97	41	8	2.256	1.034
Not interested	115	189	48	25	11	2.041	0.968

Note: 1 = Strongly disagree 2 = Disagree
3 = Neutral 4 = Agree
5 = Strongly agree

From table 4 shows the descriptive statistics of the communication satisfaction items. It was obvious that the tourists regarded their communication with the Thai guides as desirable or as a preference. Most of the frequencies indicated the positive responses. It should be noted that the three high level agree were Enjoy talking ($\bar{x}$ = 4.067, S.D. = 0.735), Like to speak with guide ($\bar{x}$ = 4.049, S.D. = 0.735) and Pay attention ($\bar{x}$ = 4.090, S.D. = 0.647) respectively. However, there were some items whose means were relatively low, for instance, Not interested ($\bar{x}$ = 2.041, S.D. = 0.968), Not satisfied to talk ($\bar{x}$ = 2.256, S.D. = 1.034), and Not interested in topics ($\bar{x}$ = 2.276, S.D. = 0.985) respectively.

Analysis of Interview Data

Tourists, with English as their native language, who had extensive experience with Thai guides were interviewed by the researcher. The interviews were focused on language problems and satisfaction of the tourists when they talked with their Thai guides. The backgrounds of the tourists shown in Table 4. Their length of stay in Thailand was from seven days to three weeks. All of them allowed the interviewer to record their expressions without any restrictions.

Table 4 shows background of the tourists.

Background Characteristics		**Frequencies**
Sex	Male	6
	Female	4
Nationality	British	3
	American	4
	New Zealander	1
	Australian	2
	Canadian	-
Education Level		
	Post graduate	4
	Bachelor Degree	5
	Lower than Bachelor Degree	1

From table 4 shows the background of the tourists analysis of the interview transcripts revealed that all of the informants were satisfied with their travels in Thailand. There were 10 tourists interviewed, classified by sex, there were male 6 people, and female 4 people, classified by Nationality there were the American 4 tourists, British 3 people, Australian 2 people, and New Zealander 1 person but no Canadian. Classified by Education level there were Bachelor Degree 5 people, Post Graduate 4 people, and Lower than Bachelor Degree 1 person. However, all of them mentioned about the difficulties of communication in English. The main reason was that not many Thais could speak English. It contributed to life style and travelling difficulties in many situations, especially in purchasing foods and drinks, asking for directions,

negotiating, etc. Although all of the tourists had known about this before, they thought that their travelling would be better if this language barrier was reduced.

Most of them were satisfied with the guides. They thought that it was worth using Thai guides. Many of them had problems because of the guides' pronunciation. A British couple, who had Bachelor degrees, mentioned, "The pronunciation of Thai guides is not clear enough, especially their accent and intonation, if they practice a lot, it will be much clearer." Some of them could not understand many of the words that the guides used repeatedly. A thirty- six-year-old British tourist who encountered this problem stated, "I manage the problem by asking the Thai guide to repeat again or speak more clearly."

Many of tourists reiterated the pronunciation, and intonation problems of the Thai guides. Also, many tourists pointed out that there was a problem with word choices because the Thai guides used limited vocabulary in their conversation. This causes a boring and rigid conversation. However, many of tourists were attracted by their Thai guides' personal manners. An American tourist, fifty-one-year-old, said "My Thai guide is a woman and her spoken English is good, she is friendly and fine.

All of them were satisfied with the services of the Thai guides provided and were satisfied talking with the Thai guides. For example, a thirty-one-year-old Australian tourist who was an engineer from Queensland described the language problem, "Australian accent is slightly different from standard English, but I enjoy talking with a Thai guide, as she always smiles and tries to let me understand what she describes, especially some words about Buddhism and Thai customs."

With regard to nonverbal behaviors displayed by the Thai guide, all of the tourists were aware of the nonverbal differences. The differences did not interfere with or irritate the tourists. Most of them were impressed with the smiling behavior of the guides.

The analysis of the data could not certainly state that the primary source of satisfaction in travelling among the tourists was their Thai guides. Rather, the analysis revealed that there were some critical problems in communication between the tourists and the Thai guides, but that the tourists were satisfied with their Thai guides, and their travels. Rather, the crucial sources of travelling satisfaction perceived by the informants were Thai culture, customs, and traditions. A direct link or contribution of satisfaction with the Thai guides and travelling satisfaction, again, could not be stated herein.

All of the interview sessions were satisfactory, but the relationship between communication satisfaction and travelling satisfaction could not be seen in this qualitative research attempt. More extensive or large-scale interviews might be necessary in order to qualitatively identify the relationship. It was obvious that the tourists could not say directly that the satisfaction with their guides would contribute to their satisfaction in travelling in Thailand. The tourists suggested that the Thai guides should speak slowly. The Thai guides had to practice intensively on intonation, word and sentence linkage, being direct to the point, and in the clarity of their speaking.

The analysis of data also revealed that language problems were perceived as less serious in this context. Most of the tourists had known that they might have to face pronunciation problems with Thais. Therefore, the informants managed to solve the problem by listening carefully, paying more attention, asking for repetition, asking their friends, and reading a tour book. Due to the receptive manners of the tourists, the pronunciation, intonation, and word choice problems seemed to be considered at an acceptably tolerable level in these temporary cross-cultural encounters.

Summary of the Study

This study centered around the research questions. It would be worth highlighting or summarizing the findings of this study in terms of the research questions. Answering the research questions would facilitate later justifying the degree to which the purposes of the study were accomplished. The research question stated, "In terms of language barrier, what are aspects of English perceived by the foreign tourists as a problem in communication with their guides?"

Regarding nonverbal aspects, hand movement, body posture, and facial expression were the prime sources of problems. When the tourists communicated with Thai guides, they would observe these three elements of nonverbal communication as supplementary messages. Thus, vague and incorrect nonverbal behaviors would minimize and distort their understanding of the particular meanings and messages. In addition, nationality, and educational levels were background factors of the tourists that contributed to the different levels of communication satisfaction experienced by the tourists.

Discussions

It could be stated that the English Native speaker tourists in this survey were satisfied with their travel in Thailand. The differences in their travelling satisfaction levels may be ascribed to differences in the tourists' educational levels and nationalities, especially between Canadian and Australian. Verbal and nonverbal aspects of language were related to communication satisfaction. And, communication satisfaction was related to the tourists' travelling satisfaction. The tourists reported that Thai guides had problems in intonation, accent, and grammar when they spoke English.

It was interesting to note that the factor analysis revealed the separation of verbal behavior and nonverbal behavior. Theoretically, in a communication context, all of the nonverbal behaviors are difficult to separate because they are dynamic and integrated acts. These aspects of language were the crucial problem areas of Thai guides; the separation of the two emerged because the problems were easily recognized by the English native speakers.

This finding supports the notion that communication between people of the same culture and language are smooth and the communicators hardly recognize the problem. The communication process seems to operate at the unconscious level. On the other hand, communication between people of different cultures and languages causes the communication partners to encounter problems which are easily noticed.

Tourists of different backgrounds, purposes of visit, previous visits, and length of stay did not perceive differences in guides' verbal and nonverbal problems. In an actual conversation a person perceived the interplay between verbal and nonverbal behaviors as a whole, rather than as separated aspects of communication messages. The difficulties of both verbal and nonverbal communication become integrated and routinized by a person in everyday conversation.

A large number of tourists were highly satisfied with their travelling. Only two items of tourists' backgrounds showed a relationship with travelling satisfaction; these were nationality, and education. Generally speaking, education can broaden a person's view. Persons of higher education attainment, for example, are likely to be less prejudiced than those who have low educational attainment, Therefore, the better educated person would be more open-minded to new experiences. It could be inferred that tourists of high education would experience a higher travelling satisfaction.

Tourists of different nationalities differed in their travelling satisfaction, and communication satisfaction. There were limited data explored to specify the relationships, thus it was hard to interpret them clearly. Analysis of the interview data could not be used to suggest explanations. Although the interviews were saturated, the details of the interview data did not focus on these issues.

Most of the tourists visited Thailand for pleasure and sight-seeing Most of the tourists had already planned their trips either by themselves or by travel agencies. Many of them came with a tour group. The length of their visit to Thailand was already set; therefore, it was unusual for them to extend or reduce their length of stay when they were satisfied or dissatisfied with their visit. Also, tourists who had visited Thailand and those who had never visited Thailand before did not differ in their traveling satisfaction. Because most of the tourists visited Thailand for a relatively short duration, they did not see many interesting places nor fully experience Thai culture and life-style. Thus, tourists still enjoyed their travelling experience in their subsequent visits.

However, it cannot be stated that satisfaction was the only reason for revisiting. If the previous travelling satisfaction had become one of the prime reasons to revisit, the difference would emerge. Other factors, not travelling satisfaction, were the reasons why the tourists decided to revisit Thailand. Those critical factors were isolated to find out why revisits occurred; revisits are one of the ultimate goals of Thailand's tourism promotion and planning.

It is a crucial finding that tourists who use and who did not use guides reported different travelling satisfaction. The tourists who used guides experienced higher satisfaction than those who did not use guides. This showed that the guides functioned well in smoothing their travel and in fulfilling the tourists' expectations. The guides would ease their travel so that some difficulties in travelling and sight-seeing were minimized.

Recommendations

The finding of this study suggests that future research with an empirical study of the relationship between communication satisfaction and travelling satisfaction should be continued. The backgrounds of

the tourists have to be further identified as to the degree of contribution to tourists' travelling satisfaction. The results and findings of such studies might be very useful for Thailand's tourism promotions.

In addition, future research should be undertaken to investigate the relationship between communication satisfaction and travelling satisfaction in other tourists contexts where the foreign tourists come to communicate with other tourists contexts where the foreign tourists come to communicate with local hosts for services. Such contexts, for example, might be in hotels, restaurants, and tourist shopping sites, in order that a better holistic view of a tourists' satisfaction would be achieved.

The adapted scale used in measuring communication satisfaction of this study possessed an acceptable reliability. However, the scale measuring communication satisfaction should be further adjusted and refined, generally in an intercultural communication context and specifically in the non-native English speaker context of tourism. Employing a reliable and valid scale of measuring communication satisfaction can validate the result of future studies.

From a practical perspective, Thai guides should be aware that their abilities in speaking English as a means to communicate with tourists is one of the crucial factors which brings about communication and travelling satisfaction of the tourists. Training programs of Thai guides should emphasize practical English pronunciation training for clear intonation, and tone of voice. The improvement in the English ability of a guide will be a direct benefit for the tourism industry of Thailand.

This study used foreign tourists of five cultural groups as subjects with the integrated assumption that they were English Natives Speaker. Future studies should not group the tourists of different nationalities. Rather, it should be separated in pairs, for example American tourists and Thai guides, British tourists and Thai guides, and so on, in order that the unique and hidden aspects of English language and culture could be compared.

Finally, based on the findings and shortcomings of this study, the tourism context calls for an expansion of the intensive empirical methods used in this study. The context characterized critical language problems. Additional studies are necessary for a better understanding on these issues. It is necessary for future studies to compensate for the shortcoming of this study.

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Qualifications and Characteristics of Students that Hotel Front Office Department Desire to Employ

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Abstract

The purpose of this study was to study the qualifications and characteristics of students that Hotel Front Office Department desires to employ. Collecting data from a sample group of 30 personnel managers or front office executives from 30 hotels in Bangkok. The tool used to collect data was a questionnaire. Data was analyzed by using percentage terms, mean ($\bar{X}$), and standard deviation (S.D.).

The research results concluded that the Hotel Front Office Department desires students with the highest level of foreign language proficiency in English and high level in Chinese proficiency. The most desire foreign language skills are: listening and speaking skills and reading and writing skills were required at a high level. For opinions on the most desire front office department duty qualifications, namely telephone answering and telephone coordination skills, touch typing including knowledge and skills to work in the front office department such as welcoming customers, news information and room reservations. For the ability to use a computer, various office equipment and secretarial skills is in high desire. For opinions on appearance features, honesty, punctuality, responsibility at work, ability for solving specific problems, including enthusiasm for work and have service mind and self-confidence at the highest level of desire. For educational qualifications, the hotel desires students who hold a bachelor's degree in hotel management major and English major at a highest level.

Keywords*:* Hotel front desk staff, Qqualifications and Characteristics of students

Background and Statement of the problem

At present, the tourism business in Thailand has grown more rapidly due to the support from the government want to drive the tourism of Thailand. It is a business that generates income from both Thai and foreign tourists and help to develop the Thai economy to be more stable. Therefore, the hotel business responds to the policy tourism development. This is because the hotel business and the tourism business are both service businesses for travelers that need to be dependent on each other must cooperate in business operations and have mutual business interests. Therefore, it can be said that the tourism business is managed and bring tourists into the country or bring tourists to various places and the hotel business, in addition to managing their own customers, is also the accommodation response department. and facilities as desired by tourists. Sornchai Yenprem (2018: 114) said that both types of businesses are still related in the way of suffering and happiness in business. When there is an economic crisis from outside the country, a state of war or political conflict between countries and within the country, it will affect the filling of these two types of industries. This is because the number of tourists and hotel guests will inevitably decrease, causing business economic problems. On the other hand, when the global economy improves, the political stability of the government resulted in the economic situation of the hotel business and the tourism business has improved as well. Pisamai Pachotakarn (2017: 21) said that the front s department is considered the face of the hotel because it is an agency in service operations and is responsible for traveling directly with guests. Start with the reception of the room, assign rooms for guests, welcoming and providing various services during the stay of guests in the hotel, serving as news and convenient until the guest returns the room from the hotel.

Due to the Hotel Management major of the North Bangkok University which is a major of the Hospitality Industry and Culinary Arts Program and Global Business English Program aim to develop students to have the ability to listen, speak, read and write English in order to communicate with foreigners that is considered one of the most important qualifications and characteristics of working in Front Office Desk is the need to study the needs of the hotel business in accepting Hotel Management students and Global Business English students which join the hotel front desk department. To provide a program and students have improved and developed to have qualifications in line with the needs of hotel business operators which will make Hotel management program students and Global Business English program of North Bangkok University have the opportunity to work effectively in the front office service department. The researcher therefore conducted this research study.

Objective

1. To study the needs of hotels that desire to employ students to work in the front desk department.
2. To study the qualifications and characteristics of students who are looking for a job in the Front Desk Department.

Expected benefits

1. The information obtained will be useful to students in the service industry, including the Global Business English Program, Tourism Management Program and Hotel Management Program who would like to work in the front desk of the hotel have studied the needs of students' qualifications and characteristics, whether it is language skills, The ability to use various tools to prepare and develop oneself to have qualifications and characteristics meets the needs of the hotel.
2. Subjects in service industry program can use the information obtained developing or guiding students who seeking hotel internships or working at the hotel in the front office department.

Research Methodology

This study has a method for conducting a research study to find the desired answer about the qualifications and characteristics of students that the hotel front desk department in Bangkok area wants to accept the students work or internships.

Population and Sample

The population and samples were personnel managers or front office executives from 3-stars hotels 10 people, 4 -stars hotels 10 people, and 5-stars hotels 10 people in Bangkok, total 30 people by using a purposive sampling method.

Data Collection Method

Tools Data collection is the use of a questionnaire which asks for opinions about the qualifications and characteristics that hotel front the office executive or personnel manager thinks hotel front officer should have. This research was studied from the document and bring it to the front office executive of a hotel to check the suitability of the question and survey the data from 30 hotels in Bangkok. The questionnaire was divided into 2 parts:

Section 1 Status of the sample

Section 2 The Opinion about Qualifications and Characteristics of students that the hotel front office department desire to employ and intern.

Data collection

The researcher sent the questionnaires to the sample group by online questionnaire via the link.

Data analysis and statistics used

The statistics used were computerized analysis by using SPSS program and Mean ($\overline{X}$), Standard Deviation (S.D.)

1. Analyze the status of the samples who responded to the questionnaires, using the percentage value and presented in the table form.
2. Analyze opinions about student interns by using percentage and presented in table form.
3. Analyze the mean ($\overline{X}$), standard deviation (S.D.) of the level of needs related to the qualifications and characteristics of the students to determine the level of opinion as follows.

The average level 4.01 - 5.00 means the highest level of need.

The average level 3.01 - 4.00 means the high level of need.

The average level 2.01 – 3.00 means the medium level of need.
The average level 1.01 – 2.00 means the less level of need.
The average level 0.01 - 1.00 means the least level of need.

Research Results

Section 1 Status of the sample

Table 1 shows percentage of sample status classified by gender, age, educational background

General Status	Quantity (people)	Percentage (%)
Sex		
Male	14	46.70
Female	16	53.30
Age		
Under 25 years	1	3.30
25 - 35 years	12	40.00
36 - 45 years	17	56.70
46 years or older	0	0.00
Educational Qualification		
Diploma	6	20.00
Bachelor Degree	16	53.30
Master Degree	8	26.70

From table 1 shows the sample group was the executives of the front service department, were female, 16 people (accounted for 53.30%) and male 14 people (accounted for 46.70%). For the age of the sample, most of them were in the age range of 36 - 45 years old, 17 people (accounted for 56.70%), followed by the age range of 25 - 35 years old, 12 people (accounted for 40.00 %) and the sample group under 25 years old, 1 person (accounted for 3.30%). Most of the samples had the highest education qualifications, namely most Bachelor Degree 16 people (accounted for 53.30%), followed by Master degree 8 people (accounted for 26.70%) and diploma degree 6 people (accounted for 20.00%).

Table 2 shows the percentage of the status of the sample group classified by job title, work experience, length of time working in the front office department of the hotel

General Status	Quantity (people)	Percentage (%)
Job position		
Senior Officer	2	6.70
Front Office Department	11	36.7
Manager	4	13.30
Director or General Manager	13	43.30
Human Resource Manager		
Work experience		
1- 2 years	1	3.30
3- 4 years	4	13.30
5- 6 years	6	20.00
More than 7 years	16	53.30
Others	3	10.30
Period of Work		
1-2 years	1	3.30
3-4 years	8	26.70
5-6 years	4	13.30
More than 7 years	11	36.70
Others	6	20.00

From table 2 shows most of the sample were in the positions of Human Resource Managers 13 people (accounted for 43.30 %), followed by Front Office Manager 11 people (accounted for 36.70%), Director or General Manager 4 people (accounted for 13.30%) and Senior Officer 2 people (accounted for 6.70%).

Most of the samples had work experience from 7 years or more 3 people (accounted for 53.30%), followed by 5 - 6 years 6 people (accounted for 20.00%), 3-4 years 4 people (accounted for 13.30%), others 3 people (accounted for 10.30 %) and during 1 - 2 years 1 person (accounted for 3.30 %).

The sample group had a period of work in the Front Office Department from 7 years or more 11 people (accounted for 36.70%), followed by a period of 3-4 years 8 people (accounted for 26.70 %), others 6 people (accounted for 20.00 %), period of 5 - 6 years 4 people (accounted for 13.30%) and the period of 1-2 years 1 person (accounted for 3.30%).

Table 3 shows the percentage of the number of foreign guests staying in the hotel classified by race

Guest Race	Quantity (people)	Percentage (%)
Chinese	19	63.30
Japanese	13	43.30
Korean	9	30.00
German	13	43.30
American	11	36.70
French	10	33.30

From table 3 shows the sample group that the largest number of foreigners staying at hotels were Chinese guests 19 people (accounted for 63.30%), followed by Japanese 13 people (accounted for 43.30%), and German guest 13 people (accounted 43.30%), American guests 11 people (accounted for 36.70%), French guests 10 people (accounted for 33.30%) and Korean guest 9 people (accounted for 30.00%).

Table 4 shows the percentage of foreign that required in the hotel front office staff to use.

Guest Race	Quantity (people)	Percentage (%)
English	30	100.00
Chinese	16	53.30
Japanese	7	23.30
German	5	16.70
French	4	13.30
Spain	3	10.30

From table 4 shows the sample group of front office staff opinion about foreign language that required for front office staff to use as follow, number of 30 people think English is the most necessary (accounted for 100%) followed by Chinese, number of 19 people think Chinese is the second most necessary (accounted for 53.30 %), number of 7 people think Japanese is the third most necessary (accounted for 23.30%), number of 5 people think German is the fourth most necessary (accounted for16.70 %), number of 4 people think French is the fifth most necessary (accounted for 13.30 %) and number of 3 people think Spain is the least necessary (accounted for 10.30 %)

Section 2 The Opinion about Qualifications and Characteristics of students that the hotel front office department desire to employ and intern.

Table 5 shows the average of foreign language that required in the hotel front office staff.

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
1.	**Foreign Language proficiency**		
	1.1 English language proficiency	4.67	0.67
	1.2 Chinese language proficiency	3.17	1.49
	1.3 Japanese language proficiency	2.43	1.36
	1.4 German language proficiency	1.90	1.42
	1.5 French language proficiency	1.80	1.47
	1.6 Spanish language proficiency	1.07	1.14

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
2.	**Skill required in Foreign Language proficiency**		
	2.1 Listening Skill	4.70	0.54
	2.2 Speaking Skill	4.53	0.68
	2.3 Writing Skill	3.97	0.79
	2.4 Reading Skill	3.63	1.25

From Table 5 shows the percentage of foreign language that Hotel Front Office Department requires as follow, the highest level of foreign language proficiency was English language proficiency ($\bar{X}$ = 4.67, S.D. = 0.67), the high level of foreign language proficiency was Chinese language proficiency ($\bar{X}$ = 3.17, S.D. = 1.49), Japanese language proficiency was moderately ($\bar{X}$ = 2.43, S.D.= 1.36) and German language proficiency was low level ($\bar{X}$ = 1.90, S.D. = 1.47), French language proficiency was low level ($\bar{X}$ = 1.80, S.D. = 1.47) and Spanish language proficiency was low level ($\bar{X}$ = 1.07, S.D. = 1.14). For Skill required in Foreign Language proficiency, the highest skill was listening skill ($\bar{X}$ = 4.70, S.D. = 0.54), followed was speaking skill ($\bar{X}$ = 4.53, S.D. = 0.68), Writing skill ($\bar{X}$ = 3.97 S.D. = 0.79) and reading skill was the least level ($\bar{X}$ = 3.63, S.D. = 1,25).

Table 6 shows the average of requirement for the desired student work skills qualifications.

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
1.	**The proficiency to use computer program**		
	1.1 The proficiency to use Microsoft Excel	3.70	1.32
	1.2 The proficiency to use Microsoft Word	3.17	1.49
	1.3 The proficiency to use Microsoft Power Point	2.70	1.58
2.	**The proficiency to use office equipment**		
	2.1 Fax Machine	4.13	0.82
	2.2 Copier	3.87	1.01

Table 6 shows the average of requirement for the desired student work skills qualifications in the proficiency to use computer program and office equipment, including the proficiency to use computer programs such as Microsoft Excel ($\bar{x}$ = 3.70, S.D. = 1.32), Microsoft Word ($\bar{x}$ = 3.17, S.D. = 1.49) at a high level while the proficiency to use Microsoft PowerPoint was at the medium level ($\bar{x}$ = 2.70, S.D. = 1.58). For The proficiency to use office equipment including fax machine was at the highest level ($\bar{X}$ = 4.13, S.D. = 0.82) the proficiency to use a photocopier the high level ($\bar{X}$ = 3.87, S.D. = 1.01)

Table 7 shows the average of requirement for the desired student work skills qualifications.

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
1.	**The knowledge about working in front office**		
	1.1 The knowledge and skills in welcoming customers	4.50	0.82
	1.2 The knowledge and skills in providing information to customers	4.20	0.85
	1.3 The knowledge and skills in receiving payments from customers and room reservation	4.20	0.83
2.	**The knowledge and skills of answering telephones and coordinating telephone calls**	4.59	0.57
3.	**The secretarial skills**		
	3.1 documentations skill	3.67	0.96
	3.2 correspondence skills	3.43	1.45
	3.3 meeting note taking skills	3.40	1.04

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
4.	**The proficiency of touch typing at least 40 words per minute**	4.10	0.70

From table 7 shows the average of requirement for the desired student work skills qualifications who have the highest level of work skill qualifications, namely: the knowledge about working in front office is the knowledge and skills in welcoming customers ($\bar{x}$ = 4.50, S.D. = 0.82), the knowledge and skills in providing information to customers ($\bar{x}$ = 4.20, S.D. = 0.85), and the knowledge and skills in receiving payments from customers and room reservation ($\bar{x}$ = 4.20, S.D = 0.83), the knowledge and skills of answering telephones and coordinating telephone calls ($\bar{x}$ = 4.59, S.D. = 0.57) and for the secretary skill, there was a high level namely the documentation skill ($\bar{x}$ = 3.67, S.D. = 0.96), the correspondence skills ($\bar{x}$ = 3.43, S.D. = 1.45), the meeting note taking skills ($\bar{x}$ = 3.40, S.D. = 1.04), the touch typing at least 40 words per minute ($\bar{x}$ = 4.10, S.D. = 0.70).

Table 8 shows the average of requirement for the desired student work skills qualifications.

No.	Qualifications and Characteristics of students seeking employment or internships	$\bar{x}$	S.D.
1.	Honesty in work	4.87	0.35
2.	Punctuality	4.80	0.41
3.	Enthusiastic and agile	4.73	0.45
4.	Willing to comply with rules and regulations	4.70	0.47
5.	Responsible for assigned task	4.70	0.47
6.	Serviced mind	4.67	0.48
7.	Have the art of speaking to persuade others	4.63	0.61
8.	Ability to solve specific problems	4.63	0.96
9.	Diligent, patient, able to work hard	4.63	0.55
10.	Have confidence	4.43	0.57
11.	Have a good human relation	4.43	0.57
12.	Have a good appearance	4.13	0.73

From table 8 shows the average of requirement for the desired student work skills qualifications that the hotel needs characteristics as following. There were at the highest-level namely honesty in work ($\bar{x}$ = 4.87, S.D. = 0.35), Punctuality ($\bar{x}$ = 4.80, S.D. = 0.41), Enthusiastic and agile ($\bar{x}$ = 4.73, S.D. = 0.45), willing to comply with rules and regulations ($\bar{x}$ = 4.70, S.D. = 0.47), responsible for assigned task ($\bar{x}$ = 4.70, S.D. = 0.47), Serviced mind = ($\bar{x}$ = 4.67, S.D. = 0.48), Have the art of speaking to persuade others = ($\bar{x}$ = 4.63, S.D. = 0.61), able to solve specific problems = ($\bar{x}$ = 4.63, S.D. = 0.96), diligent, patient, able to work hard ($\bar{x}$ = 4.63, S.D. = 0.55), have confidence in yourself ($\bar{x}$ = 4.43, S.D. = 0.57), have a good interpersonal relation ($\bar{x}$ = 4.43, S.D. = 0.57), have a good appearance = ($\bar{x}$ = 4.13, S.D. = 0.73).

Summary of the Study

Summary of the research findings from the analysis of data obtained by using a questionnaire to survey qualifications and characteristics of the desired student to employ in the front office department of a hotel in Bangkok. The research results can be summarized as follows:

1. Most hotel managers are female age between 36 - 45 years old and working in the position of Human Resources Manager and Front Office Manager. Most of the sample group had work experience of 7 years or more.
2. Hotel Managers work in 3-stars 10 hotels, 4-stars 10 hotels, and 5-stars 10 hotels, and most of the foreign guests are Chinese.
3. Most hotels have 11-20 Front Office Staffs in the Front Office Department and most of the departments are the reception desk, cashier desk, baggage doorman and public relations department

4. Most hotel managers are of the view that the hotel would like to receive as many students as possible for working or internships who were fluent in English and Chinese and most of the students who have English and Chinese foreign language in listening and speaking skills at the highest level as well.

5. Hotel managers need students who have proficiency of touch typing and answering the telephone and telephone calls at the highest level and need students with proficiency to use computers, Microsoft programs at a high level.

6. Most hotel manager agree that hotel need student who have the knowledge and skills to work in the front office department, namely welcoming customers at the highest level, as for secretarial skills, documentation skills, correspondence skill and meeting note taking skill at a high level. Most hotel managers need students who have the knowledge and skills to work in the front office department have the following characteristics at the highest level as follows; honesty in work, punctuality, enthusiasm and agile, willing to comply with rules and regulations, responsible for assigned task, serviced mind, have the art of speaking to persuade other, able to solve specific problem, diligent, patient able to work hard, have a confidence, have a good human relation, and have a good appearance.

Discussions

The qualifications of interns at hotels in Bangkok that are most needed as follows:

1. Proficiency in foreign languages, namely English and Chinese at the highest level which the research results are consistent with Sukhothai Thammathirat Open University (2018 : 123) has said that knowledge and ability to use foreign languages especially the knowledge and ability to use the English language is an absolute necessity for the hotel business. In addition, if any personnel can listen or speak other foreign languages fluently, such as Chinese, Japanese, and French, it will give that person an opportunity to work even more.

2. Have skills in listening and speaking in foreign languages at the highest level which the research results are consistent with Ramkhamhaeng University (2016: 19) said that clear communication is very necessary for Front Office staff. Some customers may have a different pronunciation, so accurate communication will greatly help in communicating with customers.

3. Have the ability to answer the phone and coordinate on the phone at the highest level which are consistent with Kajit Kobkech (2015: 33) which mentioned that telephone operators is another agency that must be notified as soon as the guest stays or returns the room so that when a phone call comes in, they will be notified of the status of that guest or connect the call to the guest correctly. When the guest uses the phone, it can be recorded.

4. Have the knowledge and skills to work in the front office at the highest level, including welcoming customers, receiving payment from customers and room reservation, providing information to customers that the research results are consistent with Anuphan Kitphanpanich (2018:103) that mentions the importance of welcoming customers that if you welcome good customers, the mission of the hotel is half done. But if the reception is not good, it is very difficult to fix the feeling of the guest to be good. For guests staying in the hotel, the most important greeting is the sincere welcome smile appeared on the receptionist faces, follow up with fast service, always efficient and friendly.

5. Have the ability to provide information to the customers who have the most needs. The research results are consistent with Sukhothai Thammathirat Open University (2018: 123) that said front office staff need to be well-knowledgeable in order to be able to provide various information to guests. Knowledge of the surroundings that hotel personnel should know, such as knowledge about major tourist attractions in the city or near the location of hotels, pharmacies, hospitals, shopping centers, local restaurants, banks, police stations and service rates for car rental services or various taxis, etc.

6. Have the ability to use computer programs such as Microsoft Excel, Microsoft Word, the ability to use office equipment, such as receiving - sending fax machines and copiers, there is a high level of need. The research results are consistent with Pisamai Pachotakarn (2017: 53) who stated that employees in the front-line service department should have knowledge and ability to use equipment in various types of office equipment because it will be useful to the personnel themselves for getting the job done faster.

7. Have good appearance most demanding honesty in work is important for employees at all levels. The research results are consistent with Kajit Kobkech (2015: 34) that mentions the honesty of the employees towards their work and supervisors, which will make the supervisor trust and be confident that the work done will be done well, punctuality, and have responsibility for the assigned task and have service which is important to enable personnel to achieve their goals and the research results are consistent with

Ramkhamhaeng University (2016: 20), who said that punctuality will cause credibility and complete the task on time. As for the personnel who are responsible for the assigned tasks and have a passion for service will make the operation more efficient and progressive because they can recognize new jobs quickly and are willing to perform various tasks. For enthusiasm and agile, diligent, patient, able to work hard and willing to comply with rules and regulations. It is something that will make the operation more flexible and smoother without interruption. Hotel personnel must be active at all time because she/he must be the one who is ordered all the time when ordered to do something. If personnel are slow workers not fluent, guests will appear to be unwilling to provide service or disinterested in the event. Which the hotel work is a job that focuses on operations to meet the needs of the guests, namely will have to work hard which has a variety of jobs and there is a time limit some personnel duties must stand or walk for several hours per work cycle requires a high level of patience and sometimes it has to accommodate the different moods of each guest that must have patience to help as well. Also, hotel work is a job that has a lot of rules however it's for the satisfaction of the guests therefore, personnel should be willing to strictly follow the rules and regulations of the hotel and includes the art of speaking to persuade others and have good human relations. This is one of the important things in the process of selling rooms or other services within the hotel to guests. The research results are consistent with Pisamai Pachotakarn (2017: 44) who stated that the front office staff, especially the reception staff, should have the art of persuading guests to use the services of the hotel in order to increase revenue in addition to room rates alone. And guests who stay in the hotel will feel at ease if they are closely taken care of by personnel who must have good human relations, greeting guests when meeting along with a smile or thank you to the guests. It is also good for the relationship with colleagues as well and have self-confidence is also important because it will speed up operations and reduce any problems that may arise which the research results are consistent with Ramkhamhaeng University (2016: 20) who said customers often come to the front office desk with problems and questions. Therefore Employees need to be resourceful in solving immediate problems and must do so with confidence to make customers satisfied and the important thing of front office staff is having a good appearance which is necessary for the receptionist because it can be regarded as the face of the hotel. The analysis results are consistent with Sukhothai Thammathirat Open University (2018: 120) that mentions the personality and appearance of the person when it appears to other people's lines, it is pleasant to look at those who saw it were satisfied. Only those who have to meet with guests all the time, it is essential to have a good personality. Nowadays, many hotels have used information technology in hotels such as booking and selling room service programs, etc. Therefore, educational institutions that teach in the subjects Regarding the hotel business, there should be training for students to learn such technology as well.

Recommendations

1. Nowadays, many hotels have brought technology in information technology to use in hotels, such as reservation and room sales programs, etc. Therefore, the Institute Studies that are taught in courses related to hotel business should provide training for students to learn such technology as well.

2. Students who want to do internships in the front office department should develop their personality. Knowledge and ability in the field of international imagery including using the machine and equipment to be proficient and must develop people (leading them to be confident because internships are real work, therefore relying on confidence in performance)

3. North Bangkok University, Major Hotel and Tourism Management or Global Business English Major should allow teaching of foreign languages other than English such as Japanese and Chinese by providing serious and continuous teaching. Because nowadays tourists who come to visit in Thailand and is a guest staying at a hotel in Bangkok, most of them are Chinese or Japanese. Therefore, learning these languages can help increase students' internship opportunities and the work of graduates

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Decoding the Complexity of Adolescent Suicidal Behaviors with Exploratory Data Analysis Techniques

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Abstract

Decoding the Complexity of Adolescent Suicidal Behaviors with Exploratory Data Analysis Techniques aims to explore the factors associated with suicidal behavior among adolescents using the Global School-based Student Health Survey dataset. Through exploratory data analysis and advanced analytical techniques, we investigated the relationship between suicidal behavior and various risk factors, including bullying, serious injuries, and social relationships. Our analysis also considered the potential moderating effects of protective factors, such as parental support and peer relationships, on the connection between risk factors and suicidal behavior. The results revealed that bullying, serious injuries, and a lack of close friends were the top three factors with the strongest correlation to attempted suicide among adolescents. We found that females exhibited higher suicide rates compared to males, and that the 13-15 age group showed higher suicide rates than the 16-17 age group. Additionally, our study highlighted the importance of data-driven methodologies in guiding future research and intervention efforts for adolescent suicide prevention. In conclusion, our findings contribute to the existing knowledge of factors influencing adolescent suicidal behavior and emphasize the need for targeted interventions and comprehensive prevention programs. Further research exploring the complex interplay between risk and protective factors is essential for developing effective strategies to mitigate suicide risk among adolescents and promote positive mental health outcomes.

***Keywords**:* Adolescent suicidal behavior, Exploratory data analysis, Risk factors, Protective factors, and Suicide prevention

Introduction

Suicide is a major public health issue that affects millions of people and families worldwide [1]. Suicide is the third-largest cause of mortality among teenagers, making it critical to investigate and comprehend the underlying risk factors and behaviors related to suicidal thoughts in this group [2]. Identifying these risk variables can help establish effective preventative measures and tailored treatments, eventually saving lives and decreasing the negative effects of suicide [3].

The current study examines suicide behavior in teenagers using data from the Global School-Based Student Health Survey (GSHS) [4]. This study seeks to add to our knowledge of the complex interaction of risk variables and give ideas for designing preventative methods by studying connections between numerous factors and suicidal behaviors among teenagers.

Exploratory data analysis (EDA) approaches are used in this research to find patterns, trends, and correlations in the dataset [5]. This study intends to utilize EDA to emphasize the significance of certain traits in predicting or explaining suicide behaviors among teenagers, as well as to improve public health policy and intervention development.

This study will evaluate the possible moderating impacts of protective variables such as parental support, peer connections, and school connectedness to gain a thorough knowledge of the factors impacting suicide behaviors [6]. Examining these protective variables is crucial for developing effective therapies that not only address risk factors but also boost resilience and promote positive mental health outcomes in adolescents [7].

Furthermore, recent breakthroughs in machine learning and data mining approaches have demonstrated promise in finding patterns and indicators of suicide behavior [7]. The combination of these approaches with EDA methodologies has the potential to provide deeper insights into the intricate interactions between many variables and suicidal behavior, guiding more focused and successful treatments [8].

In conclusion, this study aims to provide a comprehensive analysis of suicidal behaviors among adolescents using the GSHS dataset and EDA techniques. By examining the relationships between various risk factors, protective factors, and suicidal behaviors, the findings from this study will contribute to the existing knowledge base and inform the development of tailored prevention strategies and interventions to address the pressing issue of adolescent suicide.

Background and Statement of problem

The study of suicidal behaviors among adolescents is essential for understanding the factors that contribute to these behaviors and informing prevention strategies. The literature has identified several risk factors associated with suicidal ideation, attempts, and completed suicide, including psychiatric disorders, substance use, family history of suicide, and stressful life events [14], [15]. Additionally, social factors such as bullying, peer relationships, and family support have been shown to influence suicidal behaviors among young people [10], [11].

Previous research on adolescent mental health and suicidal behaviors has often relied on large-scale survey data, such as the GSHS or the Youth Risk Behavior Surveillance System (YRBSS) [12], [13]. These studies have provided valuable insights into the prevalence of suicidal behaviors, as well as the relationships between various risk factors and suicidal ideation, attempts, and completions. However, there is still a need for further exploration of these relationships, particularly in diverse populations and settings.

There has been a growing interest in the application of machine learning and data mining techniques to identify patterns and predictors of suicidal behaviors [7], [8]. These approaches have shown promise in detecting high-risk individuals and informing targeted interventions. For example, Passos et al. [7] used machine learning algorithms to identify important predictors of suicidal ideation in a large sample of U.S. adolescents, demonstrating the potential of these techniques for informing suicide prevention strategies.

Despite the progress made in understanding suicidal behaviors among adolescents, gaps remain in the literature. For instance, some studies have primarily focused on Western populations, limiting the generalizability of their findings to other cultural contexts [9]. Furthermore, there is a need for research that employs EDA techniques to provide a comprehensive understanding of the complex relationships between various risk factors and suicidal behaviors among adolescents. The present study aims to address these gaps by utilizing a dataset derived from the GSHS and employing EDA techniques to explore the relationships between diverse factors and suicidal behaviors in adolescents.

Additionally, gender differences in suicidal behaviors have been a topic of interest in the literature [16]. Some studies have found that females are more likely to report suicidal ideation and attempts, while males are more likely to die by suicide [17]. This highlights the importance of examining gender-specific risk factors and protective factors in understanding and addressing adolescent suicidal behaviors.

Several protective factors have also been identified in the literature, which may buffer against the negative effects of risk factors and reduce the likelihood of suicidal behaviors. For example, strong social support, positive family relationships, and school connectedness have been found to be associated with lower suicide risk among adolescents [18], [19]. Investigating the moderating role of these protective factors in the relationship between risk factors and suicidal behaviors may provide valuable insights for designing more effective prevention programs.

In summary, the current literature has made significant strides in identifying risk and protective factors for adolescent suicidal behaviors. However, gaps remain in terms of understanding the complex interplay between these factors in diverse populations and settings. Moreover, there is potential for leveraging advanced analytical techniques, such as EDA and machine learning, to uncover novel insights and inform more targeted interventions. The present study seeks to address these gaps by exploring relationships between various factors and suicidal behaviors among adolescents using the GSHS dataset and employing EDA techniques to provide a comprehensive understanding of this complex issue. The next section will discuss about the data and methods used in this research for analyzing the suicidal behavior in adolescents.

Research Methodology

a. Dataset Description

The dataset, titled "Suicidal Behaviors Among Adolescents," is derived from the Global School-based Student Health Survey (GSHS) for adolescents aged 13 to 17 years [9]. The GSHS is a collaborative surveillance project designed to help countries measure and assess behavioral risk factors and protective factors among young people. The dataset contains information on various factors that can potentially influence suicidal behavior, such as alcohol consumption, drug use, mental health, and violence [10] illustrated in Table 1.

Table 1 shows the Global School-based Student Health Survey (GSHS) dataset description.

Features	**count**	**mean**	**std**	**min**	**max**
1. Year	106	2014.698113	2.089292	2010	2018
2. Currently_Drink_Alcohol	106	31.815094	53.454089	1.4	548
3. Really_Get_Drunk	106	22.496226	16.553129	0.8	80.2
4. Overwieght	106	23.69434	15.764075	3.3	70.6
5. Use_Marijuana	106	7.642453	8.713536	0	43.2
6. Have_Understanding_Parents	106	33.190566	11.559408	5.6	63.9
7. Missed_classes_without_permssion	106	29.996226	10.786728	6.5	62.2
8. Had_sexual_relation	106	26.679245	17.401318	2.5	73.9
9. Smoke_cig_currently	104	15.546154	10.748501	1.2	43.8
10. Had_fights	106	32.448113	15.297701	3.5	76.5
11. Bullied	102	31.109804	14.185479	9.9	78.6
12. Got_Seriously_injured	106	43.723679	14.808421	15.2	87.7
13. No_close_friends	106	7.74434	4.365254	1.5	24.8
14. Attempted_suicide	106	14.45283	9.273621	2.7	67.2
15. Country	106	-	-	-	-
16. Age Group	106	-	-	-	-
17. Sex	106	-	-	-	-

b. Data Preprocessing

Python programming language and its associated libraries, including NumPy, Pandas, Matplotlib, and Seaborn [19], were employed for data preprocessing. The initial preprocessing steps involve several important tasks including 1) Identifying and handling missing values in the dataset: Missing values can lead to biased or incorrect results during analysis. Depending on the nature and distribution of the data, appropriate imputation methods, such as median, mean, or mode imputation, are employed to replace the missing values; 2) Removing irrelevant or redundant features: To simplify the analysis and avoid multicollinearity issues, features that do not contribute significantly to the research objectives or those that are highly correlated with other features are removed from the dataset, and 3) Transforming or encoding categorical variables: To ensure compatibility with various statistical and machine learning algorithms, categorical variables are transformed into numerical representations, such as one-hot encoding or label encoding, depending on the specific requirements of the analysis. Based on Table 1, there are missing values in "*Smoke_cig_currently*" and "*Bullied*" features. These missing values were replaced using median imputation due to the benefit of unbiased imputation [20]. Additionally, irrelevant, or redundant features were dropped from the dataset to simplify the analysis [21].

c. Exploratory Data Analysis

With the cleaned dataset, exploratory data analysis (EDA) was conducted to uncover patterns, trends, and relationships among the variables [22]. EDA involved generating descriptive statistics and visualizations using Python libraries such as Matplotlib and Seaborn [23]. These techniques helped identify potential relationships between variables that informed further analysis and hypothesis generation.

d. Statistical and Machine Learning Methods

In addition to EDA, this study employed various statistical methods or machine learning algorithms to further explore the relationships between the risk factors and attempted suicide among adolescents [24]. These methods included correlation analysis, regression models, clustering, or

classification techniques [25]. The choice of specific methods depended on the research questions, the nature of the data, and the findings from the EDA.

Throughout the data analysis process, Python programming language and its associated libraries (NumPy, Pandas, Matplotlib, and Seaborn) were utilized for data manipulation, visualization, and statistical modeling [19]. These tools allowed for a flexible and efficient approach to data analysis, ensuring the best possible understanding of the relationships between various factors and adolescent suicidal behavior.

Research results

The results section presents the key findings from the data analysis, exploratory data analysis (EDA), and the application of statistical methods. These findings provide insights into the relationships between various factors and adolescent suicidal behavior, as well as the predictive performance of the models.

a. Trends at the Country Level

The analysis of the relationship between "Country" and the count of "Attempted_suicide" revealed that Samoa has the highest prevalence of attempted suicide among adolescents (34.38%), while Indonesia has the lowest (3.6%). Thailand's suicide rate among adolescents stands at 12.7% [26] as shown in Figure 1. This finding suggests that unique regional or cultural factors may contribute to the elevated risk of suicidal behavior in certain countries [9, 10]. Further investigation into these factors could help inform targeted interventions and support strategies.

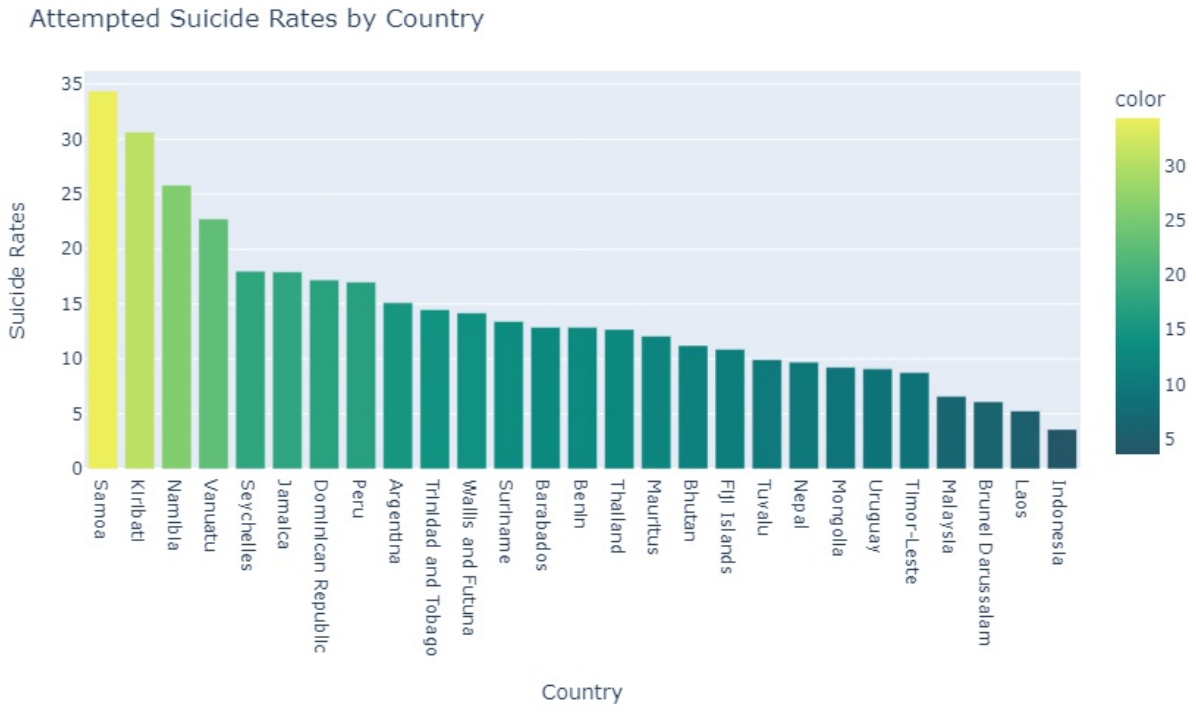


Figure 1 the analysis of the relationship between country and suicide rates

b. Suicidal Behavior and Demographics

Figure 2 illustrates the analysis of attempted suicide rates among different age groups and sexes. It has been found that females have a higher suicide rate (15.12%) compared to males (13.78%). Additionally, the suicide rate among adolescents is higher in the 13-15 age group (15.54%) than in the 16-17 age group (12.9%) [27] as shown in Figure 3. These findings align with previous research highlighting the importance of considering demographic factors when studying adolescent suicidal behavior [3, 4].

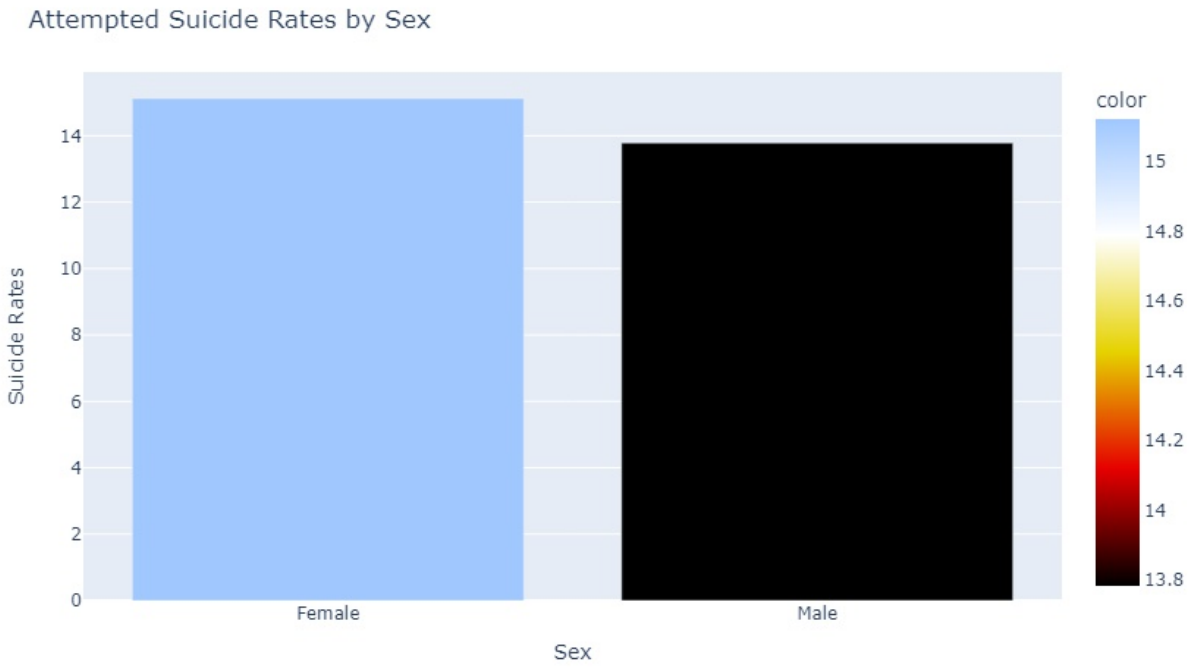


Figure 2 the analysis of the relationship between sex and suicide rates

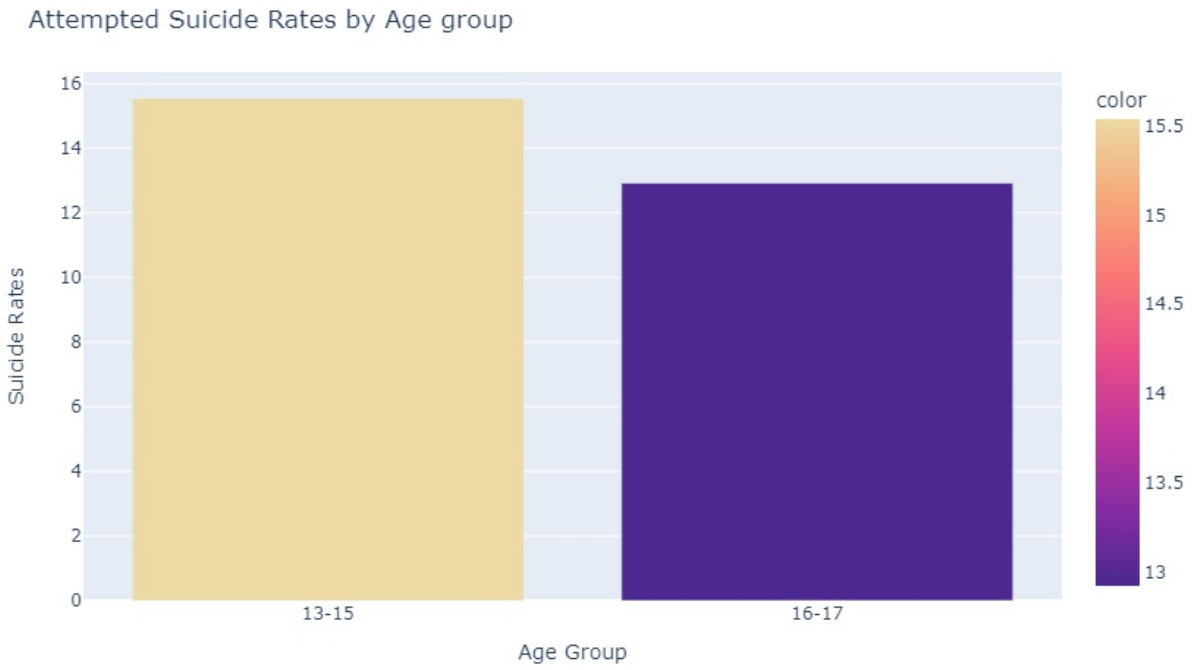


Figure 3 the analysis of the relationship between age group and suicide rates

c. The Relationships Between Suicidal Behavior and Risk Factors

Correlation analysis of behavioral factors and "Attempted_suicide" revealed that "Bullied" (0.64), "Got_Seriously_injured" (0.49), and "No_close_friends" (0.45) had the highest correlation values with suicidal behavior [28]. These findings are consistent with previous research that has identified bullying [10], serious injuries [6], and lack of social support [7] as risk factors for suicidal behavior among adolescents. In contrast, having understanding parents showed a very weak correlation, suggesting that

parental support may serve as a protective factor against suicidal behavior, as has been suggested in prior studies [8].

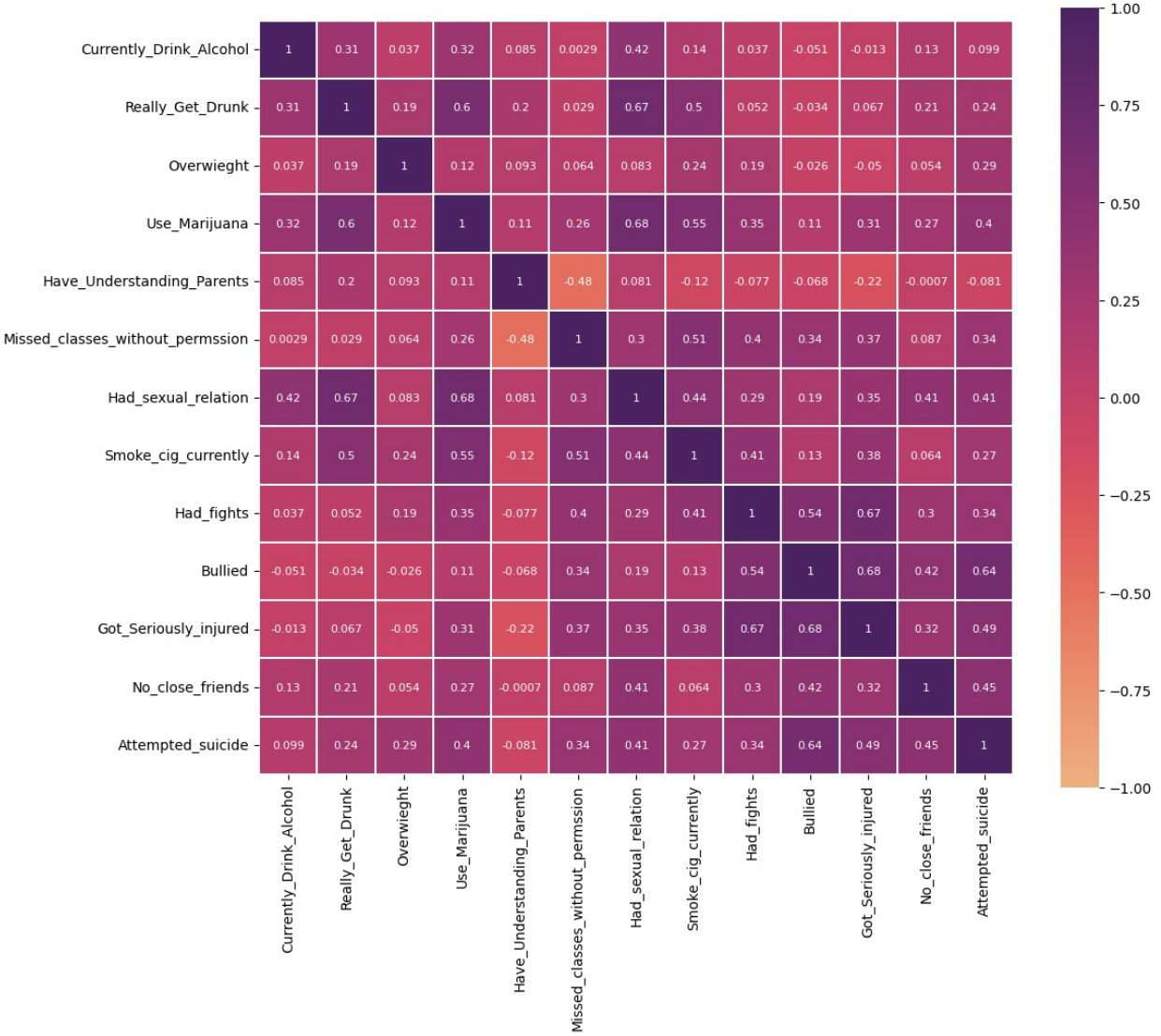


Figure 4 the correlation between risk factors toward suicide rates

Furthermore, the study employed the median imputation technique [20] to handle missing values in the "Smoke_cig_currently" and "Bullied" features. This approach is considered effective in avoiding bias in the dataset, ensuring a more accurate analysis of the relationships between variables.

The results of this study offer valuable insights into the complex relationships between various factors and adolescent suicidal behavior. The identification of significant risk factors, such as bullying, serious injuries, and lack of close friends, can help inform targeted interventions and support strategies for at-risk individuals. Moreover, the study highlights the importance of considering demographic factors like age and sex, as well as regional and cultural factors, in understanding suicidal behavior and designing appropriate interventions [29].

Summary of the study

Expanding upon the findings from our analysis, several directions for future research and interventions can be proposed. First, longitudinal studies examining the long-term impact of bullying and serious injuries on suicidal behavior can shed light on how these risk factors evolve over time and inform the development of targeted prevention strategies [10]. For example, by exploring how the severity and duration of bullying experiences influence suicidal behavior, interventions can be tailored to address the specific needs of individuals at various stages of exposure to bullying [1].

Second, future research should investigate the potential moderating effects of protective factors on the relationship between risk factors and suicidal behavior. For instance, examining the role of social support and coping strategies in buffering the effects of bullying and serious injuries on suicidal behavior can provide valuable insights for the design of comprehensive intervention programs [19]. Additionally, understanding the relative contributions of different protective factors, such as parental support, peer relationships, and school connectedness, can help optimize the allocation of resources for suicide prevention efforts [18].

Third, the integration of advanced data analysis techniques, such as machine learning and network analysis, can further enhance our understanding of the complex interplay between risk and protective factors for suicidal behavior among adolescents [7]. These approaches can help identify subgroups of adolescents with distinct patterns of risk and resilience, enabling the development of targeted interventions that address the unique needs of each group [5].

In conclusion, the findings from our analysis offer valuable insights into the factors contributing to adolescent suicidal behavior and emphasize the importance of data-driven methodologies in guiding future research and intervention efforts [22]. By building on these insights and incorporating advanced analytical techniques, researchers and practitioners can work together to develop effective strategies for preventing adolescent suicide and promoting positive mental health outcomes for this vulnerable population.

Discussions

In conclusion, our study sheds light on the factors associated with suicidal behavior in adolescents, emphasizing the significance of bullying, serious injuries, and social relationships. The research highlights the necessity of utilizing data-driven methodologies and advanced analytical techniques in understanding the multifaceted dynamics underpinning adolescent suicidal behavior.

The results of our analysis call for the development of targeted interventions that cater to the specific requirements of adolescents facing risk factors, such as bullying and serious injuries. Moreover, the study accentuates the value of investigating protective factors and their potential in moderating the impact of risk factors on suicidal behavior. This knowledge can be instrumental in creating well-rounded prevention programs.

To sum up, our research enriches the existing literature on the determinants of adolescent suicidal behavior and sets the stage for future investigations aimed at comprehending and preventing suicide within this susceptible group. By delving deeper into the intricate interplay between risk and protective factors, researchers and practitioners can join forces to devise and implement efficient strategies to reduce suicide risk among adolescents and foster positive mental health outcomes.

Acknowledgment

We would like to express our sincere gratitude to North Bangkok University for their generous financial support and resources provided throughout this research project. We are also grateful to the faculty, staff, and fellow researchers for their invaluable expertise, encouragement, and constructive feedback, which have significantly contributed to our understanding of adolescent suicidal behaviors and the application of exploratory data analysis techniques. Their support has played a crucial role in the successful completion of our study and the advancement of knowledge in this field.

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Problems and Obstacles in Public Procurement and Supplies Process On Public Procurement and Supplies Administration Act B.E. 2560

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Abstract

The objective of the research is to suggest and develop the law to solve problems and obstacles in public procurement and supplies process on Public Procurement and Supplies Administration Act B.E. 2560 (2017). This research is based on a qualitative research and analysis from documents and interviews

In this study, it was found that the officers will not monitor financial status of company's board, its shareholders and other stakeholders for granting privileges to SMEs, there are some difficulties in grant approval in privileges for entrepreneurs on "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" and procurement and supplies or procurement of consultancy work with a specific method by state agency, seller selection or private contractual party selection depends upon state official discretionary without open method and people participation in the government procurement process inspection.

The authors suggest that amendments in "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" and related laws and orders shall include changes related to the clear definition of SMEs characteristics of company's board, its shareholders and other stakeholders determination, costly and difficulties process reduction, training course provision and regulation related to procurement and supplies or procurement of consultancy work with a specific method by state agency shall be repealed.

Keywords: Public, Procurement and supplies, Administration

Background and Statement of the Problem

Procurement and supplies and administration is significant for state agency because state agency has main duty to provide public service for society and country, for example, basic facility provision. Furthermore, state agency shall conform with the Public Procurement and Supplies Administration Act B.E. 2560 (2017), which provides details of how construction and supply contracts are made and administered and to provide rules related to state official procurement operation, for example, procurement and supplies administration by a state agency must generate optimal benefits to the state agency and must conform with the value for money principle, the transparency principles, the efficiency and effectiveness principle and accountability principle [1].

Later on, "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" has been introduced, which has the main objective is to promote enterprise and occupation supplies [2]. However, there are some difficulties in grant approval in privileges for entrepreneurs and there is nontransparency in procurement and supplies or procurement of consultancy work with a specific method by state agency, which would result in corruption and unfair for entrepreneur [3]. This is consistency with the Section 258 b. (5) of Constitution of the Kingdom of Thailand B.E. 2560 (2017) providing that the procurement system of the public sector so as to be flexible, open and transparent with a mechanism to prevent corruption at every stage [4]. Hence, it is necessarily to study legal measure and other measures to solve problems and obstacles in public procurement and supplies process On Public Procurement and Supplies Administration Act B.E. 2560 (2017).

Objective

1. To examine background and concepts related to public procurement and supplies administration process
2. To examine and analyze problems related to Public Procurement and Supplies Administration Act B.E. 2560 (2017)
3. To develop related law to solve problems related to Public Procurement and Supplies Administration Act B.E. 2560 (2017)

Expected benefits

1. Receiving knowledge about background and concepts related to public procurement and supplies administration process
2. Receiving problems analyze problems related to Public Procurement and Supplies Administration Act B.E. 2560 (2017)
3. Proposed policies for law development to solve problems related to Public Procurement and Supplies Administration Act B.E. 2560 (2017)

Research Methodology

This research is based on a qualitative research and analysis from documents and interviews as follows:

1. The study included a study of documents, concepts and theories as a basis for research, for example, concepts and theories related to Public Procurement and Supplies Administration Act B.E. 2560 (2017), were studied from books, textbooks, research, reports, theses, using the library and library databases.
2. An informal interview was conducted with a key type of informants as follows: The key informants are state officers, who works for public procurement and supplies administration and are entrepreneurs, who have experience in government procurement process.

Research results

1. The authors found that law on SMEs promotion in "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" provides regulation on The Office of Small and Medium Enterprises Promotion (OSMEP) maximum of annual revenue for SME-GP for price privileges. However, in practice, the officers will only check annual income from Department of Business Development data and will not monitor financial status of company's board, its shareholders and other stakeholders, for example, whether he or she is the owner of large enterprise or not [5]. This may open loophole for owner of large enterprise invest in SMEs and take advantages to grant price privileges from this Ministerial Regulations. Furthermore, the "Ministerial Regulations on the Designation of the Characteristics of Small and Medium Enterprises Promotion Act B.E. 2562 (2019)" [6] has no clear definition of SMEs's company's board, its shareholders and other stakeholders characteristics. In this case, interpretation of the law on SMEs in Thailand may be inconsistent with respect and will of "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" to promote and support SME development [7].
2. From the study of related laws on problems and obstacles in public procurement and supplies process on Public Procurement and Supplies Administration Act B.E. 2560 (2017) the authors found that from statistic show 149,302 entrepreneurs in Thai SME-GP Platform in April 2023 [8]. However, a lot of entrepreneurs did not register Thai SME-GP Platform because entrepreneurs did not know benefit of registration or value of registration or had some problem and obstacles [9]. Furthermore, there are some difficulties in grant approval in privileges for general entrepreneurs on "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision", for example, spend too much documents and has hidden cost and complicated and condition in contact state agency, which result in delay and difficulties in government liaison between government and entrepreneurs [10]. This is inconsistency with Section 258 b. (5) of Constitution of the Kingdom of Thailand B.E. 2560 (2017) recognize that the procurement system of the public sector so as to be flexible, open and transparent with a mechanism to prevent corruption at every stage "in [4]."

3. The Constitution of the Kingdom of Thailand B.E. 2560 (2017) related to procurement and supplies or procurement of consultancy work provides that the procurement system of the public sector so as to be flexible, open and transparent with a mechanism to prevent corruption at every stage "in [4]." Furthermore, Public Procurement and Supplies Administration Act B.E. 2560 (2017) provides details of how construction and supply contracts are made and administered and to provide rules related to state official procurement operation, for example, procurement and supplies administration by a state agency must generate optimal benefits to the state agency and must conform with the value for money principle, the transparency principles, the efficiency and effectiveness principle and accountability principle "in [2]." However, the authors found that related to procurement and supplies or procurement of consultancy work with a specific method by state agency, there are some loopholes in Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government. Hence, in procurement and supplies or procurement of consultancy work with a specific method by state agency, seller selection or private contractual party selection depends upon state official discretionary without open method and people participation in the government procurement process inspection, which would result in corruption [11].

Summary of the Study

From the study of relevant concepts, theories, and documents concerning to Public Procurement and Supplies Administration Act B.E. 2560 (2017), Law on Ministerial Regulations on the Designation of the Characteristics of Small and Medium Enterprises Promotion Act B.E. 2562 (2019), Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision, and related laws and orders, the recommendation and measure were found as follows:

1. Law on Ministerial Regulations on the Designation of the Characteristics of Small and Medium Enterprises Promotion Act B.E. 2562 (2019) shall determine the clear definition of SMEs including characteristics of company's board, its shareholders and other stakeholders, for example, company's board, its shareholders and other stakeholders, who generating an annual revenue of not more than 50 million baht.

2. The authors suggest that amendments of "Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision" and related laws and orders shall include change related to decrease costly and difficulties process and reduce number of documents for reducing step in a process and inspection time and provide training course for SMEs's entrepreneur procurement to grant privileges in consistent with the Constitution of the Kingdom of Thailand B.E. 2560 (2017) .

3. Regulation related to procurement and supplies or procurement of consultancy work with a specific method by state agency in Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government shall be repealed.

Recommendations

1. One suggestion for further research is to compare privileges among different types of entrepreneurs in Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision.

2. Another suggestion for further research is to study of necessities having Ministerial Regulation on Determination of Procurement and Supplies Supporting or Promoting by Government B.E. 2563 (2020) and Revision.

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ASSESSMENT ON THE EFFECTIVENESS OF LEARNING MANAGEMENT SYSTEM USED BY THE SELECTED SENIOR HIGH SCHOOL AND COLLEGES IN RIZAL

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Abstract

This study focused on assessing on effectiveness of learning management system used by the selected senior high school and colleges in Rizal school year 2021-2022. The respondents of the study were teacher and students of selected senior high school and colleges in Rizal.

Descriptive quantitative method was employed in this study. Percentage, mean, Pearson Correlation, and t-Test were used to determine the relationship and difference between the assessment of teachers and students on the effectiveness of learning management system used in selected senior high school and colleges in Rizal.

The findings revealed that the usage of Learning Management System is really effective in teaching and learning. But, there's no relationship between the assessment of teachers and students on the effectiveness of Learning Management System. In addition, it has a significant difference in terms of Monitoring and Evaluation. Thus, the study recommended that Learning Management System can be used as educational platform in academic for the continuous improvement of teaching and learning.

Keywords: *Learning Management System, Monitoring and Evaluation*

Background and Statement of the problem

The world is experiencing rapid advancements in science and knowledge as a result of the internet's widespread use and application in all political, economic, and educational fields; as a result, many communities have adapted their educational plans to accommodate the new technology, which enables students to obtain information very quickly and easily.

The advancement of technology has led in the creation of E-learning, which improves the educational process in light of rising educational needs and an ever-increasing number of students in need of education. Along with the need to provide educational opportunities and motivate students to acquire knowledge and apply it independently, as well as reforming and expanding knowledge and learning sources in order to have a new form of learning such as e-learning teachers and students, electronic books, and electronic exams.

Chaw *et al.,* (2018) mentioned that Learning management systems (LMSs) may provide learners with resources in a variety of formats, such as videos, quizzes, and forum discussions, to aid in their learning, but simply having access to an LMS does not guarantee that learning has occurred effectively. Despite its obvious utility, whether or not the use of an LMS can help learners learn more effectively remains an open question for course providers, LMS vendors, and learners.

E-learning does not only provide courses on a website, but also manages learning and teaching processes, it has relied on critical systems, which are a collection of programs designed to manage, provide, and evaluate all types of educational activities in educational institutions.

Learning management is a system that is used to manage, document, monitor, and report on educational processes such as courses and trainings . Learning management facilitate cooperative

learnings and increases participation. Additionally, it provides a communication system for both teachers and learners to aid in the electronic management of educational processes.

A learning management system is a collection of programs and tools that work together to provide a set of functions that facilitate the LMS's role, which is primarily to manage the educational process. Those functions include technical functions that the system relies on to function properly, as well as administrative functions. Learning management systems have established themselves as a reliable tool for training and teaching in higher education, as well as in general education; numerous universities worldwide have implemented them. Additionally, LMS is regarded as a critical tool for developing and designing electronic courses; it assists in managing students' learning and motivates them as well.

Teaching using an LMS enables successful teacher development and also promotes student learning throughout the assessment process. The system's purpose is to manage the learning and systems to manage E-learning processes known as learning management teaching processes, beginning with registration, scheduling, assessing, and reporting on student and instructor performance. Additionally, it links students and instructors and facilitates communication via the use of chat rooms, forums, e-mail, and file sharing, in addition to assessments, questionnaires, and examinations.

A learning management system is a centralized platform that is used in colleges and universities to distribute instructional resources and promote learning for a variety of end users, including students, instructors, and administration (Kurata *et al.,* 2018).

The study focuses in the Assessment of Teachers and Students on the Effectiveness of Learning Management System of Selected School. It was specifically designed to answer the following question.

1. What is the demographic profile of the teachers in terms of
   1.1 age
   1.2 sex
   1.3 highest Educational Attainment?
2. What is the demographic profile of the students in terms of:
   2.1 age
   2.2 sex
   2.3 year level?
3. What is the assessment of the teachers on the effectiveness of Learning Management System in terms of:
   3.1 users' management
   3.2 data privacy and security feature
   3.3 monitoring and evaluation?
4. What is the assessment of the students on the effectiveness of Learning Management System in terms of:
   4.1 users' management
   4.2 data privacy and security feature
   4.3 monitoring and evaluation?
5. Is there a significant relationship between the assessment of the teachers and students on the effectiveness of learning management system in terms of:
   5.1 users' management
   5.2 data privacy and security feature
   5.3 monitoring and evaluation
6. Is there a significant difference between the assessment of the teachers and students on the effectiveness of learning management system in terms of:
   6.1 users' management
   6.2 data privacy and security feature
   6.3 monitoring and evaluation

Objectives

1. To determine the effectivity of Learning Management System as assessed by the student and teachers in terms of users' management, data privacy and security feature, monitoring and evaluation.
2. Test if there is significant relationship and difference between the assessment of the teachers and students on the effectiveness of learning management system in terms of users' management, data privacy and security feature, monitoring and evaluation.

Expected benefits

This study will significantly beneficial to the following:

1. **Department of Education (DepEd) and Commission on Higher Education**. This can be guide to develop a new set of common core standards that include information and encourage all schools, teachers, and students to enhance and adopt the use of Learning Management Systems as a new mode of instruction.
2. **School**. This can be placed in the library for use as a source and also for conducting research on this topic.
3. **Teachers**. This can be utilized as a guide for teachers to further expound on the methods of using Learning Management Systems for teaching and lecture planning.
4. **Students**. This aims to teach students the importance of the Learning Management System as a source of learning and a platform for preparing all the required for their academic performances.
5. **LMS Developers.** This can be a manual to set plan on how to improve the Learning Management System

Theoretical

some interpretations of cognitivism are that the instructor provide well-organized instruction and instructional materials while providing opportunities for learners to practice and monitor their learning

Social Constructivism

Based on the social constructivism approach, the design of LMS were oriented towards integrating online communication and collaboration tools. In practice, a wide range of platforms, particularly the social constructivist ones, propose a set of tools, which allow sharing, exchanging and interacting in synchronous and asynchronous mode such as blogs, wikis, forums.

The ideas of social constructivist authors have highlighted the social nature of learning. The distribution of intelligence between individuals and the environment. Indeed, working in groups can affect the quality of learning if these following conditions are taken into consideration: Learning styles, the way groups are formed, interaction modality, and the characteristics of tasks.

Conceptual Framework

The conceptual paradigm was used to discuss the problem in this study. The researcher followed the Dependent and Independent Variable model. The Dependent variable were the demographic information about the respondents in terms of their age, sex, highest educational attainment for teachers, grade level for students, and an assessment of teachers' and students' perceptions of the effectiveness of learning management systems were the Independent Variable.

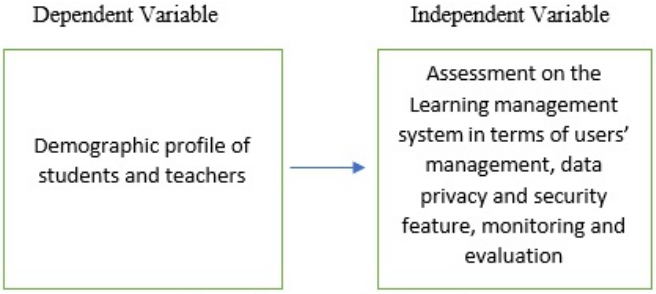


Figure 1: conceptual paradigm

Research Methodology

Research Design

The research design applied for the study is a quantitative descriptive method. This methodology is considered as suitable since it allows the researchers to describe the demographic profile of the respondents and their assessment on the effectiveness of learning management system in terms of user's management, data privacy and security feature, monitoring and evaluation.

Sampling Method

Purposive Random sampling was used in selecting 30 instructors and 60 students with a total of 90. Teachers and students currently enrolled and/or employed in different schools who use Learning Management System, particularly Senior High School and College.

The Subject of the study

The respondents of the study Senior High School and College students and teachers who have access to the Learning Material System AY 2021-2022.

Research Instruments

The researchers used a self-made survey questionnaire to determine effectiveness of learning management system in terms of user's management, data privacy and security feature, monitoring and evaluation. There are two (2) parallel survey questionnaire applicable to teachers and students. Part I: The demographic profile of the teachers such as, age, sex and highest educational attainment and the demographic profile of the respondents such as age, sex and grade level. Part II: The assessment of the teachers on the effectiveness of Learning Management System in terms of Users management, Data Privacy and Security Feature, and Monitoring and Evaluation. The assessment of the students on the effectiveness of Learning Management System in terms of Users management, Data Privacy and Security Feature, and Monitoring and Evaluation. Each category of assessment has 10 items. Respondents to assessed 1-4, 4 as the highest and 1 as the lowest (4- strongly agree, 3 agree, 2 disagree and 1 strongly disagree). The arbitrary scale was used to determine its effectiveness.

To test relationship and difference between the perception of teachers and students on the effectiveness of learning management Pearson R and T-test Two independent sample was used respectively.

Likert Scale

Scale	Range	Verbal Interpretation	Adjectival Interpretation
4	3.50-4.00	Strongly Agree	Highly Effective
3	2.50-3.49	Agree	Moderately Effective
2	1.50-2.49	Disagree	Low Effective
1	1.00-1.49	Strongly Disagree	Not Effective

Figure 2. Scaling Method

Validity and Reliability Test

The self-made survey questionnaire underwent validity and reliability testing from an expert. Hence, it would be valid and assure its consistency and accuracy before the application of the study. The researchers provided 10 samples. Results were validated by the expert. On the reliability statistic, the result of the test by a Cronbach's alpha was 0.810 indicates that the internal consistency of the questions is good and does not require revision.

Data Gathering Procedure

Prior to the conduct of the study, the researchers prepared the letter of request for the principal of the different Senior High School and colleges in Rizal. After approval of the request, the researchers administered the survey questionnaire through Google form to gather data from the respondents.

Research Results

1. Researcher concluded that most of the respondents are young educators and young students which are appropriate age for a Senior High School teachers and Students. Vast numbers from the respondents are female, which indicates greater number of female teachers than males. In Students from Senior High School and Colleges are both male and female. Majority of the Teacher from the respondents are Bachelor's Degree holder and in student respondents came from Senior High School Grade 12.

2. The assessment of the teachers on the effectiveness of Learning Management System in terms of User's Management the over-all computed weighted mean was 3.28 with verbal interpretation Agree which implies that it is moderately effective. In terms of Data Privacy and Security Feature the over-all computed weighted mean was 3.27 with verbal interpretation Agree which implies that it is moderately effective. Lastly, in terms Monitoring and Evaluation the over-all weighted mean was 3.29 with verbal interpretation Agree which implies it is moderately effective (Figure 3: Assessment of the Teachers)

Table 7
Assessment of the teachers on the effectiveness of Learning Management System in terms of Users Management

Statements	Weighted Mean	Verbal Interpretation
Users Management		
1. It provides various digital teaching material that makes my presentation more convenient to understand.	3.13	Agree
2. It provides a convenient way to assign quizzes and tests electronically.	3.46	Agree
3. I believe I could become productive using this system.	3.33	Agree
4. It provides videos and creative visualization that helps my discussion target the learning objectives.	3.06	Agree
5. It organizes my teaching materials.	3.23	Agree
6. I like using the interface of this Learning Management System.	3.13	Agree
7. It is easy to learn how to use the system.	3.43	Agree
8. Whenever I make a mistake using the system, I could recover easily and quickly.	3.36	Agree
9. I am confident in using this technology	3.40	Agree
10. It offers various tools that can help for school requirements	3.30	Agree
General Weighted Mean	**3.28**	**Agree**

Table 8
Assessment of the teachers on the effectiveness of Learning Management System in terms of Data Privacy and Security Feature

Statements	Weighted Mean	Verbal Interpretation
Data Privacy and Security Feature		
1. I perceive Learning Management System as secured.	3.23	Agree
2. I perceive the information relating to user and Learning Management System transactions as secured.	3.23	Agree
3. I do not fear hacker invasions into Learning Management System.	3.2	Agree
4. I believe the information I provide with Learning Management System is secured.	3.23	Agree
5. I am confident that the private information I provide with Learning Management System will be secured	3.23	Agree
6. This LMS is safe from malwares for downloading teaching related files.	3.33	Agree
7. It prevents unauthorized access.	3.3	Agree
8. It gives suit and reliable information that helps my teaching.	3.35	Agree
9. The personal information of the users are safe from internet intruders.	3.26	Agree
10. It limits access to materials for my students only.	3.36	Agree
General Weighted Mean	**3.27**	**Agree**

Table 9
Assessment of the teachers on the effectiveness of Learning Management System in terms of Monitoring and Evaluation

Statements	Weighted Mean	Verbal Interpretation
Monitoring and Evaluation		
1. It provides a way to assign tasks and submit students' grades electronically.	3.43	Agree
2. It fosters interaction among my students.	3.36	Agree
3. I can access the teaching materials at times convenient to me.	3.3	Agree
4. It enables me to interact with my students asynchronously.	3.3	Agree
5. It provides various features to give assessments to my students	3.4	Agree
6. It helps me to compute and prepare grades.	3.4	Agree
7. It provides additional teaching materials	3.03	Agree
8. It improves my teaching motivation and efficiency.	3.2	Agree
9. I find LMS helpful in complying paper works.	3.26	Agree
10. It stimulates instructors in teaching through various multimedia resources like videos, and visualization.	3.23	Agree
General Weighted Mean	**3.29**	**Agree**

Figure 3: Assessment of the teachers on the Effectiveness of the Learning Management System

3. The assessment of the students on the effectiveness of Learning Management System in terms of User's Management the over-all computed weighted mean was 3.16 with verbal interpretation Agree which implies that it is moderately effective. In terms of Data Privacy and Security Feature the over-all computed weighted mean was 3.19 with verbal interpretation Agree which implies that it is moderately effective. Lastly, in terms Monitoring and Evaluation the over-all weighted mean was 3.16 with verbal interpretation Agree which implies it is moderately effective (Figure 4: Assessment of the Students)

Table 10
Assessment of the students on the effectiveness of Learning Management System in terms of Users Management

Statements	Weighted Mean	Verbal Interpretation
Users Management		
1. It provides various digital learning material that makes our discussion more convenient to understand.	3.2	Agree
2. It provides a convenient way to take quizzes and tests electronically.	3.21	Agree
3. I believe I could become productive using this system.	2.93	Agree
4. It provides videos and creative visualization that helps my study with the learning objectives.	3.08	Agree
5. It organizes my learning materials.	3.26	Agree
6. I like using the interface of this Learning Management System.	3.13	Agree
7. It is easy to learn how to use the system.	3.31	Agree
8. Whenever I make a mistake using the system, I could recover easily and quickly.	3.08	Agree
9. I am confident in using this technology.	3.15	Agree
10. It offers various tools that can help for school requirements.	3.3	Agree
General Weighted Mean	**3.16**	**Agree**

Table 11
Assessment of the students on the effectiveness of Learning Management System in terms of Data Privacy and Security Feature

Statements	Weighted Mean	Verbal Interpretation
Data Privacy and Security Feature		
1. I perceive Learning Management System as secured.	3.25	Agree
2. I perceive the information relating to user and Learning Management System transactions as secured.	3.28	Agree
3. I do not fear hacker invasions into Learning Management System.	3.03	Agree
4. I believe the information I provide with Learning Management System is secured.	3.25	Agree
5. I am confident that the private information I provide with Learning Management System will be secured	3.36	Agree
6. This LMS is safe from malwares for downloading study related files.	3.15	Agree
7. It prevents unauthorized access.	3.18	Agree
8. It gives suit and reliable information that helps my study.	3.16	Agree
9. The personal information of the users are safe from internet intruders.	3.13	Agree
10. It limits access to materials for us only.	3.16	Agree
General Weighted Mean	**3.19**	**Agree**

Table 12
Assessment of the students on the effectiveness of Learning Management System in terms of Monitoring and Evaluation

Statements	Weighted Mean	Verbal Interpretation
Monitoring and Evaluation		
1. It provides a way to submit assignments and received my grades electronically.	3.4	Agree
2. It fosters interaction among my classmates and between the instructor.	3.01	Agree
3. I can access the learning activities at times convenient to me.	3.38	Agree
4. LMS enables me to interact with other students and the instructor asynchronously.	3.03	Agree
5. It provides various features to give us assessment.	3.2	Agree
6. It helps me to monitor and evaluate my grades.	3.26	Agree
7. It provides additional learning materials.	3.08	Agree
8. It improves my learning motivation and efficiency.	3.01	Agree
9. I find LMS helpful in complying paper works.	3.21	Agree
10. It stimulates students in learning through various multimedia resources like videos, and visualization.	3.05	Agree
General Weighted Mean	**3.16**	**Agree**

Figure 4: Assessment of the Students on the Effectiveness of the Learning Management System

4. The test of relationship between the assessment of teachers and students shows no significant relationship (Figure 5). Since the computed level of significance in terms of user's management, data privacy and security feature, and monitoring and evaluation were 0.632 which is greater than 0.05, therefore the null hypothesis was accept, there is no significant relationship between the assessment of teachers and students with all the considered variables. This implies that both respondents (teachers and student) assessed that the used of learning management system were effective. According to Kurata et al. (2018) that learning management system is a centralized platform that is used in colleges and universities to distribute

instructional resources and promote learning for a variety of end users, including students, instructors, and administration.

Table 13

Test of Relationship Between the Assessment of the Teacher and Students on the Effectiveness of Learning Management

Variables	Pearson Correlation	Tabular Value (df=8, α=0.05)	Decision	Verbal Interpretation
Users Management	0.18	0.632	Accept	Not Significant
Data Privacy and Security Feature	-0.24	0.632	Accept	Not Significant
Monitoring and Evaluation	0.38	0.632	Accept	Not Significant

Figure 5. Test of Significant Relationship

5. Test of Difference between the assessment of the teachers and students on the effectiveness of learning management system shows no significant difference between the User's management and Data privacy and security feature. While in terms of Monitoring and evaluation the computed level of significance was 0.000 which is less than 0.05, therefore the null hypothesis was rejected there is significant difference. This implies that the teacher serves as the facilitator in the online classroom using the learning management system. They can help the student learn more effectively by using this platform. Additionally, they can give some tests, projects, and activities to see if their students have learned. Moreover, they have capabilities to compute student grades electronically. While using a learning management system, students can learn or gain knowledge. They may easily respond and submit their quizzes, assignments, and activities using this platform. As mentioned by Chaw *et al.,* (2018) that Learning management systems (LMSs) may provide learners with resources in a variety of formats, such as videos, quizzes, and forum discussions, to aid in their learning, but simply having access to an LMS does not guarantee that learning has occurred effectively. Despite its obvious utility, whether or not the use of an LMS can help learners learn more effectively remains an open question for course providers, LMS vendors, and learners.

Table 16

Test of Difference Between in the Assessment of the Teacher and Students on the Effectiveness of Learning Management System

Variables	t-Test Value	2-Tailed test (df = 86, α = 0.05) p-Value	Decision	Verbal Interpretation
Users Management	1.084	0.255	Accept	Not Significant
Data Privacy and Security Feature	0.712	0.102	Accept	Not Significant
Monitoring and Evaluation	1.273	0.000	Reject	Significant

Figure 6. Test of Difference

Discussions

Based on the findings of the study, the following conclusions were drawn:

1. The usage of Learning Management System is really effective in teaching and learning. Data privacy and Security Feature is one the best function of it. Teachers who are users of LMS says that it is very helpful for them.

2. It revealed that assessment of teachers on the Learning Management System, Monitoring and Evaluation is the most effective variable. On the other hand, students said that the highly functional feature is Data Privacy and Security.

3. There is a no significant relationship between the assessment of the teacher and student on the effectiveness of learning management system which implies that to both it is effective.

4. There is no significant difference between the assessment of the teachers and students on the effectiveness of Learning Management System in terms of Users Management, and Data Privacy and Security Feature which led to the realization that there is a significant difference in

teacher and student evaluations of the usefulness of the Learning Management System in terms of Monitoring and Evaluation.

Recommendations

Based on the conclusion, the following recommendations are hereby recommended:

1. A Learning Management System Developer may include teaching elements such as built-in video presentation and creative visualization to help facilitate discussions that are relevant to the learning objectives. Developer may develop a biometric system such us finger print scanner or face recognition before they can access the system. A simulation tool in a learning management system may be establish to target the teaching objectives. To help users be more productive, LMS may employ a pop-up notification that reminds them to submit their tasks. LMS may establish a reward system to recognize students' excellence that can engage them to participate.
2. The Department of Education and Commission on Higher Education may develop the learning strategies to empower the uses of Learning Management System in the discussion of teachers. They need to organize trainings like webinars, to enhance teacher's ability, skills and knowledge in engaging in the new generation.
3. School should provide a workplace for teachers and school administrators to encourage them in integrating the Learning Management System in classroom instructions. School may also provide a strong internet connection from the local government, so that the student who needs a connection can use it free to accomplish their studies.
4. Since the effectiveness of Learning Management System has been proven, teachers may integrate Learning Management System in an online learning class or even face to face classes. Teachers may develop new ways of learning strategies, models and digital tools, creating activities and online experiments using Learning Management System.
5. Student may use the Learning Management System; it is great collaboration tool that can be used to enhance communication between teacher and students and they should be responsible for using a media platform to make their studies safe for online learning.

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Evaluating Corporate Governance Theories and Its Implementations

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Abstracts

Corporate Governance theories mean different things to different organzations. Its implementation has raised much dust, especially in this modern era where some major players are caught in corrupt practices. This paper offers a theoretical context by evaluating major corporate governance theories that enhance the critical objective of maximizing shareholder value by ensuring good social and environmental performances. These theories/models are entrenched in agency theory, which was further advanced to stewardship theory and stakeholder theory, sprouting into resource dependence theory, transaction cost theory etc. These theories are moderated upon variables such as how the board of directors, audit committee, and top management's role are formed, managers' independence, etc. Maintaining effective and efficient corporate governance entails combining significant theories instead of focusing on one.

***Keywords**:* Corporate Governance, Agency Theory, Stewardship Theory, Stakeholder Theory, Resource Dependency Theory, Social Contract Theory.

Background and Statement of the Problem

Recently, there has been a growing debate about which corporate governance theory is most appropriate for corporations. However, it's important to note that corporate governance theories can have different interpretations for different organizations. The implementation of these theories has also been a contentious issue, particularly in the current era where unethical business practices and corruption are prevalent.

In some cases, businesses adopt theories that do not align with their environment or culture, which can lead to further issues within the organization. The purpose of this paper is to promote awareness and understanding of how these theories converge and diverge, and how they should be applied appropriately.

Objective

The objectives of this paper are as follows;

1. To demonstrate that there is no "one cap fits it all" in corporate governance theories
2. To discuss convergences and divergences of corporate governance theories

Expected benefits

The expected benefits are as follows;

1. To educate decision-makers in business organizations to be aware of convergences and divergences
2. Help stakeholders apply the suitable theory that can improve business performance and avoid unnecessary problems

Research Methodology

This paper is a conceptual effort based on theories/models and reports from the literature review. The review produced the study method, which was created as follows: (a) to evaluate and assess the unequal positions in the convergence-divergence discussion in corporate governance theories; (b) to explain corporate governance (c) and offer a recommendation.

Research Results

The significance/results of this paper are as follows

(a) It will help decision-makers to apply suitable theories in administering their businesses

(b) can improve business performance and avoid unnecessary problems

Summary of the Study

The importance of corporate governance theories in addressing business issues cannot be exaggerated. This paper has discussed the divergence of major corporate governance theories in addressing how it is implemented. It has also discussed corporate governance theories practiced in many countries. Therefore, decision-makers can be appropriately guided when applying corporate governance theories.

Introduction

Corporate governance also has changed remarkably to become an essential feature of organizations (Nwafor, Virakul, Russ-Eft 2020) and a solution to developing a market economy and civil society in transitional economies. Some have argued that the ongoing corporate governance debate is encouraged by infamous scandals and economic crises (Kultys, 2016). Nevertheless, there is no real compromise on the definitions of corporate governance (Solomon, Solomon, & Suto, 2004). There are considerable disparities in definitions of corporate governance, according to which country is considered and the perspective of the policymaker, practitioner, researcher, or theorist. The core of corporate governance depends on who controls the corporation, and the extent of separation of ownership from control is the fundamental issue (Nwafor, Virakul, Russ-Eft 2020).

Corporate Governance Definition

In the same viewpoint, the term "corporate governance" is associated with the term "corporation"; thus, to understand and evaluate corporate governance, we need to know what "corporation" means. A corporation is defined as; A mechanism created to allow different parties to contribute capital, expertise and labour for the maximum benefit of all of them. The investor can participate in the enterprise's profits without taking responsibility for the operations. The management gets the chance to run the company without taking the responsibility of personally providing the funds (Byrne, 2022)

Among numerous definitions of corporate governance, Okpara (2011) defines it as a mechanism that deals with managers' management style and stakeholder accountability. However, Sarbah and Xiao (2015) further explain it as structures and processes for the direction and control of organizations. Furthermore, Ugowe (2016) describes corporate governance as a critical part of the risk reduction approach for firms. Ferrell et al. (2015) stated that corporate governance is a formal system of accountability, oversight, and control to remove the opportunity for management and employees to make unethical decisions (p. 52)

Table 1 Timeline of Establishing Corporate Governance in Various Countries

Date of Establishing the Codes	The Name of the Country
Pre-2000	Australia, Belgium, Brazil, Canada, Germany, Greece, Hong Kong, South Africa, India, Ireland, Italy, Japan, the United Kingdom, United States of America
2000–2003	Austria, China, Cyprus, Czech Republic, Denmark, Finland, Indonesia, Nigeria, Kenya, Malaysia, Pakistan, Russia, Taiwan
2004	Argentina, Bangladesh, Iceland
2005	Egypt
2006	Estonia, Lebanon
2010	Spain
2014	Ireland, upon the passing of the Companies Act.
2015	Japan. Established by the Tokyo Stock Exchange

Source: Larbsh, 2010; Byrne, 2022

Corporate Governance Theories

According to Shortet al. (1997), the difficulty of governance in firms begins with the separation of ownership (shareholders) and control (stakeholders). A theory of the firm based upon conflicts of interest

between various contracting parties, which includes shareholders, corporate managers, and debt holders, was proposed by Jensen and Meckling (1976). Short et al. (1997) explained that the central issue in this discussion focuses on whether a corporation's governance designs have implications that go beyond those of its shareholders. Corporate governance improvement depends on different theories that seek to explain the term's nature, including legal, cultural, ownership, and other structural differences. This section will discuss the following theories: agency theory, stakeholder theory, resource dependency theory, and social contract theory.

Agency Theory

According to Kultys (2016), all corporate governance theories/models are entrenched in agency theory. The term "shareholder" can refer to an individual, group, or organization that owns one or more shares. This growth of share ownership and the joint stock company has demonstrated a conflict of interest and sets up two main groups in corporations: shareholders (investors) in the corporation (principals) and the managers who manage the company (agents) (Short et al., 1997; Nwafor, Virakul, Russ-Eft 2020). The relationship between these groups is called an agency relationship. It is defined by Jensen and Meckling (1976) as a contract under which one or more persons {the principal(s)} hire another person (the agent) to carry out some duties on their behalf, which includes delegating some decision-making authority to the agent. Agency theory examines the conflicts between principals and agents in the corporation. Jensen and Meckling (1976) stated that it is impracticable for the agent to represent the shareholders' viewpoint in all respects. Consequently, agency problems arise because it is impossible for an agent to contract for every possible action whose outcome affects both his welfare and the principal's welfare. The primary purpose of shareholders (principals) is to maximise their wealth (interest). In contrast, the management's objective is to expand and grow the firm because it reflects the achievement of the management.

Conflict of interest arises as a result of a lack of monitoring by the shareholders, which is often a result of dispersed shareholders and a decrease in their incentive to monitor management; thus, Nwafor, Virakul, and Russ-Eft (2020) explained that the managers of a firm might pursue their interests at the expense of shareholders. Even though Kultys (2016) argued that the managers are accountable to shareholders (investors) for their stewardship of the assets of the firm in agency theory, Reed (2002) explained that firms have a limited set of responsibilities, which primarily consist of abiding by the law and maximizing shareholder wealth (interests). The challenges arise when the agents attempt to pursue their interests, which sometimes override the achievement of the principals' interests (Jensen & Meckling, 1976).

Stewardship Theory

In contrast with agency theory, stewardship theory presents a different model of management, where managers are considered good stewards who will act in the owners' best interest (Donaldson & Davis, 1991). The fundamentals of stewardship theory are based on social psychology, which focuses on the behaviour of executives. The steward's behaviour is pro-organizational and collectivistic. It has higher utility than individualistic self-serving behaviour, and the steward's behaviour will not depart from the organisation's interest because the steward seeks to attain the objectives of the organization (Davis, Schoorman,& Donaldson, 1997). According to Smallman (2004), where shareholders' wealth is maximized, the steward's utilities are maximized because organizational success will serve most requirements, and the stewards will have a clear mission. He also stated that stewards balance tensions between beneficiaries and interest groups. Therefore, stewardship theory is an argument for firm performance that satisfies the requirements of the interested parties resulting in dynamic performance equilibrium for balanced governance.

Stakeholder Theory

Research into corporate governance also discusses the stakeholder theory about firms' responsibility to the broader community. A stakeholder is any group of individuals who can affect or is affected by the activities of the firm in achieving the firm's objectives (Freeman, 1984). The World Business Council for Sustainable Development (1999) put forward a similar view, which also identifies stakeholders as the representatives from labour organizations, academia, church, indigenous peoples, human rights groups, government and non-governmental organizations and shareholders, employees, customers/consumers, suppliers, communities, and legislators. According to Ansoff (1965), a firm's objective could be achieved by balancing the conflicting interests of these various stakeholders. Therefore, a fundamental aspect of stakeholder theory is to identify the stakeholders an organization is responsible for.

In addition, any stakeholder is relevant if his or her investment is, in some form, subject to risk from the organization's activities.

Criticisms that focus on stakeholder theory identify the problem of who constitutes genuine stakeholders. One argument is that meeting stakeholders' interests also opens up a path for corruption, allowing agents to divert the wealth away from the shareholders to others (Smallman, 2004). However, the moral perspective of stakeholder theory is that all stakeholders have a right to be treated fairly by an organization. Therefore, managers should manage the organization for the benefit of all stakeholders, regardless of whether stakeholder management leads to better financial performance.

Resource Dependency Theory

Lawrence and Lorsch (1967) linked the resource dependency theory to corporate governance. The authors stated that successful organizations possess internal structures that match environmental demand, which links to Pfeffer's (1972) argument that board size and composition is a rational organizational response to the conditions of the external environment. Furthermore, directors may connect the external resources with the firm to overcome uncertainty (Hillman, Canella,& Paetzold, 2000) because coping effectively with uncertainty is essential for the company's survival. According to the resource dependency role, the directors bring resources such as information, skills, key constituents (suppliers, buyers, public policy decision-makers, social groups) and legitimacy that will reduce uncertainty. Thus, Hillman et al. (2000) considered the potential results of linking the firm with external environmental factors and reducing uncertainty as the transaction cost reduction associated with external linkage. This theory supports the appointment of directors to multiple boards because of their opportunities to gather information and network in various ways.

Social Contract Theory

Another theory reviewed in corporate governance literature is social contract theory sees society as a series of social contracts between members of society and society itself (Gray, Owen,& Adams, 1996). One school of thought sees social responsibility as the firm's contractual obligation to society and developed an integrated social contract theory for managers to approach ethical decision-making, which refers to macro-and micro-social contracts. The former refers to the communities and the business's expectation to support the local community; the latter refers to a specific form of involvement.

Evaluation, Comparison and Implementations

The research on major theories of corporate governance shows its purposes and objectives and reasons behind its implementation. A critical look reveals that the features of the above-discussed five theories contain meaningful central ideas and discrepancies, as shown in Table 2.

Table 2 Corporate Governance Theories and Its Main Ideas

Theory	Main scholar and Reference	Main idea
Agency Theory	Berle and Means (1932) Jensen and Meckling (1976)	Separation of ownership and control. Examines the conflicts between principals and agents in the corporation
Stewardship Theory	Donaldson & Davis, 1991	The steward's behaviour is pro-organizational and collectivistic
Stakeholder Theory	Freeman, 1984	Achieves the organization's goals by minimizing costs and maximizing profits
Resource Dependency Theory	Pfeffer, 1972 Lawrence and Lorsch,1967	Interpret organizations as interdependent on the context in which they operate.
Social Contract Theory	Gray, Owen and Adams, 1996	Sees society as a series of social contracts between members of society and society itself

Source: Nwafor, Virakul, and Russ-Eft (2020)

The ideas behind these theories are sacrosanct and cardinal in how organizations choose which theory to use and implement. Each theory's ideologies, purposes, and functions are evaluated below in Table 3.

Some organizations that implement Agency theory are looking for separation and control of powers between the Board of Directors and the top management.

Table 3 Corporate Governance Theories and functions evaluated.

	Agency Theory	**Stewardship Theory**	**Stakeholder Theory**	**Resource Dependency Theory**	**Social Contract Theory**
Board Role	Control and supervision	Service and advice	Uphold the interest of all stakeholders	Links the firm to the resources required to maximize performance	Sees society as a series of social contracts
Theoretical Basis	Economics and Finance	Sociology and psychology	Management	Organizational theory sociology	Social responsibility
Effective Board	Independent (outside-dominated board, no social, personal or professional ties between CEO and Management) Separate CEO and Chairperson	Insider-dominated board. Joint CEO-Chairperson (duality) CEO-board social ties.	Maximizing shareholder returns is not the sole objective. The interests of all stakeholders should be equally honored.	Large board member diversity. External network among board members and other firms.	Managers to approach ethical decision-making, which refers to macro-and micro-social contracts
Representative studies	Berle and Means (1932) Jensen and Meckling (1976)	Donaldson & Davis, (1991). Davis, Schoorman,& Donaldson, (1997). Smallman (2004)	Ansoff (1965(Clarkson, 1995).) Freeman, (1984) Clarkson, (1995)	Lawrence and Lorsch (1967), Pfeffer' (1972), Hillman, Canella,and Paetzold, (2000), Gales and Kesner, (1994)	Gray, Owen and Adams (1996) Donaldson, (1983), Donaldson and Dunfee (1999)

Source: Adopted from Castro et al. (2009), Nwafor, Virakul, and Russ-Eft (2020)

Some organizations in favour of stewardship theory may be looking for pro-organisational and collectivistic steward behaviour. In contrast, those firms who yearn for stakeholder theory want the board members to achieve the organization's goals by minimizing costs and maximizing profits. The same can be said with companies routing for resource dependency and social contract theories; They may want to see organizations as interdependent on the context in which they operate or Sees society as a series of social contracts between members of society and society itself.

Discussions

Upon closer examination, it becomes apparent that agency and stakeholder theories are prevalent among leading business organizations, as they must meet the economic and financial expectations of their stakeholders. However, different companies may have varying theoretical perspectives. The crucial factor is for organizations to select the approach that is most effective for them.

Recommendations

Although there have been studies (Emeh, 2012; Nwafor, Virakul, and Russ-Eft, 2020) on corporate governance theories, this paper has some recommendations.

First, company directors must have better information on which theory best suits them, depending on where they are and the background of stakeholders. The CEO or the management team should understand their environment and stakeholders for better performance. Above all, the management team need to be able to find answers to their questions; this can be done by accessing a piece of professional advice.

Secondly and lastly, this paper recommends that boards balance the implementation of these theories. No corporate governance theory is perfect. No cap fits its approach. The management team should go for what is suitable for their organization.

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THE RELATIONSHIP BETWEEN MARKETING MIX AND BRAND LOYALTY: A CASE STUDY OF COHESION COFFEE IN KUNMING CITY

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Abstract

Cohesion coffee is a community cafe. It is self-contained and there are no further Cohesion coffee shops. Kunming, where it is located, is the capital of Yunnan Province and an important city in the southwest, with a relatively advanced population and economy. However, per capita coffee consumption in China has led to a lack of coffee popularity. But in 2022, coffee consumption in Kunming is on the rise. New coffee brands and coffee shops are emerging, and the coffee market is expanding (Weibo,2021) By learning the relationship between marketing mix and brand loyalty, we can better understand consumers. Better strategies for Cohesion coffee operations.

The objectives of this research were to study the level of marketing mix of the Cohesion coffee in Kunming, to study the level of brand loyalty on the Cohesion coffee in Kunming and to study the relationship between marketing mix and brand loyalty of the Cohesion coffee in Kunming. A questionnaire was collected from 384 customers. The statistics used in this research were frequency, percentage, mean, standard deviation and Pearson correlation.

The results showed that most of respondents were at agree level with the marketing mix. The highest aspect was the process factors at an agree level ($\bar{x}$=4.27, SD=1.14), the second highest was people factors at an agree level ($\bar{x}$=4.26, SD=1.14) and the lowest was the price factors at an agree level ($\bar{x}$=4.04, SD=1.13). Most of respondents were at agree level with the brand loyalty. The highest was behavior loyalty at an agree level ($\bar{x}$=4.11, SD=1.15) and followed by attitude loyalty at an agree level ($\bar{x}$=4.08, SD=1.16), respectively. There was a very strong positive correlation between marketing mix and behavior loyalty and very strong positive correlation between marketing mix and attitude loyalty.

***Keywords**:* Marketing mix 7ps, brand loyalty, coffee industry.

Background and Statement of the problem

Coffee is a beverage made from roasted and ground coffee beans. As one of the three major beverages in the world, it is popular with cocoa and tea as the main drinks in the world.

From 2015 to 2021, the size of China's coffee market has steadily increased, reaching 300 billion yuan in 2020. In 2021, the market size of China's coffee industry is about 381.7 billion yuan. With the change of the public's dietary concept, China's coffee market is entering a stage of rapid development, and the rise of new brands is faster. It is expected that the coffee industry will maintain a growth trend. By the end of 2020, there were 108,000 cafes in China, mainly in second-tier cities and above, where 75 percent of the cafes were located. The number of coffee shops in China is expected to grow at a compound annual growth rate of about 5% in the next three years to reach 123,000 by 2023, with a relatively average growth rate in all cities (China Investment Industry Research, 2022).

Yunnan, as the earliest coffee growing region in China, has a very good coffee heritage. But Yunnan's per capita coffee consumption level is low. In recent years, more and more Yunnan people choose to work in the coffee industry. However, there are also many problems, immature business philosophy and blind understanding of the coffee industry, which makes the coffee industry in Yunnan uneven.

Objectives

1. To study the level of marketing mix of the Cohesion coffee in Kunming
2. To study the level of brand loyalty on the Cohesion coffee in Kunming
3. To study the relationship between marketing mix and brand loyalty of the Cohesion coffee in Kunming

Expected benefits

Through the research, we can find out whether there is a relationship between marketing mix and brand loyalty in the coffee industry. Can provide reference for coffee industry operators. The researcher can further study how to better manage and operate small self-run coffee enterprises

Conceptual Framework

The dependent variable is brand loyalty. Since Copeland first proposed the concept of brand loyalty in the 1960s, many scholars in the marketing field defined brand loyalty in the research group of customer loyalty, among which Oliver (Oliver, 1997) proposed definition: frequently purchasing products from suppliers repeatedly, and purchasing a wider range of products, has a strong "immunity" to potential competitors. This view takes into account three factors: customers, enterprises and competitors, and defines customer loyalty from time and type of purchase, which is representative to a certain extent.

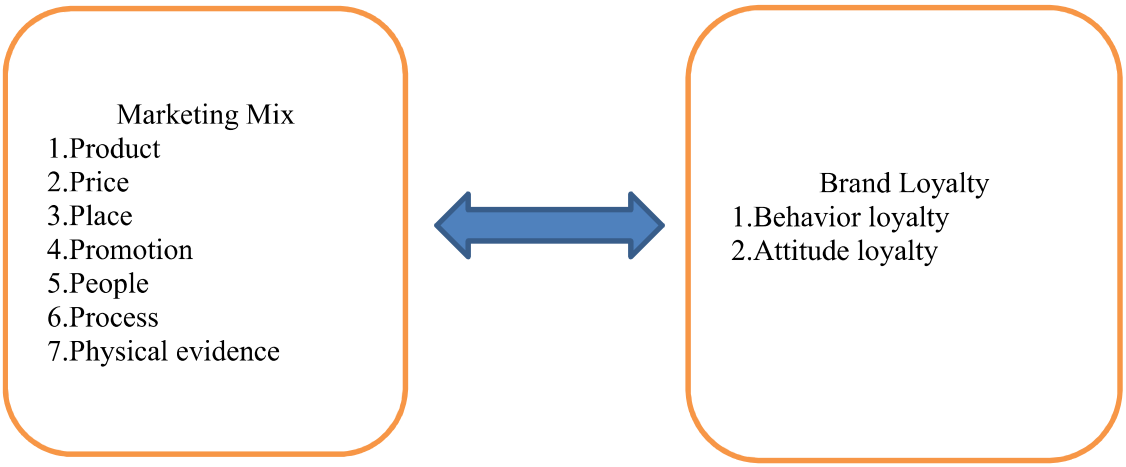


Figure 1 Conceptual Framework

Research Methodology

Population

The target population of this study was the consumer who come to the Cohesion Coffee In 2022，The population is unknown.using unkonw formula of W.G.Cochran (1953)

Sample size

The sample size for consumer was calculated based on Cochran Formula (Cochran, 1977).

$$n = \frac{\sigma^2 z^2}{e^2}$$

n = sample size

σ = standard deviation of population

z = represents confidence; the value is from z-score table.

If confidence at 95%, z = 1.96

If confidence at 99%, z= 2.58

e = acceptable random error (if σ is not known, e can defined as a percentage of σ e.g.10% of o (e = 0.10 σ)

where, n0 is the sample size, z is the selected critical value of desired confidence level, p is the estimated proportion of an attribute that is present in the population, q =1- p and e is the desired level of precision.

For example, suppose we want to calculate a sample size of a large population whose degree of variability is not known. Assuming the maximum variability, which is equal to 50% (p=0.5) and taking 95% confidence level with ±5% precision, the calculation for required sample size will be as follows–

p = 0.5 and hence q=1-0.5 = 0.5; e= 0.05; z=1.96

So, $n = \frac{(1.96)^2}{4\ (0.05)^2} = 384.16$

Data Collection: Data were collected by Google form

Research Design

The questionnaire was used as a tool in this study. The paper is divided into three parts:

Part 1: Demographics
- 1.1 Gender
- 1.2 Age
- 1.3 Occupation
- 1.4 Income

Part 2: Marketing Mix
- 2.1 Product
- 2.2 Price
- 2.3 Place
- 2.4 Promotion
- 2.5 People
- 2.6 Process
- 2.7 Physical evidence

Part 3: Brand loyalty
- 3.1 Behavior loyalty
- 3.2 Attitude loyalty

Likert's scale-5 scale was used to measure the questionnaire from 1 to 5, in which 1 means strongly disagree, 2 means disagree, 3 means don't know and 4 means agree. Five strongly agreed. Strongly agree 1 to 5. (Likert, 1932 referred in Warmbrod, 2014).

Assessment of Research Tools

Validity: The Item-Objective Congruence (IOC) was used to evaluate the items of the questionnaire based on the score range from -1 to +1. Congruent = +1 Questionable = 0 Incongruent = -1 The index of item-objective congruence developed by Turner & Carlson (2003) was a procedure used in test development for evaluating content validity at the item development stage. The items that had scored lower than .50 were revised. On the other hand, the items that had scores higher than or equal to .50 were reserved.

Reliability: The reliability of the questionnaire was determined by using to test for non-response bias, the mean of all variables obtained from early and late respondents was calculated. In order to evaluate the reliability, an initial sample of 30 questions was per-tested. The reliability value was calculated by using Cronbach's alpha to ensure whether there was internal consistency within the items. George & Mallery (2010) illustrated the value of Coefficient Cronbach's Alpha as the following: .90= Excellent, .80= Good, .70= Acceptable, .60= Questionable, .50= Poor, lower than .50 =Unacceptable. Therefore, in order to rely on the research questionnaire to be reliable, its value of Coefficient Cronbach's Alpha must be at least .70.

Data Analysis

Descriptive statistical analysis is used to describe the level of marketing mix and brand loyalty. These data are described in terms of frequency: percentage, mean, and standard deviation.

Table 1 Interpret the average of mean scale

Level	Mean level
4.50 - 5.00	Strongly agree
3.50 - 4.49	Agree
2.50 - 3.49	Natural
1.50 – 2.49	Disagree
1.00 – 1.49	Strongly disagree

Source: Best (1981: 82)

The inferential statistics are used to test the hypothesis

For hypothesis testing, the Pearson correlation will be used to analyze the relationship between the marketing mix and the brand loyalty.

Table 2 Level of Pearson Correlation to test your Hypothesis

Number	Level
.00-.19	Very weak
.20-.39	Weak
.40-.59	Moderate
.60-.79	Strong
.80-1.00	Very strong

Source: Evans (1991)

Research Results

The objectives of this research were to study the level of marketing mix of the Cohesion coffee in Kunming, to study the level of brand loyalty on the Cohesion coffee in Kunming and to study the relationship between marketing mix and brand loyalty of the Cohesion coffee in Kunming. A questionnaire was used to collect data from Cohesion coffee customer, and the sample size were 384 of them. The statistics used to analyze the data were mean, standard deviation, and Pearson correlation.

$\bar{x}$ = Mean
SD = Standard Deviation
r = Person's product correlation coefficient.
Sig = Statistical significance to test hypothesis.
* = at the 0.05 level of significance
** = at the 0.01 level of significance

Marketing mix on customers

Table 3 Mean and Std. Deviation of marketing mix

Marketing mix	$\bar{x}$	SD	Level	Ranking
1.Product	4.14	1.21	Agree	5
2.Price	4.04	1.13	Agree	7
3.Place	4.13	1.15	Agree	6
4.Promotion	4.25	1.10	Agree	3
5.People	4.26	1.14	Agree	2
6.Process	4.27	1.14	Agree	1
7.Physical evidence	4.22	1.16	Agree	4
Total	4.19	1.15	**Agree**	

Table 3 had shown that customer marketing mix was at an agree level ($\bar{x}$=4.19, SD=1.15). The highest aspect was the process factors at an agree level ($\bar{x}$=4.27, SD=1.14). The second highest was people factors at an agree level ($\bar{x}$=4.26, SD=1.14).The third highest was promotion factors at an agree level

($\bar{x}$=4.25, SD=1.10). After that was the physical evidence factors at an agree level ($\bar{x}$=4.22, SD=1.16).Next was the product factors at an agree level ($\bar{x}$=4.14, SD=1.21).The place factors at an agree level ($\bar{x}$=4.13, SD=1.15)The last one was the price factors at an agree level ($\bar{x}$=4.04, SD=1.13).

Brand loyalty on customers

Table 4 Mean and Std. Deviation of Brand loyalty

Brand loyalty	$\bar{x}$	SD	Level	Ranking
1.Attitude loyalty.	4.08	1.16	Agree	2
2. Behavior loyalty	4.11	1.15	Agree	1
Total	4.10	1.16	**Agree**	

Table 4 had shown that for customer' brand loyalty factors was at an agree level ($\bar{x}$=4.10, SD=1.16). The highest level is behavior loyalty at an agree level ($\bar{x}$=4.11, SD=1.15).The last factor is attitude loyalty at an agree level ($\bar{x}$=4.08, SD=1.16), respectively.

Relationship between Marketing Mix and Brand Loyalty

Table 5 Pearson correlations for Marketing mix and Brand Loyalty

Marketing mix	Brand loyalty			
	Pearson Correlation	Sig. (2-tailed)	Level	Rank
1. Product	0.64**	.00	very strong	7
2. Price	0.68**	.00	very strong	5
3. Place	0.69**	.00	very strong	4
4. Promotion	0.71**	.00	very strong	2
5. People	0.70**	.00	very strong	3
6.Process	0.72**		very strong	1
7.Physical evidence	0.66**		very strong	6
Total	0.69**	**.00**	**very strong**	

Table 5 had shown that marketing mix and brand loyalty had a very strong positive correlation (r =0.69).The product factors had a very strong positive correlation with attitude loyalty (r =0.64), the price factors had a very strong positive correlation with attitude loyalty (r =0.68), the place factors had a very strong positive correlation with attitude loyalty (r =0.69), the promotion factors had a very strong positive correlation with attitude loyalty (r =0.71), the people factors had a very strong positive correlation with attitude loyalty (r =0.70), the process factors had a very strong positive correlation with attitude loyalty (r =0.72),and physical evidence factors had a very strong positive correlation with attitude loyalty (r =0.66), with statistically significant at .01 level, respectively.

Table 6 Pearson correlations for Marketing mix and Attitude Loyalty

Marketing mix	Attitude loyalty			
	Pearson Correlation	**Sig. (2-tailed)**	**Level**	**Rank**
1. Product	0.62**	.00	very strong	7
2. Price	0.66**	.00	very strong	5
3. Place	0.65**	.00	very strong	6
4. Promotion	0.68**	.00	very strong	4
5. People	0.69**	.00	very strong	3
6.Process	0.72**		very strong	2
7.Physical evidence	0.72**		very strong	1
Total	0.72**	**.00**	**very strong**	

Table 6 had shown that marketing mix and attitude loyalty had a very strong positive correlation (r =0.72).The product factors had a very strong positive correlation with attitude loyalty (r =0.62), the price factors had a very strong positive correlation with attitude loyalty (r =0.66), the place factors had a very strong positive correlation with attitude loyalty (r =0.65), the promotion factors had a very strong positive correlation with attitude loyalty (r =0.68), the people factors had a very strong positive correlation with attitude loyalty (r =0.69), the process factors had a very strong positive correlation with attitude loyalty (r =0.72),and physical evidence factors had a very strong positive correlation with attitude loyalty (r =0.72), with statistically significant at .01 level, respectively.

Table 7 Pearson correlations for Marketing mix and Behavior Loyalty

Marketing mix	Behavior loyalty			
	Pearson Correlation	**Sig. (2-tailed)**	**Level**	**Rank**
1. Product	0.65**	.00	very strong	7
2. Price	0.68**	.00	very strong	6
3. Place	0.70**	.00	very strong	5
4. Promotion	0.72**	.00	very strong	4
5. People	0.74**	.00	very strong	2
6.Process	0.75**	.00	very strong	1
7.Physical evidence	0.73**	.00	very strong	3
Total	0.73**	**.00**	**very strong**	

Table 7 had shown that marketing mix and behavior loyalty had a very strong positive correlation (r =0.73).The product factors had a very strong positive correlation with behavior loyalty (r =0.65), the price factors had a very strong positive correlation with behavior loyalty (r =0.68), the place factors had a very strong positive correlation with behavior loyalty (r =0.70), the promotion factors had a very strong positive correlation with behavior loyalty (r =0.72), the people factors had a very strong positive correlation with behavior loyalty (r =0.74), the process factors had a very strong positive correlation with behavior loyalty (r =0.75),and physical evidence factors had a very strong positive correlation with behavior loyalty (r =0.73), with statistically significant at .01 level, respectively.

Summary of the Study

The marketing mix in the overview had a very strong positive correlation with the brand loyalty. All of the product, price, place, promotion, people, process and physical evidence had a very strong positive correlation with brand loyalty with statistically significant at .01 level.

Discussions

From the research results show that the marketing mix in the overview was at an agree level. The highest level was process factors at an agree level, the second level was people factors at an agree level, the third level was promotion factors at an agree level, the fourth level was physical evidence factors at an agree level, the fifth was product factors at an agree level, the sixth was place factors at an agree level, and the lowest level was price factors at an agree level.

The study of the related theories of marketing mix, we find that marketing mix in product, price, place, promotion, people, process and physical evidence can have a positive impact, consistent with the study findings of Hitesh Bhasin (2019) for marketing mix of coffee.

The research results show that the brand loyalty in the overview was at an agree level. The highest level was behavior loyalty at an agree level, the lowest level was attitude loyalty at an agree level.

This study provides a basis for the relationship between brand loyalty and coffee industry by studying attitude loyalty and behavior loyalty. The research results are similar to the research results of Aries Susanty (2015) on the brand loyalty of Starbucks, that is, customers' purchase of coffee has an inseparable relationship with brand loyalty

The analysis data show that marketing mix is positively correlated with brand loyalty, which is statistically significant at the level of 0.01. There was a significant positive correlation between each of SEVRQUAL and meaning-based loyalty.

As the world's three major drinks, coffee has been widely concerned and studied. There have been previous studies on the relationship between marketing mix and brand loyalty, but none on coffee. This article fills this gap well. The results were similar to those of Karen Valessksca (2019). It shows that marketing mix and brand loyalty will have an impact on the coffee industry, coffee practitioners should pay more attention to customer loyalty to stabilize the market.

Through the research, it is found that the process is most obvious in the marketing mix. Consumers care more about the production process and service process of coffee products. This is inconsistent with the traditional concept of caring about products and prices, which may be the shortcoming of this paper. However, data studies confirm that there is indeed a relationship between marketing mix and brand loyalty and can influence consumers' decisions.

Recommendations

Through research, we know that customers are most concerned about the process in the marketing mix, and a cup of high-quality coffee cannot be separated from the rigorous and detailed process. Therefore, the coffee industry should strive to control every step of the production and operation process, to provide customers with a satisfactory product, so that customers have a good process experience is necessary.

By studying brand loyalty, we get that customers pay more attention to behavioral loyalty when buying coffee. Therefore, it is important for those in the coffee industry to understand customer loyalty. In order to get more customers or retain more customers, we can better understand and serve customers by analyzing their behavior loyalty.

Since each of the SERVQUAL model and meaning-based loyalty have a very strong positive correlation with each other, we can conclude that for the coffee industry, marketing mix has a very strong positive correlation with brand loyalty. So coffee shop should actively improve the quality of their services in all aspects to make the customer more loyal. From the data of the study results, there is still room for the coffee industry to improve the brand loyalty for customer satisfaction.

The researcher can further study the customer relationship between marketing mix and brand loyalty.

Acknowledgment

Cohesion coffee is grateful for providing relevant information and data support. Thank you to all the customers who participated in the questionnaire collection

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THE ENVIRONMENTAL VALUE OF ZERO WASTE OF HOUSEHOLD POULTRY FARMS

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Abstract

The purpose of this study is to explore the environmental value which generated by applying the 'ZERO WASTE' principle to a household smart poultry farm. Establishing the smart poultry farm to support the adoption of the 'ZERO WASTE' principle in order to prevent waste from being wastefully useless. The overall area of the smart poultry farm in this study is 320 m^2 that was designed by considering on maximize benefit for animal and environment in limited area and using automatic system. This study found that the concept of 'ZERO WASTE' can be used practically for smart farm and reduce costs and increase value explicitly from not having to pay waste disposal or pollution. This study could show reducing the cost and increasing the profitability of the farm. The fact that there is no need to waste things, therefore, environmental problems in the farm will not occur and pollute.

Keyword: Environment, Zero Waste, and Farm, Value

Background and Statement of problem

Environmental problems are becoming more severe and global problems which people should be aware. When environmental problems occur, most people are interested in, but management at different levels do not receive appropriate management or a solution to immediate problem. [1] pointed that green idea can be constructed in the different social boundaries, believes, and attitude.

Today people around the world focus on the campaign to preserve natural resources and environmental factors that affect the environment. Not only business factors that impact the environment, but also consumption in both businesses and individuals have contributed the problems of resources and environment as well. At present, there is global warming which realized people to consume more environmentally friendly [2]

Waste is a problem in the environment because of the overuse of the population from various activities, for example, the production of industrial products and agricultural products without full utilization. The effective waste management should consider that some waste of an activity may be benefit for another activity [3]. Zero waste is primarily based on cleaner production, waste management, the reduction of unnecessary consumption and the effective utilization of waste materials [4]. Applying zero waste can be used as a tool in various activities to reduce environmental problems [5].

Mostly, Thai population is related to agriculture at the household level according to the number of households registered as farmers in 2017 is 7,010,191 households [6]. Moreover, the livestock industry is a vital part of the agricultural sector which is facing the problem of growth sustaining industry in Thailand because of the unsystematic waste management in the farm. The animal waste disposal is one of the causes of the greenhouse effect and serious environmental pollution especially smells and water pollution. Therefore, the initiative stage to tackle is zero waste management planning for household livestock farm.

By integrating zero waste in agricultural sector at household level, it is a way to reduce the environmental problems [7]. This study was conducted using poultry farms in households in order to show the value when zero waste is adopted in the farm. The poultry farm in this study will be an example of the practical technology management at the household level that improve environment in the household farm.

The environmental value that is generated by applying zero waste in household smart poultry farms can reduce farm costs and make further profit in future. this study also provide policy recommend for

government to support a more sustainable, practical, and suitable practices of environmental farming for zero waste contribution. The result from this study could be used to support environmental farming and develop the policy to be feasible and suitable for Thai farming situation currently.

Objective

The overall area of the smart poultry farm was designed by considering on maximize benefit for animal and environment in limited area. The feasible technologies were utilized in the farm which consists of automatic poultry feeder, automatic watering and drainage system, and automatic temperature and humidity control system.

Conceptual Framework

In this study, zero waste has been applied in the smart poultry farm which as following the conceptual framework as figure 1.

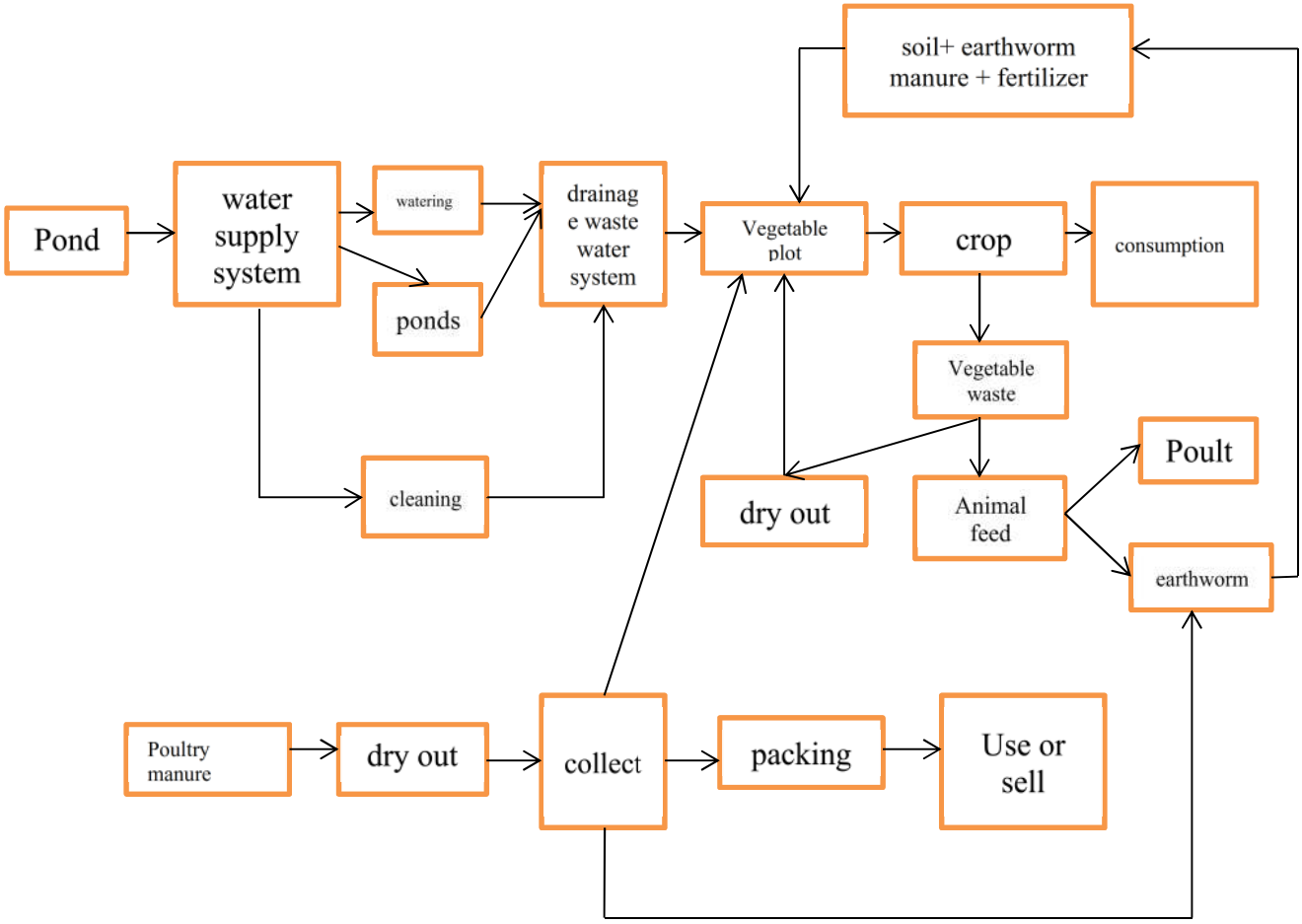


figure 1. the conceptual framework

From the conceptual framework, it can be understood that there is no waste. Straw and chaff from flooring the poultry farm and poultry dung can mixed as poultry manure that is a valuable fertilizer for farming operation. Poultry manure supply needed nutrients for vegetable growth. Poultry manure not only supply many nutrients for crop production, but they are also valuable sources of organic matter.

Research results

When adjusting and planning the area according to the conceptual framework, then we brought the poultrys to the farm along with the 800 m^2 for plantation. It was found that the implementation of the whole system was clear action and seen the occurrence of waste and utilization from the beginning.

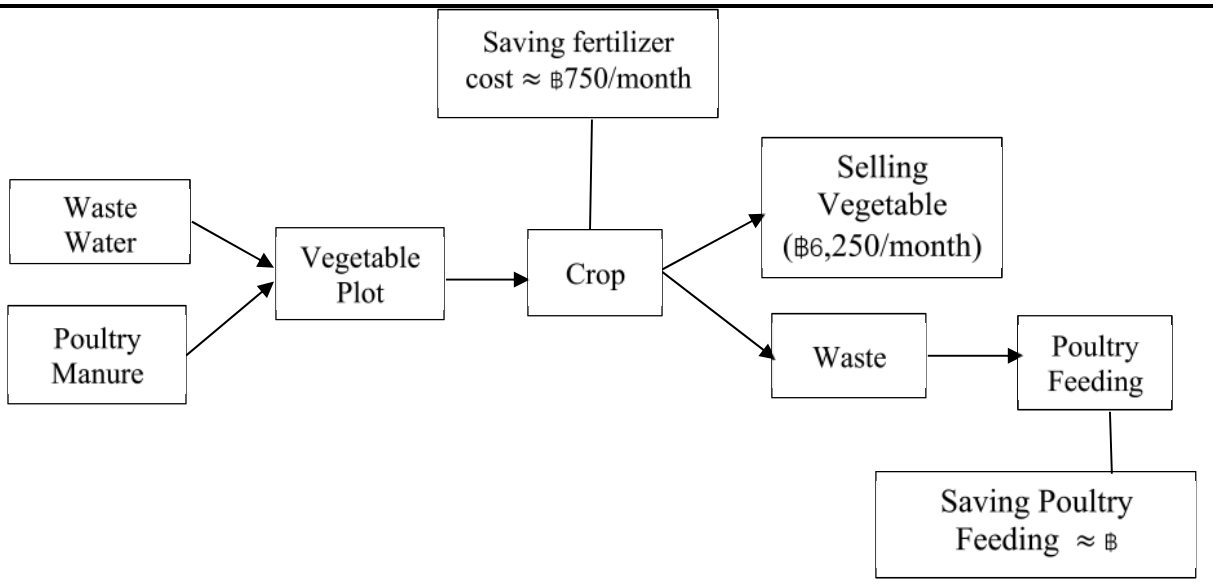


Figure 2. utilization arising from applying zero waste to household poultry farms

The smart poultry farm is to pay attention to environmental care. From figure2, the automatic drainage systems will discharge water by each trough around 30 second. Water from the trough in poultry farm was drained twice/day at 6.00 am and 5 pm automatically by timer setting and the injection system. The amount of water drainage is around 1 m3 which flow to pour vegetable plot (800 m^2) everyday. It showed that this farm is effective water management. The yield of vegetables depends on the type of vegetables to be grown, for instance kale will be cropped approximately 1.80 kilograms per m^2 by using the dried poultry manure and sown 0.60 kilograms per m^2 without using chemical fertilizers to plant.Poultry manure which left over from fertilizer purpose will be processed for sale around ฿30/20kg. When informing farmers in the area that poultry manure was sold, many farmers in the area will order, causing the poultry manure to be insufficient for distribution because some poultry manure was used for vegetable plots. Earthworms is an interesting to be raised for indirect benefits. the vegetables that were harvested and trimmed are used as food for earthworm. Then, the earthworm will produce manure and fermentation to be used in vegetable plots as fertilizer. The soil which used to feed the earthworms is also added to vegetable plots during the soil preparation period for planting vegetables. Moreover, vermicompost and fermented water can be sold for growing flowers and plants. Including the increase in the number of earthworms is released into the area to improve the soil to become crumblier.

Discussions

This study uses the concept of environmental 'ZERO WASTE' to create value for waste in order to be benefit and reduce production costs. This study found that the concept of ZERO WASTE can be used practically for smart farm and reduce costs and increase value explicitly from not having to pay waste disposal or pollution. This concept could show reducing the cost and increasing the profitability of the farm. Moreover, in the invisible part, that is to not waste or disposal.

Environment in the smart farm is clear and little smell which create well-being of animal. The use of waste in the farm will be beneficial that it will lead to zero waste principle and it is not wasteful in the use of resources.

The official government policy was the most significant factor of leading to green, environmental consciousness and awareness [7]. In addition, governmental policies are conducive to growth and invest of capital, regardless of social fairness [8]. Therefore, it must be linked the environmental dimension with social justice. Besides the benefits of economic growth have not reach to the poor and the poor often bear the burden on the environment than any other group in society.[9]The government should support Thai farmers and consumers are starting to feel the pull of sustainable agriculture, organic farming, and organic food. The government should put its weight into environmentally-friendly agriculture. The fertilizer control policy, plus a bill for promoting proper treatment and utilization of animal manure should pushed by

government. The government were required to draw up their own plans to introduce sustainable agricultural production methods suited to the unique characteristics of local communities. Farmers who comply with the environmentally friendly farming can now be certified as "Eco-Farmers," indicating that they are producers working to enrich their soil and reduce the use of chemical fertilizers and agrochemicals. The government should support a financial support system and preferential taxation measures, such as extension of loan payback periods The government promotes sustainable agriculture for farmers to learn sustainable agriculture technologies and techniques, and labeling of environment-friendly produce to attract more support from distributors and consumers.

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Organizational Structure Features Supporting Workplaces Bullying

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Abstract

This paper explored organizational structure which effect workplace bullying probably. It aims to the issue of organizational measures in negative, inappropriate treatment at work or workplace bullying which will associate with organizational structure. Although a person who is in higher hierarchical level of organizational structure may has an opportunity to bully people in lower hierarchical level of organizational structure. Not only Bullying is restricted to tyrannical types of leadership behaviors but it can also occur among colleagues at the same hierarchical level or even upwards.

Keyword: organizational structure, workplace bullying

Background and Statement of problem

Bullying is aggressive behavior to one person or group perform another person makes the victim feel ashamed, stress and dissatisfaction. According to Public Services Health & Safety Association [1] explained that bullying is repeated, persistent, continuous behavior as opposed to a single negative act, and is generally associated with a power imbalance between the victim and perpetrator where the victim feels inferior. Moreover, Public Services Health & Safety Association [2] conclude that workplace bullying cause negative effects on the organization include:

- High turnover and intention to leave the organization
- Higher rates of injuries and illness
- Increased EAP costs
- Decreased commitment
- Higher levels of client dissatisfaction
- Higher rates of absenteeism
- Increased short- and long-term disability costs
- Increased WSIB costs
- Decreased productivity
- Worsened organization image

Therefore, workplace bullying means using sneaky, verbal incitement and slander the victim repeatedly. Workplace bullying is acting that make a victim was embarrass and in trouble, including do not cooperate in working to achieve the goal. The effect of workplace bullying is serious issue that may be harmful to health and self-confidence of the victims. This paper study the issue of organizational measures in negative, inappropriate treatment at work or workplace bullying which will associate with organizational structure.

Workplace Bullying

[3] gave definition of bullying that include repeated negative acts that recur over time, and where there is a power difference between the perpetrator and target. Moreover, [4] quoted “workplace bulling related forms of mistreatment in the workplace (p.235).

[5] “Workplace bullying concerns actions different from that of a conflict where two persons of equal strength are in disagreement at work” (p.307). Armin (2010) noted that the key element that distinguishes bullying from other workplace conflicts and violence is the repeated and persistent exposure to negative and aggressive behaviors. The frequency and duration of the harassment are key dimensions of bullying. These dimensions create the procedural character of bullying (p.2).

Furthermore, [6] state that bullying at work is unwanted behavior whether physical or verbal which is offensive, humiliating and viewed as unacceptable to the recipient. The misuse of power to intimidate somebody in a way which leaves them feeling hurt, angry, vulnerable or powerless.

From Victor's survey, they found that 40% of whom indicated that they had been bullied and/or harassed in the workplace, and 60% reported they had not. Of the 40% who had indicated that they had been bullied and/or harassed in the workplace, 52% reported that the source was a manager or supervisor, 29% reported that the source was another employee, and 18% reported the source was both a manager or supervisor and another employee [7] Thus, Bullies workplace commonly occurred in the form of nit-picking, unjustified criticisms or inequitable treatment compared to other employees. According to the Workplace Bullying Institute, 35% of the U.S. workforce reported being bullied at work, and 15% say they have witnessed bullying on the job. [8].

Therefore, bullying at work can take many forms. For example, it could manifest itself as disrespectful behavior, preventing others from working, verbal abuse, threatening behavior, intimidation, or humiliation. And these problems aren't uncommon either.

Organizational structure features supporting workplaces bullying

There are many author already given definition of organizational structure. For example, Gibson, Ivancevich, [9] gave definition of organizational structure that is pattern of jobs and groups of jobs in an organization and also important cause of individual and group behavior (p.378). [10] noted that the importance of organization structure as an influence on the behavior of individuals and groups who make up the organization. Workplace bullying is a behavior of individuals and groups who make up the organization in negative way, therefore, it is possible that organization structure may influence on this behavior.

Historical management style is a risk factor associated with workplace bullying [11]. Workplace bullying caused from interaction in negative way among employee or between boss and subordinate. According to [12] claim that organizational structure influences information flows as well as the context and nature of human interaction [13].

The most frequently identified reasons for filing a cause of action were retaliation, harassment, discrimination, civil rights, constitutional amendments, state laws, and unlawful termination [14]

Moreover, the cultural values of the United States, which emphasize individuality, assertiveness, masculinity, achievement, and a relatively higher power disparity than found in Scandinavian cultural values. Thus, it might be anticipated that the characteristic of individuality would lead to individuals being less inclined to go to the aid of a victim. The characteristic of assertiveness could trigger an incident of workplace bullying through forcefulness. In general, the characteristic of masculinity would be associated with increased aggressive behavior. In terms of achievement, people with a high need for achievement may be focused on advancing themselves relative to others. As for the power disparity, there is research evidence that indicates bullying is more likely to occur when high levels of power imbalance are present [15]

Hierarchical level and workplaces bullying

[16] Gendered division of labour is visible both in hierarchical and occupational (horizontal) segregation of labour, with most organizations still being structured hierarchically (i.e. vertically) along gender lines. Research indicates that gender inequality in organizations continues to exist, creating obstacles for women to advance in their careers.

[16] stated "Hierarchical workplaces such as health care and education tend to attract more bullies than collaborative organizations". While bullied victims are usually targeted due to their social incompetence, on some occasions bullies can possess high levels of social ability. Due to their social competence, they are able to strategically abuse coworkers and yet be evaluated positively by their supervisor [13]. It is likely that a person who is in higher hierarchical level of organizational structure has an opportunity to bully people in lower hierarchical level of organizational structure.

Moreover, [11] found that some company increased flat organization and adapt organizational structure with fewer hierarchical levels in order to improve relationship and communication between manager and subordinates. Good relationship in workplace and bottom to up communication between manager and subordinates may decrease the opportunities of bullies workplace. Therefore, it is possible that inequality in each level of hierarchy of organization may lead to bullies workplace easily.

Proposition 1: Hierarchical level has a positive effect on the opportunities of workplace bullying

Centralization and workplaces bullying

While victims are usually targeted due to their social incompetence, on some occasions bullies can possess high levels of social ability. Due to their social competence, they are able to strategically abuse coworkers and yet be evaluated positively by their supervisor [14]. According to Rowell (2005), 81% of bullies are managers, 14% are peers and 5% are lower-ranking staff.

[15] said that political skill is defined as "the ability to effectively understand others at work, and to use such knowledge to influence others to act in ways that enhance one's personal and/or organizational objectives" therefore, political skill focuses on an employee's ability to recognize and leverage power differentials in the workplace, it may be particularly helpful in understanding the power dynamics of bully-victim relations [15].

Centralization to only one group may cause using the power in the wrong way. If the boss does not have the moral authority in management, they can use that power in the wrong way easily. For instance, the use of power in position to persecute and bully people under their command. According to [16] stated that bullying is more likely to occur when high levels of power imbalance are present.

Moreover, when organization was larger, Centralization structure may lead to power imbalances issue. Power imbalances may also evolve over time and that the bullying process itself may give rise to further increasing power imbalances [10] The importance of power structures and power imbalances in organizations can partly explain the large number of victims being bullied by supervisors [11]. According to [9] also explain that the imbalance of power is the source of power can either be formal resulting from the organizational structure or informal for example originating in the knowledge of the target's 'weak point'.

Proposition 2: centralization has a positive effect on the opportunities of workplace bullying

Flexibility and workplaces bullying

Characteristics of those who bully include persons with a low self-esteem, poor communication skills [7]. [8] concluded that flexible structure allow dialogue and teamwork among staff members and encourage interaction between all firm members, furthermore, this will allow employees to take better advantage of their individual capabilities.

Encouraging flexibility will create all its authority, chain of command, and bases of departmentalization, flexibility for decision making, for responding and redirecting energies, and for spotlighting people's talent [10].

On the flexibility of organizations to help employees interact more and it can reduce mistake in communication, enhance communication effectively, reduce mutual misunderstandings, and sharing information is true and clear. Employee, furthermore, show their individual capabilities in order to increase their confidence more. These are able to decrease the opportunities of workplace bullying.

Flexible structure allow information in communication flows freely throughout the organization: upward, downward, and, laterally [12]. Which is good for managers in perception of workplace bullying timely in order to solve problems at work quickly before occur significant damage to the organization. For instance, [13]suggested tips for managing workplace bullies that to understand relationships, if employee think their colleague is bullying them they should tell their boss to tackle. If manager has been know as soon as possible before the problem will escalate it takes to find a solution immediately.

Proposition 3: Flexible structure has a negative effect on the opportunities of workplace bullying

Horizontal structure and workplaces bullying

To change organization to flat or horizontal structure allow communication is enhanced. Firm members can interact easier even boss and subordinates can interact easily that allow to create collaboration and positive relationship, reduce conflict and the opportunities of bullies workplace. According [14]stated that if organization is open and extensive, both superiors and subordinates are able to affect departmental, goal, methods, and activities. These will reduce disputes and conflict between superiors and subordinates.

[14] suggested tips for managing workplace bullies that to understand relationships, if employee think their colleague is bullying them they should tell their boss to tackle. The relationship between the boss and the bully first is an important key for managing workplace bullies. Therefore, horizontal structure promote good relationship among firm's member in any management level that can decrease the opportunities of workplace bullying

Proposition 4: Horizontal structure has a negative effect on the opportunities of workplace bullying

Conceptual Framework

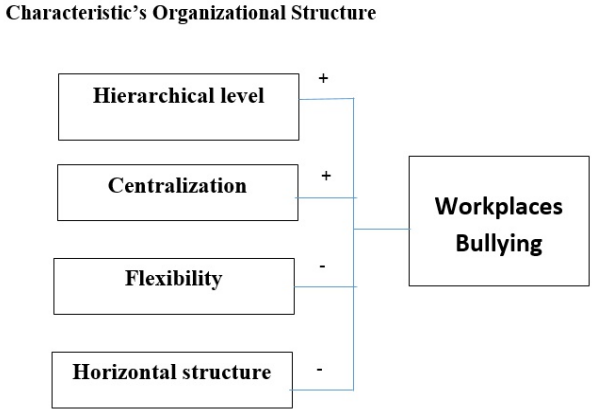


Figure 1 Characteristic's Organizational Structure

Summary of the study and Discussions

Although a person who is in higher hierarchical level of organizational structure may has an opportunity to bully people in lower hierarchical level of organizational structure, [14] argued that bullying process may occur within vertical or horizontal organizational levels. Not only Bullying is restricted to tyrannical types of leadership behaviors but it can also occur among colleagues at the same hierarchical level or even upwards. It is obvious that employees at each level of the organization can be affected by this challenging topic [15].

Anti-bullying policies seem to be a best practice solution with several drawbacks as described in previous sections. If organizations decide to use anti bullying policies they have to be aware that this decision must include the decision to involve all levels of employees into an policy development process in order to create necessary awareness. The developed anti-bullying policy should at least contain the following elements [15].

• Commitment to a bullying-free environment: a statement that bullying is an organizational issue and that such behavior will not be tolerated.

• Outlining what kind of behaviors are seen as bullying (and which are not).

• Stating the consequences of breaking organizational standards.

• Indicating the responsibility of different actors, such as line managers and human resources professionals.

• Naming contact persons and responsibilities.

• Explaining the procedure of making informal/formal complaints and describing how complaints will be handled (incl. comments on confidentiality).

• Support available for targets and perpetrators.

• Victims have the right to file a complaint.

• Monitoring and yearly report of the policy development.

Furthermore, [8] suggested that instead of adopting a specific anti-bullying policy, the organization should look at organizational culture, training for managers and supervisors about moral and bully management. [10] also recommended that training for managers and supervisors as it is important to get special training on bullying in order to be able to identify bullying when it happens and to be able to differ between harassment and other conflict situations.

Further bullying specific training has to be offered simultaneously in order to prepare managers, supervisors but also other employees for bullying situations, as knowledge is a prerequisite for taking the right actions. An important element that should be added concerning policies is a bullying controlling process since bullying can also be misused by supervisors to get rid of employees they see as personal menace or similar situations. The realization of the policy is the most crucial element because victims raise their hope because of written rules that promise them help. If this hope gets defeated be a missing realization or reaction of a supervisor a drastic effects on the employee are very likely.

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AEC And The Replacement Thai Labour by Foreign Labour

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Abstract

Opening AEC, principle of labor demand in the labor market planning should be focused on promoting labor export 8 professional careers in terms MRAs. The objective of the labor market study is to determine the goals and quantitative targets while, in a qualitative study of the conditions of employment of the foreign worker. The weakness of Thai labor especially is English and Information Technology (IT), therefore, we should increases the strength of Thai labour, discipline, teamwork, human relationship, for example, in order to have qualification that ASEAN business need.
Keyword : AEC, the replacement, labour

Backgroung and Statement of problem

Currently news on the AEC (Asean Economics Community) to make someone understand that by 2015, people in ASEAN can go to work in any countries in ASEAN easily. There were some questions about the prospect of Thai labour when ASEAN community open, further, what labour group would get benefit?

[15] said that the free flow of labor within ASEAN is considered to be one of the most important negotiation topics. The free flow labor is under the ASEAN three Framework Agreements, which comprise:

1) Agreements on the free flow of skilled labor
2) The ASEAN Framework Agreement on Services (AFAS)
3) The ASEAN Comprehensive Investment Agreement (ACIA)

When the upcoming ASEAN, important factors that support the migration of labor are the expansion of development, labor shortages, modifications of population structure, and the needs of the labor market. Moreover, there are other factors that support the migration of labor are Low economic growth while high unemployment rates, lower wage than policy of labor export, political factors, for example.

Table 1 The Number of the formal and informal employment by age group, gender and region, Whole Kingdom

Types of employment	Whole Kingdom		
	Total	Male	Female
The formal employment	14,778,844	8,002,807	6,776,038
The informal mployment	24,799,500	13,363,706	11,435,794
Total	39,578,344	21,366,513	18,211,831

From table 1, it showed that Thailand had the sum of formal and informal employment 39,578,344 people. The informal employment had 14,778,844 people and the formal employment 24,799,500 people. When AEC will open, it is possible that foreign workers will have the opportunity to work in Thailand. Thai labour might be replaced by foreign workers who come to work due to many factors, for example, lower wage, langauge capabilitied,and other skills are better. It might make Thai labour unemployed increasing by around millions.

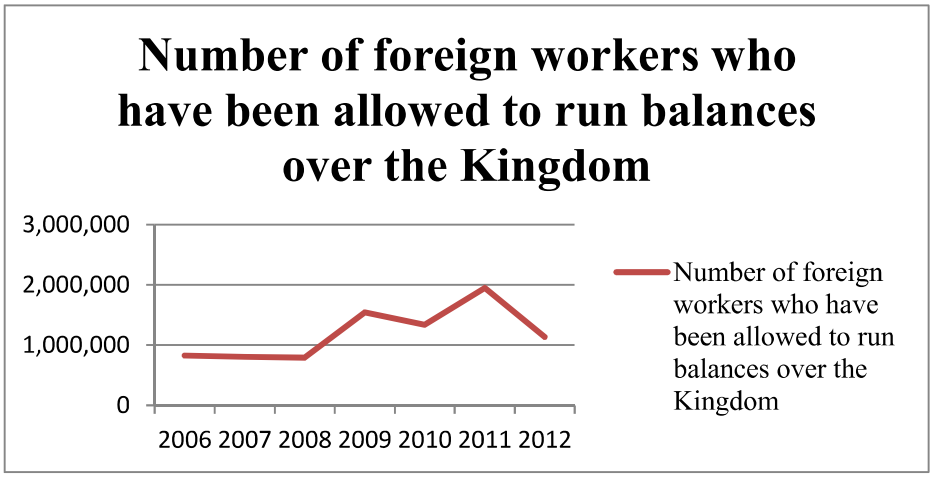


Figure 1 Number of foreign workers who have been allowed to run balances over the Kingdom
Note: Adapted from http://wp.doe.go.th Copyright 2013 by The Office of Foreign Workers Administration, Department of Employment Ministry of Labour. Reprinted with permission.

As Figure 1 showed, the number of foreign workers who have been allowed to run balances over the Kingdom increased from 2008 to 2009 rapidly. This is probably because the promulgation of Working of Aliens Act B.E. 2551 on 23rd February 2551 by improving to suit the situation and corresponding to the labor mobility in the world economy. Labor is a major factor that helped propel the country's economy [17,18]. The promulgation of Working of Aliens Act B.E. 2551 may be one reason that made the number of foreigners to work in Thailand increased because it is allowed to work legally. [19,20] indicated that in 2005, there were unskilled foreign workers to work in Thailand around 2 million people, most Burmese was around 1,300,000 people. Furthermore, when AEC will open, it might made foreign workers entering to work would be easier.

Although, many academics[1] said that under the ASEAN 3 Framework Agreements refer to the free flow of professional labour only, two another agreements refer to The liberalization of service and investment. It may be channel which move labor in the industry and services investment from foreign workers in the lower wage and other skills that are better than Thai labour.

The AEC will become an important context to affect Thai labor quickly and widely which may affect the replacement Thai labour by foreign labour when AEC will open. Thus, the author is interested to analyze aspect of the minimum wage, Language Capabilities, and Professional license under the Mutual Recognition Arrangement.

The Minimum Wage

Wages is one factor that attracts labor to work. [2,21] noted that we can think of advantages in employment by comparing the minimum wage in each country. For instance, Indonesian got an advantage in aspect of the number of labor sufficiently and labour wage, cheaper than Thailand in low-level skilled labour and semi-skilled labour.

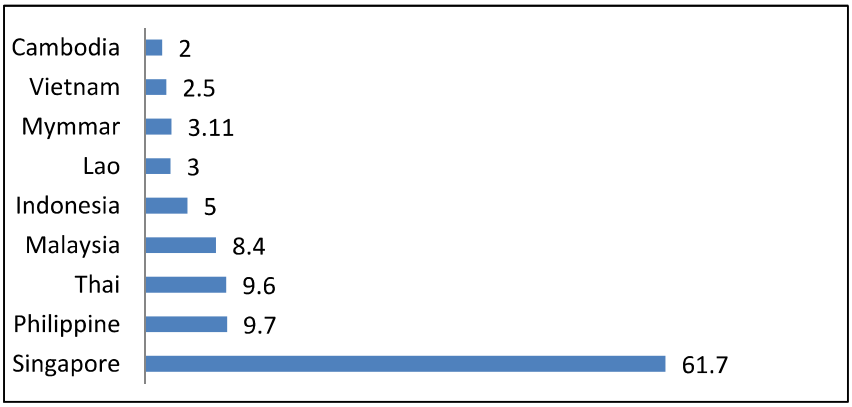


Figure 2 Comparison data on the minimum wage in each country in AEC (US. dollars/day)
Note. Retrieved from ASEAN Countries Trade and Investment Handbook. Copyright 2012 by Ministry of Commerce. Reprinted with permission.

As shown in figure 2 is comparison data on the minimum wage in each country in AEC (US. dollars/day). Malaysia and Singapore do not have minimum wage. The minimum wage in Malaysia and Singapore are showed in figure 1. It is calculated based on the average salary of unskilled labours. If any country has a higher minimum wage that would be attracted labour to work from countries with a minimum wage lower. Thailand has a minimum wage higher than Cambodia, Laos, and Myanmar significantly that resulting labour from these countries moved into work in Thailand. From The Labor Department today found that Thailand has migrant labours from Burma, Cambodia and Laos who have permission to live and work legally in Thailand over 2.2 million people [3,22]. According to [4,23] explained about migration theories that Neoclassical theories of migration can be [5,24] and [6,25] and Economic equilibrium theory [7,26]. This theory shows the distribution level of labor and capital that labor tends to flow from low wage area to high-wage area. The following proposition outline the differrences of minimum wage among AEC country and the free flow of labor in the low level:

Proposition 1: the minimum wage among AEC country has a positive effect on the free flow of unskilled labor in Thailand.

Language Capabilities

Language is important in communication skills, international contacts, and working with foreigners. If the language is not good enough it will be certainly a barrier to work. From the cross cultural communication competence model, basic knowledge about the language is a interpersonal skill to perform task effectively, furthermore, it allow the cross cultural communication will be successful [8,27]. Language of various nationalities were also many differences, but the common language of ASEAN is English. However, the country has an advantage in the use of English as Malaysia, Singapore and the Philippines, Vietnam and Cambodia are also developing English language skills quickly [9].

[10]stated that there are many English schools in Vietnam and Cambodia. They also invested in learning English and diligence to develop their skills continuously because they know that the chance to get a good job and high salary depend on the ability to use English as a factor. Thailand seems to develop slower than others in this field, therefore, English skills of thai people need to be developed to pace with the neighbors.

Thus, labour who come from countries with high language skills would have the opportunities in position of the operational level up to senior management level. Language skill is necessary to communicate and management in international management, therefore, in contrast with language skill is expected to have a effect on employment opportunities in the skilled and semi-skilled labour:

Proposition 2: the Language Capabilities of worker among AEC countries has a positive effect on employment opportunities in the skilled and semi-skilled labour in Thailand.

Seven professions

Professional license under the Mutual Recognition Arrangement (MRAs) for seven professions is a factor in employment importantly. MRAs facilitate the movement of professional-level labour, which pertains only to skilled labour with qualifications that meet the standards specified in the MRAs of Asean. Asean member nations have signed MRAs for seven professions – physician, dentist, nurse, engineer, architect, surveyor and accountant [11]. professional-level labour must have a professional license by Mutual recognition Arrangement to be able to work in all countries in AEC. When AEC will open, foreign companies that invest in Thailand will have the right to choose to hire people from other AEC who have the professional license under the Mutual recognition Arrangement and high work skills to work in Thailand. It may result higher unemployment rate in Thailand if Thai professional-level labour have skill not good enough.

For insatnce, Asean Chartered Professional Engineer (ACPE) allowed engineers who have already registered can travel to work in professional engineering officially among the Parties in the ASEAN countries. Therefore ASEAN countries have provided arrangements for mutual acceptance, called the Mutual Recognition Arrangement (MRA). In each country in Parties provide agency inspect engineers' qualification in order to for formal approval register from ACPE Coordinating Committee again.

Table 2 The number of Asean Chartered Professional Engineer to be certified by ACPECC in ASEAN countries

ASEAN Countries	The Number of Registered
Singapore	204
Malaysia	180
Indonesia	113
Vietnam	84
Myanmar	30
Thailand	0
Total	611

Note. Retrieved from http://thaipublica.org/2014/03/apec-acpe-1/ Copyright 2013 by Thongchai Prunswad. Reprinted with permission.

As shown in Table 2, it showed that engineers in the Asean countries have certification from ACPECC except Thailand. When opening AEC will affect Thai engineers might be replaced by foreign engineers in international companies that invested inThailand because the international companies have right to hire engineers from other countries in ASEAN come to work in Thailand. Thus, The preparation in the quality of labor is important that government agencies should take action urgently.

In addition, it is also an opportunity for multinational companies to invest nearly full mode but there must be a partnership, Thai people due to some legal. However, when the AEC open foreign companies to invest, they can pull foreign labour in profession to work in Thailand. It would result Thai labor Thailand will face high competition that will be employed in these occupations. Furthermore, foreign companies with experience and investments that can compete in the market possible will make Thai professional-level labour who are employed less. It might cause Thai professional-level labour have to find work in other countries which have lower wages and less development than Thailand.

However, some necessary position still need thai labour to work, coordinator for contact the governor, and interpreter , for example. According to [12]noted that although we use English to contact when doing business in other countries, to attempt communication across culture we still have to stick to their own language, rely on translators, and learn the local language in order to avoid missing subtle yet crucial meanings.

Proposition 3: the Professional license under the Mutual Recognition Arrangement among AEC countries has a positive effect on employment opportunities in the profession field in Thailand.

[13] suggested about Thai labor adjustment that although Thai professional-level labour have skill in their career well, they should improve skills in foreign languages for communication must be developed, especially for the English language.

Proposition 4: the language capabilities among AEC country moderates the positive effect of the Professional license under the Mutual Recognition Arrangement among AEC countries on employment opportunities in the profession field in Thailand.

Research results

Opening AEC, it might make the free flow of foreign labor increase. It is possible that Thai labour will be replaced by foreign labor. Thai labour will lose the chance of being hired. Therefore, Thai labour must develop their skills as equal or better than foreign labor. Thai labour should be emphasized in the development of language [14].

However, [15] argued that the AEC should not bring drastic change to the Thai labour market as Thailand and Asean nations have trade and services agreements with non-Asean nations worldwide. However, the AEC offers opportunities for Thailand to send its surplus skilled labour to other Asean countries and generate income for Thailand as well as job opportunities for Thai workers.

Moreover, [15] stated that after AEC open, to hire migrant workers in Thailand may be reduced or increased depend on market mechanisms. The reduction of hiring migrant workers will occur if manufacturing base that focuses on labour intensive moves to invest in other ASEAN countries which have the rate of wage rate is lower than Thailand, such as, Indonesia, Vietnam, Lao, Cambodia, and Mymmar. Meanwhile it is possible that to hire migrant workers in Thailand are increasing if Thai skill labor is still

low level and lack of development which is opposite to the increase in the wages of government. It will make hiring foreign labor increase. The reason which make manufacturing will not move to other countries may be because Thailand is well equipped infrastructure.

Discussions

Thailand need to prepare labor with the AEC, including to consider the advantages and disadvantages of the AEC affecting Thai labour by level (skilled, Semi-Skilled, Unskilled) labor and 7 professional level labour. Although, seven professions can travel to work in nine countries since 2015, there are still several limitations. For instance, labour in seven professions who wants to work in other ASEAN countries also need to test Professional license with the language of the country where they are going to work. Therefore, the language capabilities would be a barrier in communication to work. In addition, the skills of adapting in the new environment and the ability to work with foreigners it is also a limitation that cannot be overlooked.

For skilled and semi-skilled labour, such as supervisors and managers in low / medium / high, though they are not professional labour to move freely, this group will likely be sent to work other countries temporarily if manufacturing open or expand investment in other countries.

For group of low-level labour (unskilled labor and lowest wage) is the most worrisome. Probably, because Thailand is unable to attract investment by labour with low wages anymore. Besides Philippines, Malaysia and Singapore, there are another 6 countries with lower wages than Thailand when the level of liberalization of investment has increased.

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Understanding Different Culture is the Best to Work Together

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Abstract

Understanding different cultures is an essential aspect of navigating our diverse world. With globalization, people from different parts of the world are interacting and working together more than ever before. Learning about other cultures helps us to appreciate and respect the differences in people's beliefs, values, and ways of life. It also helps to avoid misunderstandings and conflicts that may arise due to cultural differences. Cultural differences can manifest in various ways, including language, religion, customs, food, and traditions. To understand these differences, we must be willing to learn, ask questions, and listen. Through learning about other cultures, we can broaden our perspective and become more tolerant and accepting of different ways of life.This topic is particularly relevant in today's world, where many countries are experiencing increased immigration and cultural diversity. Understanding different cultures is not just about respecting other people's way of life; it can also help us to build bridges and create connections with people from all walks of life. In this regard, it is an essential skill for anyone who wants to thrive in our increasingly globalized world.

Hofstede's cultural dimensions

Hofstede's cultural dimensions tell the differences of people in organization from different country that it is also different culture. They identified the differences into five dimensions. Hofstede's (1980, 2001) five cultural dimensions are power distance, individualism, uncertainty avoidance, masculinity, and long-term orientation. [1]

The first cultural dimensions of power distance is The difference of status is unequal. Some cultures are divided highly between people in social status. This dimension is divided into two types, high power distance, and low power distance. Some social has high power distance that it make people will feel the difference between individuals highly. For instance, Executives feel that they are more superiority than employees. In contrast, social in low power distance allow executives do not feel that they are different from their own staff.

Individualism is the cultural dimension that explain about forms of social living are different. Individualism is more concern about their own interest than collectivism. People in collectivism have ideas and actions that regard to feelings of others or the group.

Uncertainty Avoidance is the cultural dimension that is divided into two types of high and low uncertainty avoidance. This cultural dimension is people have differences of the courage to face the risks which affect management. The society has high uncertainty avoidance, people have people have Reacted to tackle in risk situation suddenly.

Masculinity is the cultural dimension that is divided into masculine and feminine. Masculinity means the social equality of the gender. In societies with high equality of the gender, women and men have equal rights in everything. For instance, women can be a leader of men. However, In some society where men and women are very different that it make women may work in the general position only. Some culture allow women have household work only.

Long-term Orientation is the dimension that explain about focusing on long-term goals or short and its connection to Confucian philosophy [4]. Further, Yoon noted that fostering of virtues oriented towards future rewards (p.294). Long-term orientation represents support management activities in order to adhere to the goal, which is what is necessary for the excutive. However, short-term orientation make people do not have initiative, not change anything, and expect result of work rapidly.

Project GLOBE cultural dimensions

GLOBE is an extension of the concept of Hofstede which allow us to understand greater. The results came out as nine dimensions used to describe the cultural differences, futhermore, understand, and predict the impact of specific cultural variable on leadership and organization processes and the effectiveness of these processes [1]. There are the nine cultural dimensions to be studied in GLOBE:

1. Uncertainty Avoidance
2. Power Distance
3. Collectivism I: Social Collectivism
4. Collectivism II: In-Group Collectivism
5. Gender Egalitarianism
6. Assertiveness
7. Future Orientation
8. Performance Orientation
9. Humane Orientation

[1] noted that the first six dimension is from identifying by Hofstede's cultural dimensions. Further, GLOBE developed masculinity two dimensions of gender Egalitarianism and assertiveness from masculinity in Hofstede's cultural dimensions. Gender Egalitarianism still explain about gender discrimination while assertiveness tell about the degree to which individuals in organization or societies are assertive, confrontational, and aggressive in social relationship [1].

Future Orientation was derived Kluckhohn & Strodtbeck's that is degree to which a collectivity encourages and rewards future-oriented behaviors such as planning and delaying gratification [1]. In my opinion, if people have characteristic of future orientation highly, it will emphasis working for long-term success.

Performance Orientation was derived and developed from McClelland's work on need for achievement [1]. "It reflects the extent to which a community encourages and rewards innovation, high standards, excellence, and performance improvement" [1]. If organizations have performance orientation highly, it allow more training and development occur in organizations.

Humane Orientation was from Kluckhohn & Strodtbeck's the Human Nature is Good vs. Human Nature Is Bad dimension. Humane Orientation is to the degree to which people are fair, altruistic, friendly, generous, caring and kind to others [1]. I reckon that if high humane orientation occur in an organization, people will help each other, do not quarrel, and conflict will not happen in the organization. Further, organizations must regard to Corporate Social Responsibility (CSR). If the organizations have high humane orientation, it will make CSR succeed definitely.

High versus Low context culture

The concept of high versus low context culture has been shown to be quite useful, especially for cross-cultural communication studies. Edward T. Hall (1976) proposed the concept of high versus low context as a way of understanding different cultural orientations. [2].

In Edward Hall's (1976) view, a high-context culture is one in which people are deeply involved with each other. Words used to communicate often tortuously to avoid conflict or afraid that it disrupt relationship among people. Further, [2]quoted "information is widely shared through simple messages with deep meaning" (p.509). "A low-context culture is one in which people are

highly individualized, somewhat alienated, and fragmented, and there is relatively little involvement with others" [2]. People in a low-context culture use words to tell the meaning clearly and frankly that it can summarize the substance of what other said easily.

Similarities and Differences between Hofstede and Globe

However, [4] said "there are still unbridged able conceptual and methodological differences between the two studies" (p. 1046). GLOBE studied the effect of variables in each dimension which related each other while Hofstede distinguish and conclude difference of people in organization into five dimensions only.

From the GLOBE research program, they could create The GLOBE conceptual model that it is more detailed description of the theory, moreover, they can tell interaction among variables as this figure : [1]

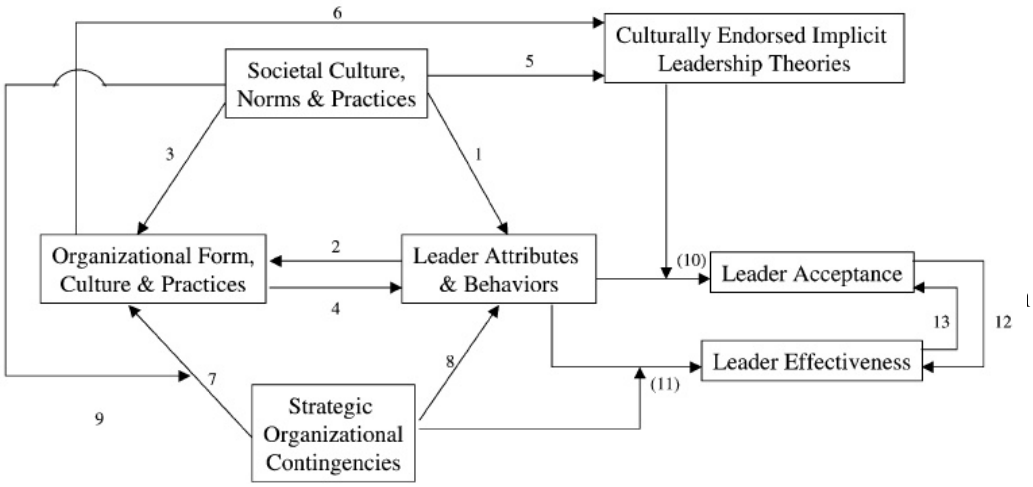


Figure 1 The GLOBE conceptual model

Hofstede's cultural scores but also have their own limitations. The model can update cultural scores by using economic indicators is not just relevant to Hofstede's framework. it will be useful for the GLOBE and other projects as well, moreover, it has the potential to be better than using the original scores alone (p. 1046)

How each cultural dimension can affect each aspect of product development process?

From the article of Nakatar & Sivakumar (1996), they worked on National Culture and New Product Development and reported that each cultural dimension can affect in the different stage of the new product development process. Firstly, the dimensions of individualism and collectivism is forms of social living are different. Individualism is more concern about their own interest than collectivism. People in collectivism have ideas and actions that regard to feelings of others or the group[3] concluded that both individualism and collectivism affected two stage of the new product development process. Individualism seems to be a positive force in the initiation stage as well because to know the need exactly that it develop new product easier and meet the needs. In my view, Niche Market would be easier as people dared to make sharing information and easier to access in order to make it easier to develop products to meet the needs as much as possible. On the other hand, collectivism is an asset in the implementation stage because this step needs to work together smoothly in order to achieve objectives are met.

Power distance is the individual differences of status are not equal. [3] noted that both high and low power distance seem to support new product development in the different stage. Low power distance is possibly associated with decentralization which give people opportunities to

comment in the new product process. Thus, Low power distance may need in the initiation stage. However, at the implementation stage of the new product development need high power distance that is associated with centralization in order to retain power and authority to generate a new product punctually and cost-effective basis. [3]

Thirdly, Hofstede (1980) identifies the culture factor of masculinity on the basis of the social equality of the gender [3]. both high and low masculinity need to occur in the different stage of the new product development process. In the initiation stage need to create warm environment, trust, supportive relation, thus, low masculinity supports the idea generation, critiquing, and relational building tasks. However, the implementation stage needs high masculinity to control the new product development process effectively.

Fourthly, the culture factor of uncertainty avoidance is differences of people who dared to face the risk. Probably, high uncertainty avoidance associated with risk aversion which can be helpful at the implementation stage because this stage have to be confident and ensure in operation. It need to be carefully planned in every step to ensure that new product can be traced back. If the risk in operation is high, it will cause a waste of investment and time. In contrast, risk aversion would rule out in the initiation stage because it is to build creativity in thinking process, not to detail. Thus, the next steps will be to mention the risk of many aspect more.

Finally, Confucian dynamic is unlike the other four culture as mentioned above. Confucian dynamic presented two dimensions that are particularly relevant to new product development are work ethic(the positive pole) and face saving (the negative pole). Confucian dynamic on new product development does not depend on the stage of the process. Thus, the relationship between the Confucian dynamic and new product development appears to be the positive pole, represented by the strong work ethic and emphasis on proactiveness and the future, facilitates new product development. In contrast the negative pole as represented by face saving and giving, works against new product development through a focus on preserving structures, relationships, and positions of the past and present [3]

In conclusion, cultural dimension can affect each aspect of product development process. It depend on adapt to use in any stage or situation of process in order to achieve project's objective successfully.

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Forecasting Model for The Value of Gemstone's Export of Thailand

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Abstract

Having accurate information about the value of gemstone's export of Thailand situation is very important. The predicting trends will allow to make right decision in economy nowadays. The aims of the paper are to demonstrate the trend in gemstone export value in Thailand and to plan our strategy and policies accordingly to promote areca nut production and export. With this meaning, a study on gemstone export value in Thailand from 2014 to 2022 was conducted. The result showed that the trend of export value of gemstone would be decreased, around 1,640,589,311 baht in 2023. When comparing the results of the 3 forecast models the export value of gemstone in Thailand Quadratic Trend Model is the most effective for forecasting in the export value of gemstone as MAPE gave the lowest value, MAD and MSD were the most suitable. Gemstone be considered as a significantly of Thailand in future for export of Thailand because there are needs in the international market and price still be reasonable. Driving and implementing sustainable agriculture should focus on efficiency and effectiveness truly.

Keywords: Gemstone, Forecasting Model Export,

Background and statement of problem

Marketing plays a critical role in the gemstone industry, as it helps to connect producers and suppliers with buyers and consumers around the world. Gemstone marketing research has been an important area of study for academics, industry professionals, and policymakers interested in understanding the factors that influence consumer behavior and preferences, as well as the strategies used by firms to promote and sell their products.

In recent years, there has been a growing interest in the role of digital marketing in the gemstone industry. With the rise of e-commerce and social media platforms, firms are increasingly using digital marketing channels to reach consumers and promote their products. Furthermore, there has been a shift towards more personalized marketing approaches, as firms seek to target specific segments of consumers with tailored messages and offerings.

Several recent studies have focused on different aspects of gemstone marketing. For instance, a study [1] analyzed the factors that influence consumer perceptions of the ethical and environmental sustainability of gemstones, and the implications of these perceptions for marketing strategies. In another study, [2] examined the use of social media marketing in the Indian gemstone industry and the effectiveness of different social media platforms in reaching consumers.

Overall, gemstone marketing research is a vital area of study, as it can help firms to better understand their target markets and develop more effective marketing strategies. Additionally, it can help to promote transparency and ethical practices in the industry, and ensure that consumers are well-informed about the products they are purchasing.

Objective

It is necessary to know the trend in gemstone export of the country why gemstone export of the country is increased or decreased at specific period and to plan our strategy and policies accordingly to promote gemstone export. With this meaning, a study on gemstone export in Thailand 2014 to 2022 was conducted.

Literature Review

Trading Data of Gemstone

The export of gemstone's value of Thailand has been fluctuated. In 2021, The value decreased from 2020, 66.54% while the value in 2022 increased, 55.34% from 2021.

Table 1: Export Value of Areca nut in Thailand

Year	Export Value Unit:Baht (฿)
2014	1,565,515,004.00
2015	2,316,723,813.00
2016	2,985,568,516.00
2017	3,247,998,931.00
2018	2,892,056,258.00
2019	3,630,446,564.00
2020	3,967,775,604.00
2021	1,327,641,447.00
2022	2,972,610,710.00

Source: The Gem and Jewelry Institute of Thailand (Public Organization) (2023)

The Situation of Gemstone in Thailand

Thailand has a long history of gemstone production, trade, and processing, with the industry playing a significant role in the country's economy. However, the situation of gemstones in Thailand has changed over the years, with both opportunities and challenges emerging in the industry.

One of the main strengths of the Thai gemstone industry is its expertise in gemstone cutting and polishing. Thai artisans are renowned for their skills in enhancing the beauty and value of gemstones, and the country has become a major center for gemstone processing and trade. Thailand is also a hub for colored gemstone trading, with Bangkok's gemstone market serving as one of the largest in the world.

However, the Thai gemstone industry has also faced several challenges in recent years. One of the key issues is the increasing competition from other countries, such as China and India, which have been able to offer lower prices and faster production times. This has put pressure on Thai firms to improve their efficiency and cost-effectiveness.

Another challenge for the Thai gemstone industry is the issue of supply chain transparency and responsible sourcing. There have been concerns about the use of child labor and environmental degradation in some gemstone mining areas, and consumers are increasingly demanding that firms demonstrate their commitment to ethical and sustainable practices.

Several recent studies have explored various aspects of the Thai gemstone industry. For example, a study by [3] analyzed the factors influencing the competitiveness of the Thai gemstone industry, while another study by [4] examined the challenges and opportunities for responsible gemstone sourcing in Thailand. Another study by [5] investigated the potential of blockchain technology in promoting responsible gemstone sourcing and enhancing transparency in the industry.

Overall, the situation of gemstones in Thailand is complex, with both opportunities and challenges facing the industry. While the country has a strong reputation for gemstone cutting and polishing, it must also adapt to changing market conditions and demonstrate its commitment to responsible and sustainable practices in order to remain competitive in the global market.

Research Methodology

The collected data

The statistical data of gemstone export value of Thailand in 2014-2023 in Thailand by The Gem and Jewelry Institute of Thailand (Public Organization) (2023)was used for forecasting. Forecasting of gemstone export value of Thailand in 2014-2020 is time series data.

The analysis of time series by decomposition method

Decomposition method was used for analyzing time series data. Mean Absolute Percentage Error (MAPE) would choose the best model to forecast. The analysis of time series by decomposition method is the applied analysis of regression and time series analysis together. The time series was split into parts with two basic models, a multiplicative model and an additive Model. Regression analysis was applied by the ENTER method for selecting a forecasting model. Applying regression analysis with time series analysis determines trend indication variables. Algorithm for constructing a time series analysis model by decomposition method used Minitab to process statistical data.

Trend analysis - Growth rate analysis

The statistical tools were used for the analysis of the secondary data about growth rate of import, export and quantitative production of gemstone from 2014 to 2023 at the national level. To compute the compound growth rate from these data, the following models were Linear Trend Model, Quadratic Trend Model, and Exponential Growth Curve Model.

Diagnostic checking

Diagnostic checking is to investigate the adequacy or suitability statistically by verifying the assumptions and properties, including the relationship. If the model is not consistent with the assumptions in statistical or incompetence, it will be a new and revised model. The need to define a new trial and the parameters of the new model until the model is consistent with assumptions and qualifies statistically. When we gain an appropriate sufficient statistical model then used to forecast future values.Over time, it should be checked whether the model forecasters is still adequate by using new data, If it finds a suitable excuse for new adjustment. In this study, we use MAPE to consider a fit forecasting model with the lowest MAPE. It will take a prophet to predict the value of gemstone exports advance further.

Research result

The Export Value of Gemstone in Thailand

Ten-year averages, from 2014 to 2023, of the Export Value of Gemstone in Thailand was forecasted by Linear Trend Model, Quadratic Trend Model, and Exponential Growth Curve Model as shown in Figure 2, 3, and 4 consequently.

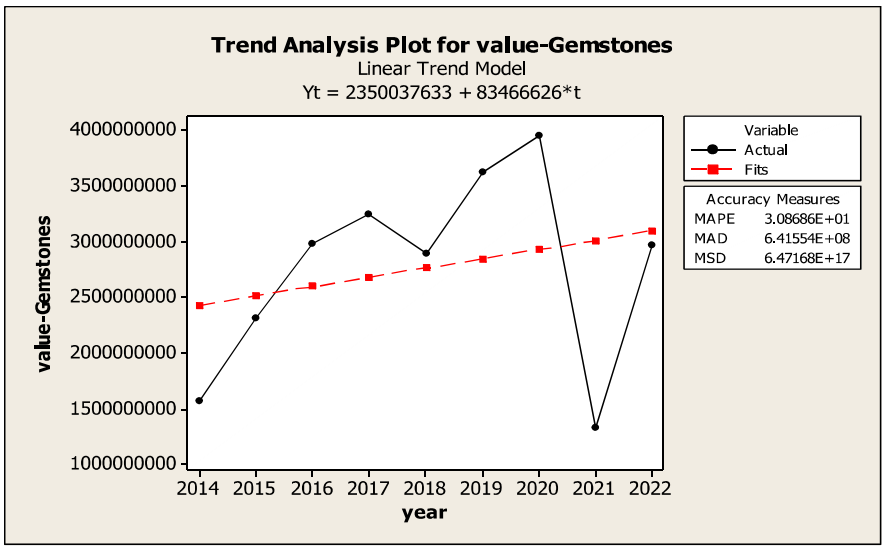


Figure 2: Forecasting Result by Linear Trend Model

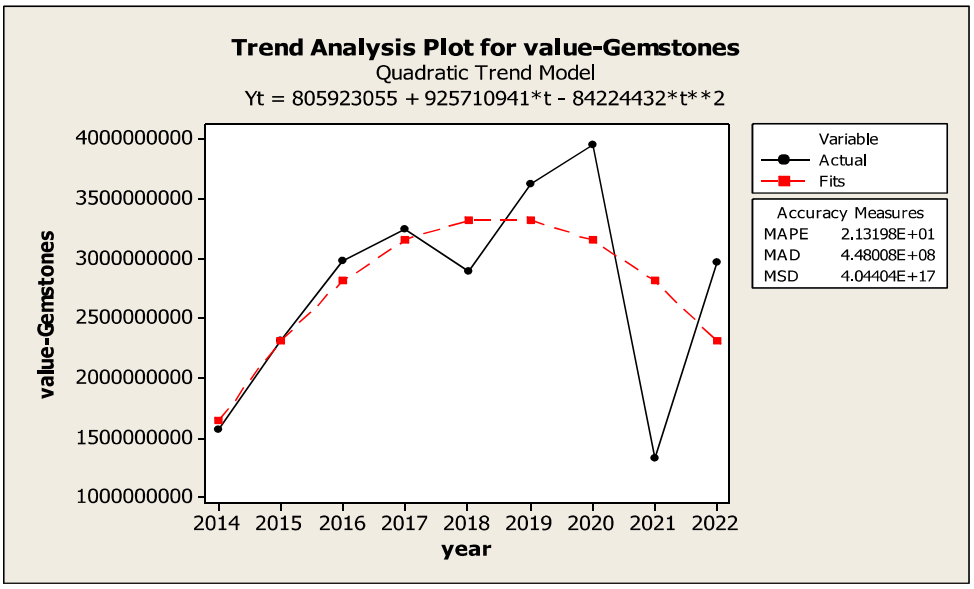


Figure 3: Forecasting Result by Quadratic Model

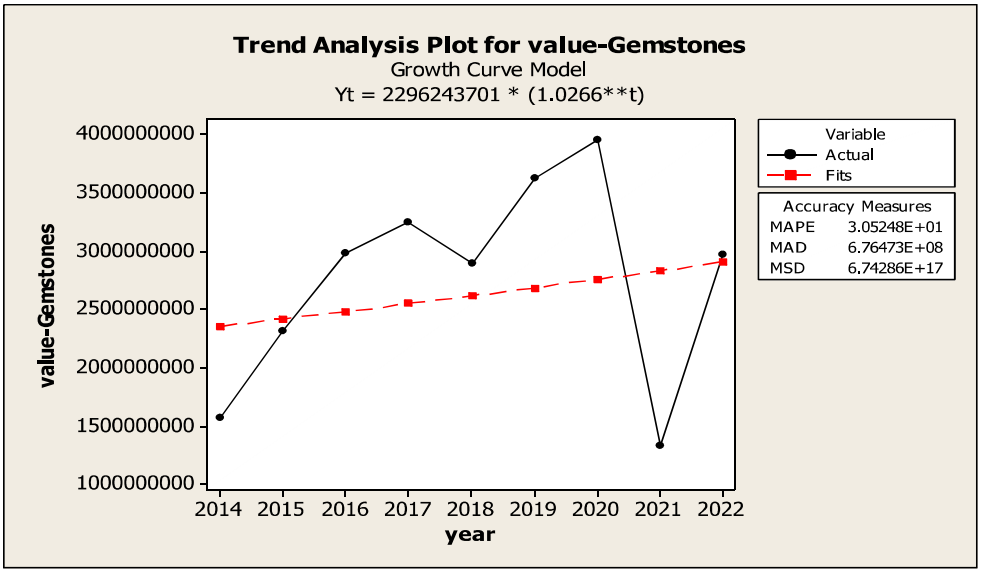


Figure 4: Forecasting Result by Exponential Growth Model

When comparing the results of the 3 forecast models the export value of gemstone in Thailand Quadratic Trend Model is the most effective for forecasting in the export value of gemstone as MAPE gave the lowest value, MAD and MSD were the most suitable.

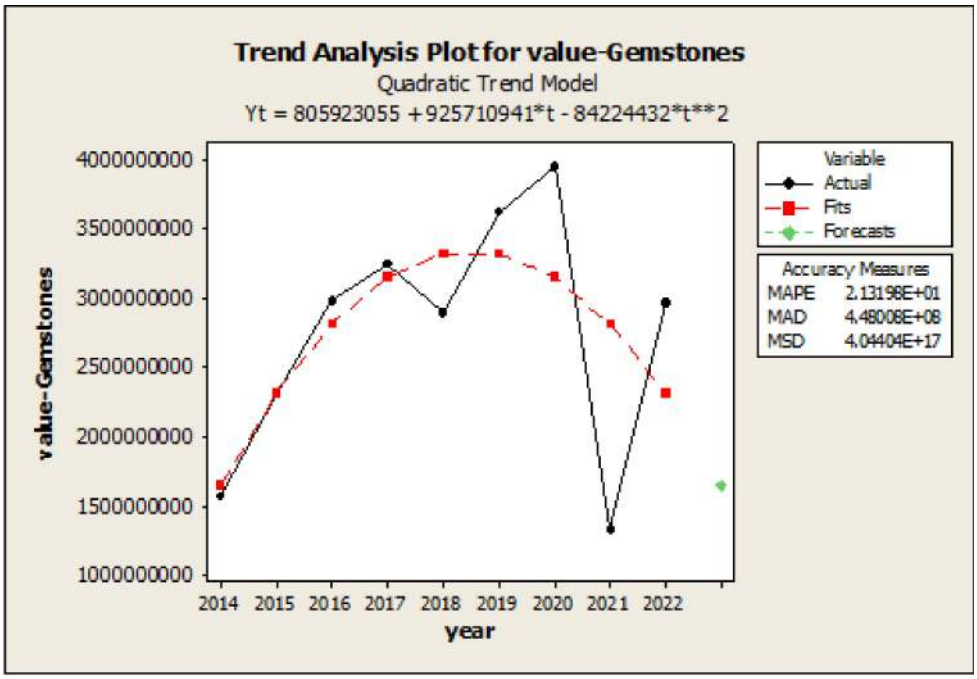


Figure 5: Forecasting Result by Quadratic Trend Model

From figure 5, the result showed that the trend of export value of gemstone would be decreased, around 1,640,589,311 baht in 2023

Discussions

It seems the trend of export value of gemstone would be decreased by forecasting. There are several factors that have contributed to the decrease in the gemstone industry in Thailand in recent years. One of the main reasons is the increasing competition from other countries such as China, India, and Vietnam. These countries have been able to offer lower prices and faster production times, which has put pressure on Thai firms to improve their efficiency and cost-effectiveness. Another factor contributing to the decline in the Thai gemstone industry is the changing consumer preferences and trends. In recent years, there has been a shift towards lab-grown diamonds and other synthetic gemstones, which are cheaper and more sustainable than their natural counterparts. This has reduced the demand for natural gemstones, including those produced in Thailand. [6,7]

Furthermore, there have been concerns about the ethical and environmental implications of gemstone mining and production in Thailand. Some gemstone mining areas in the country have been associated with environmental degradation and the use of child labor, which has raised concerns among consumers and affected the reputation of the Thai gemstone industry. To address these challenges, the Thai government and industry stakeholders have taken several initiatives. For example, the Thai government has launched the "Jewelry from the Land of Smiles" campaign to promote the country's gemstone industry and increase its competitiveness in the global market. The government has also provided support to gemstone firms in terms of tax incentives and training programs to improve their competitiveness and sustainability.

In addition, there have been efforts to promote responsible gemstone sourcing and ethical practices in the industry. Several industry associations and certification schemes, such as the Responsible Jewelry Council and the World jewelry Confederation, have been established to promote responsible sourcing and sustainability in the gemstone industry. Despite these efforts, the Thai gemstone industry still faces significant challenges. The industry must continue to adapt to changing market conditions and consumer preferences, while also addressing concerns about ethical and environmental issues. By implementing sustainable and responsible practices, the industry can maintain its competitiveness and ensure its long-term viability.

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How to Make Passive Income through Real Estate Investments in Condominium

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Abstract

The research on how to make passive income through real estate investments in condominium. The objective of this research was study how to make passive income through real estate investments in condominium for new investors. This research is a qualitative research method which collected data from eight key informants through in-depth interviews. The research instrument was a semi-structured interview that was examined by experts for its structure and content. And the information from the interviews was used for content analysis in order to obtain the knowledge points from the interviews.

The results showed that making passive income through real estate investments in condominium for new investors is suitable for people with regular salary income who want to save and invest their savings in order to achieve prosperity and have lower risks than other investments. There is a higher return than depositing money with various financial institutions. Investing in real estate in the type of condominiums for rent, investors must study and find out details of the condominium to be invested in factors. Both external factors, including location, growth opportunities, convenient transportation. And internal factors include function and reputation of the project, facilities, etc. Condominium for rent is a long-term investment like savings. The risk of investing in real estate in the type of rental condominiums found that there are risks in screening tenants, making contracts, lack of income in the time that there are no tenants, but investors have to pay installments with financial institutions. Investors need to be able to plan carefully.

***Keywords**:* saving, investments, condominium, passive income

Background and Statement of the problem

Individual who has a regular income such as salary, wages or income from trade, business operations at the level of small and medium enterprises. There is an allocation of the remaining income from spending to save as "savings" and want to invest the savings to achieve growth, earn valuable rewards and to increase the amount of savings to invest. Saving began with savings with financial institutions in the form of savings or fixed deposit account. In the past three decades, interest on savings deposits, whose return rate is only 0.1%-0.35% and fixed deposit interest rates are about 0.75%-1.65% [1] a very low return, not worth it or maybe not able to keep up with the inflation rate, which in 2022 reached 6.08%, the highest in 24 years, due to energy prices. [2] Therefore, choosing to invest wisely requires knowledge, financial discipline and patience to wait for the reward that is worth it. The important thing is to start planning your investment from today in order for your money to work instead, which is an investment that will receive returns in the form of “Passive Income”. In the past 2-3 years, there have been channels to choose to invest in various assets, including investing in financial assets which is the common stock of a listed company, debenture, derivatives, investing in different types of mutual funds, investing in gold, oil, Foreign Exchange (Forex) and the latest trend is investing in Cryptocurrency. In addition, investment in speculative real estate holding preemption or speculation in the medium and long term. Each type of investment has an element of expected return, risks of each type of investment. The rate of return and risk tend to correlate in the same direction. When expecting high returns would have to take a high risk. If any type of investment has a low return It's usually low risk. The investment decision of the investor by considering the return. The risk that will be received depends on the ability of the investor to take risks.

For investing in real estate, it's one option, whether it's a house or a condominium. From investment advice articles, it was suggested that one must prepare both financial conditions, ready to devote time, both physically and mentally. It is also necessary to understand the style of real estate investing. Each type is given thoroughly which has divided the types of investment into 5 types [3], the first type is a speculative investment, considered as a "preemption", is a short-term investment. The second type is a monthly rental investment which is generating passive income. The third type is daily renting that targets tourists. The fourth type is investing with real estate funds. To wait for returns from fund management and the fifth type is investing in buying second-hand real estate that has been sold by auction or buy it at a cheap price to renovate and decorate it beautifully and resell it at a profitable price. In which each investment type has different returns and risks.

For the form of investment in real estate, the second type is a monthly rental investment which is generating passive income, it is interesting for beginner investors. Being an investor of this type may need to have some savings to invest so that it will not be a problem in the future. In addition, investors need money to buy real estate such as condominiums, houses or even land for rent on a monthly basis. Investors can use their creativity to decorate or listen to the needs of tenants to add value to real estate that is rented. The selection of real estate for monthly rent, it is necessary to look at the factors of good location, have to consider the appropriateness of the real estate price invested to buy, and the return on investment compared to the possibility of setting the rental price that can motivate tenants. Especially if the property is in a good location, the rental price can be set high. The profit that investors will get is also higher. Investors also need to carefully study the laws related to rental which investing in this way. Investors need to study the details, find more knowledge in various fields because it is a long-term investment create a burden on investors. But it can make a passive income quite well.

New real estate development projects launched in 2022 [4] Bangkok housing market, there are about 51,500 new units launched in Bangkok Metropolitan Region, more than double compared to the previous year, divided into 21,500 housing units and 30,500 units of condominiums. The pre-sale was at a high level: 1) Single detached houses priced over 20 million baht had pre-sale sales of 18.9% 2) Twin houses priced 5-10 million baht, pre-sale 23.4% 3) Townhouses 5-10 million baht, pre-sale 57.8%, while 4) condominiums are the most popular type, priced no more than 3 million baht, or a group that focuses on providing value for consumers, with pre- sale 37.4%. For the year 2022-2023, new units are expected to increase from 2021 in the amount of 56,800 units to a year 90,000-100,000 units, divided into housing estates 40,000-45,000 units and condominiums 50,000-55,000 units because residential developers have to accelerate sales for units that have been left since the outbreak of COVID-19 in 2020-2021. Most residential developers decide to expand their investments as it is post-COVID-19. And the opening of the country allows the Thai economy to recover faster from export income and tourism which causes a number of condominiums located in various locations that are attractive to invest.

This research focuses on guidelines for investing in real estate in the type of condominiums for monthly rent and guideline investors who want to save money and to make savings have good, stable returns with an acceptable level of risk to generate passive income. This research is a qualitative research method which collected data from key informants who have experience in investing through in-depth interviews.

Objective

The objective of this research was to study how to make passive income through real estate investments in condominium for new investors.

Expected benefits

1. The results can be used to create effective investment strategies to generate long-term returns.
2. The results of the study provide an understanding of investors' perspectives on investing in real estate-condominiums in order to study the location selection, condominium styles and budgets to meet the needs of target customers.
3. The results of the study can guide how to make passive income through real estate investments in condominium for new investors.

Research Methodology

This research is a qualitative research, collecting data by in-depth interviews, instrument, methodology and research procedures to be used in informant design on return on investment, risk aspect, cost aspect, liquidity aspect, flexibility aspect and tenure. Therefore, the data used in this research come from primary sources that provides qualitative information, conducts semi-structured in-depth interviews. The research design through quality checks of the instrument matches the structure and content by real estate investment experts and analyzes the internal consistency until a quality interview form is obtained. It can be adapted to work and also uses information from secondary sources related to the variables in this research, including documents, books, academic journals or print media. To study guidelines for investing in real estate-condominium to generate passive income for new investors. The researchers have studied the concepts, theories from relevant documents which were studied in the researcher's data collection instrument.

1. Key informant

Eight key informants are real estate investors in the type of condominiums as a passive income by providing information with expertise and experience in various fields for at least five years.

2. Research instruments

The research instruments used in this research were interview forms and questionnaires for in-depth interviews, semi-structured interview where the information obtained from the interview is qualitative data.

2.1 Investment information interview form

Interview form about investment information in real estate in the type of condominiums for passive income, research instrument quality checked by considered according to the research framework. The research was in the following:

1. Determine the topic of the interview according to the research concept, specifying the required information of each aspect.

2. Prepare an interview draft and a list of questions for each aspect.

3. Check the quality of the interview form by experts that match the content and have complete information or not. Then make improvements according to expert suggestions.

4. Edit and update to be a complete interview form and then taken to collect.

2.2 Guidelines for interview questions

Focus on understanding the investment process, question from the literature review. A scope of study and quality analysis of instruments based on factors affecting various types of investments was created with a comprehensive content.

2.3 Verification of validity and reliability of research instruments

The researchers sent the draft of interview form to experts or investment specialists-real estate development to verify the validity and reliability of the interview form. When the level of reliability and validity is at a level of 0.75 or higher, then field data collection will be issued.

3. Data collection

3.1 Documentary Study of secondary data from books and various academic papers, both in books and electronic publications such as research results, theses, academic writings, academic articles, as well as newspapers, journals, magazines, and other types of printed media or that are related to the content and ideas of the research provide information that is relevant to the interview.

3.2 Interview: the research uses both semi formal interview and informal interview to interview experts in real estate investment with questions that will be used as guidelines. In interviews to obtain real estate investment guidelines as passive income for new investors and have the freedom to answer, all of which will be primary data, making it possible to know the reflection of facts according to the concept with the steps to proceed as follows:

3.2.1 Interview preparatory, before entering the field to collect data by interviewing. The researchers started by setting up an appointment, date, time, and place to 8 key informants. The researchers studied the questions used in interviewing and study how to use sound recording, prepare notebooks, notes and other equipment ready before the interview.

3.2.2 The interview process, before the interview, the researchers had a conversation with the key informant. State the purpose of the interview. Explain reasons and ask for permission to use a voice recorder during the interview. Including informing that various information recorded by the researchers will be kept secret. However, if the key informant does not wish to have a voice recording at any point. The researchers will not record the sound.

4. Data analysis

The researchers determined the content analysis from the data obtained from the interviews, therefore, the characteristics of most of the data were qualitative. Data analysis therefore consists mainly of content and using qualitative content analysis (Naengnoi Yanwaree, 2011 and Marrying, 2001) by qualitative content analysis process.

Research Results

Results of a study how to make passive income through real estate investments in condominium for new investors. In order to generate passive income from renting continuously. There are aspects from the research study by in-depth interviews with key informants as follows.

Reasons for real estate investments in condominium

Making passive income through real estate investments in condominium for new investors. In order to generate passive income from renting continuously does not require much investment knowledge. When compared to other types of real estate such as commercial buildings, there is no need to study many details. Because of the form of condominiums that are invested for renting. There isn't much difference. And in financing investments, it is not necessary to use all of the investor's own money to invest. That is the use of loans from financial institutions. In terms of profit, it can be clearly profitable from the difference between the rental income and the monthly paid with the financial institutions. In terms of risk, it has lower risks than other types of real estate. Because it's easier to rent out. There is a demand of many tenants because of the latent population in Bangkok, which means the population residing from other provinces but have traveled to work or study in Bangkok. And personally, the investors have a passion for decorating condominiums which has limited space by the tastes of the target tenants. Whether it's a group of office workers or students.

Types of real estate investments in condominium

There are 2 types of real estate investments in condominium. 1) Investment for rent 2) Buy and renovate to sell. There are less risky investments and can sell faster than others, renovate to be more beautiful, easier to sell. For renting is receiving income in installments. May be ready to go with installments which is enough to see the difference of rental income with money paid to financial institutions which investors see installments paid to financial institutions are savings. But in terms of rental income, it is income, which if there is a difference, that is paying installments higher than the rent received, it will be an investment to buy a condominium that we do not have to pay in full. If the difference in rent received is higher than the installments. It is considered to buy a condominium that does not have to pay by itself. And still have enough money left as an income that we can spend as well. Speculative buying is buying to renovate and then selling out which investment is more worthwhile depends on the situation. If it's a first-hand room, renting is more cost-effective because there is a law about specific business tax that must hold the property for 5 years or have a name to live in for not less than 1 year. If sold before specific business tax will be deducted which is 3.3% of the appraised value.

The difference between renting and selling, rental revenue will receive monthly income and still do not see profit each month because of the rental release. If the rental contract, we have to check the damage in the room and must take the money from the rental that came as the cost of maintenance. The speculative sale, we will get the return as we expected because everything will calculate expenses and control the cost price better than renting.

Factors in choosing a condominium for investment

In the case of choosing to invest in a rental, considered as 2 factors: external factors and internal factors

External factors included location, surroundings, future development opportunities.

Internal factor included the division of the function of the room, reliability of the project owners.

The location, considered how profitable the location is, the reputation of the condominium that can be profitable in the future which means a reputation that is widely accepted. Customers who rent or buy to live by themselves will look at offices, universities, international schools, facilities. The location is considered including public transportation both BTS and MRT, near markets, shopping malls, schools, universities, hospitals, fitness centers, and finally, the area there must be in a community that can find customers easily at all times. the location that can be developed further. For example, there will be an BTS or there is a department store in the future. A more prosperous environment will result in higher real estate

prices and the market price in the future that can increase further. And including special characteristics that make it different from other condominiums is the good view of the condo, such as the view of the Chao Phraya River, a large park is also an important consideration as an added value.

In the case of speculative investment

If choosing a speculative investment. Factors taken into consideration are location, reliability of the project name, the appearance of the room, the view is beautiful and must be more beautiful than the rental type, including future land growth rate. We must forecast the growth of the land that we buy and what the rate of growth is. Must be worth more than the depreciation of the condominium that causes the price of the asset to decrease in the future. It is in accordance with the accounting measurement. If choosing a speculative investment, the factors to be considered are the location of the project, the target of buyers, facilities such as shopping malls, markets, transportation such as BTS or MRT, and the age of the buyers. For example, in working age, they will look for a project that near the office. During school age, they will look for school and university. To meet the needs of the new generation who work from home, the space in the room must be well proportioned with a corner that can be organized as a working area.

The internal environment is a consideration whether buying for renting or speculation, for example. landscape architecture of the building, common areas such as public parks for residents to be close to nature, rested, get outdoor exercise, there is a playground for children. Common utilities for added value to condominiums such as swimming pool, fitness center, common living room and meeting room. Some places will set up a garden on the roof where you can jog. Including consideration of the allocation of parking spaces. Most of which are classified as a percentage of the number of rooms, not 100% because the project responds to buyers who mostly use public transportation.

It is very interesting that some people will buy or rent a condominium based on a “juristic person” who manages the common property of condominiums, supervise the work assigned by the condominium juristic person committee who issues rules and regulations. Each condominiums have a different common property management system. The buyer or tenant will study which condominium regulations can be managed well. Condominium with many residents sharing "Juristic person" can handle the problem. Residents do not have to confront each other which is unexpected that someone will consider this issue as well.

The current change is that some condominiums meet the needs of customers who want to keep small pets and will continue to increase in number because pets are good friends of human. And the popularity of having a pet will increase as seen from the growth of the pet market.

An analysis of the needs of people who want to live in condominiums

Group 1 : New graduates who are in the working age range of 19 - 35 years

Group 2 : Working-age, aged between 35 and over

Group 1: Students and new graduates. The early working age, 19 years old to 35 years old, will consider choosing to live in a condominium based on the cheap price because of low income, not focus on common property, landscape architecture. And the next factor is the convenience of traveling to school or work on time.

Group 2 : aged 35 years and over focus on the proportion of comfortable rooms, common property such as car parks, fitness centers, swimming pools, parks for exercise and beautiful views.

Cost

In the case of renting, there are costs including the cost of renting such as decoration, mechanic wages, furniture, repair during rental, interest on bank loans, ads, and commissions

In the case of speculation, there are costs including decoration, commission, specific business tax, and income tax from the sale of real estate.

Return on Investments

In the case of renting, calculated from the renting at a price higher than the installment payment to financial institutions, an average of about 2,000 baht per month for a period of 12 months, amounting to 24,000 baht as the present value of 30 years at an interest rate of 6%, would be 330,360 baht. It is a long-term return which at the end of 30 years the asset will be debt-free. The income is more than 2,000 baht per month.

In the case of speculation, the return will be approximately 15%-40% compared to the cost price and paying specific business tax if sold before holding for 5 years or must have a name in the house registration for 1 year in order to be exempt from specific business tax. And must pay income tax from the sale of real estate as well.

Risks of real estate investments in condominium

In case of renting, the risk in the selection of tenants. If you get a bad tenant, you risk paying rent late, do not pay for utilities. The room should be decorated to look good in order to screen tenants. Setting the rental price at a level that is not too cheap, it can screen tenants.

In the case of speculation, there is a risk that may not be sold, resulting in a loss or the country's economy is bad, in a decrease in customers, bankruptcy. You need to study various economic data both within the country and abroad. Higher cost of equipment, the condo price increases causing the selling price to rise, but the buyer does not have the property to buy.

Competitive Strategy

In the case of renting, the decoration is complete and beautiful, decorated like the room of the project advertised for sale. Tenants will be impressed and easy to make decisions. Rent that looks suitable for the interior of the room. Allocation of usable space that suits the needs of the tenants. If you are a student, must have a reading corner and can do homework. Some key informants agree that the price is set very high which most strong partners will lower the price in order to let them rent quickly. But we will set a high price to qualify customers raise the bar above the competition. The “fully decorated” room decoration will increase the value compared to the rent.

Basic Laws for Investors

There are two important things 1) Bank loans will have Bank of Thailand rules. The bank will check the credit bureau. To check the credit of investors, which will allow investors to receive funding from financial institutions or may not. 2) Law on lease agreements. How do we make a contract so as not to disadvantage the tenants? Creating a concise contract requires complete detailing. And if the tenant leaves without paying rent, we have to file a complaint or go to court to obtain justice, finding a lawyer, consumer protection law, hire-purchase law, laws on monthly leases of real estate, the hire-purchase laws, lease agreement must be clear because there are various taxes.

Investing in real estate in the type of condominiums for rent to generate passive income is suitable for people with regular salary income who want to save and invest their savings in order to achieve prosperity and have lower risks than other investments. There is a higher return than depositing money with various financial institutions. Investing in real estate in the type of condominiums for rent, investors must study and find out details of the condominium to be invested in factors. Both external factors, including location, growth opportunities, convenient transportation. And internal factors include function and reputation of the project, facilities, etc.

Condominium for rent is a long-term investment like savings. Investing in a speculative way, buying for resale will have a higher profit margin but it has a higher risk. In downturn, it is difficult to sell out.

The risk of investing in real estate in the type of rental condominiums found that there are risks in screening tenants, making contracts, lack of income in the time that there are no tenants, but investors have to pay installments with financial institutions. Investors need to be able to plan carefully.

Summary of the study

Making passive income through real estate investments in condominium for new investors is suitable for people with regular salary income who want to save and invest their savings in order to achieve prosperity and have lower risks than other investments. There is a higher return than depositing money with various financial institutions. Investing in real estate in the type of condominiums for rent, investors must study and find out details of the condominium to be invested in factors. Both external factors, including location, growth opportunities, convenient transportation. And internal factors include function and reputation of the project, facilities, etc.

Cost and return of investment renting is a long-term investment like saving money. But if investing in a speculative way, buying for resale will have a higher profit margin but it has a higher risk. If in bad economic times, it is difficult to sell out.

The risk of investing in real estate in the type of rental condominiums found that there are risks in screening tenants, making contracts, lack of income in the time that there are no tenants, but investors have to pay installments with financial institutions. Investors need to be able to plan carefully.

Discussions

Real estate investments in condominium, whether for rent or for speculation. Investors need to study information to make decisions which factors affecting the decision to buy a condominium, considering factors in various aspects including location, price, beauty, layout of living space, other facilities, management of that condominium, reputation which is in line with the research of Charoenjit Pajongviriyathorn (2016), studied factors affecting consumer purchase of condominium in Bangkok, found that price and place or location were the most influential factors. [5]

Buying a condominium for investment, renting out. Investors should study and find information from the product are condominiums in order to have information for decision making and perceived risks arising from investment, which is in line with the research of Witawat Rungruangphon and Pitcha Chatchaiphonrat (2021), who studied generation Y decision process for condominium. The results showed that both Generation Y groups had similar processes and factors in purchasing condominiums, with the purchase demand being driven by internal impulses. The process of finding information and evaluating alternatives uses similar sources and decision-making factors. The different behaviors were found that consumers in which other people influence their decision-making processes require less time and granularity to find information, less perceived purchase risk. [6]

Buying a condominium for investment, renting out. Investors must understand the needs of tenants in order to come up with a strategy for buying. Choose to invest in condominiums. Considering the location, price of condominium, facilities, convenience of traveling by public transportation. Other factors that add value to condominiums include good management of the condominium, juristic person, beautiful landscape architecture, beautiful views, etc. are consistent considerations from the tenant's point of view. This is in line with the research of Weerakorn Boonsinsurkh (2018), who studied factors related to condominium rental in Din Daeng district. The results showed that the opinion of marketing mix 7Ps in product, price, place, promotion, people, process and physical evidence was at highest level. And the consumers of different ages had significant different condominium rental behavior in overall including rental decision aspects at a .05 level. For the marketing mix 7Ps in product, price, place, promotion, people, process and physical evidence had significant relationship with condominiums rental behavior including rental decision and post rental behavior at .01 statistic level. [7]

Recommendations

Academic recommendations

This research is academically useful for people who want to save money as a regular income person such as salary, wages so that the money saved has a good return. To avoid the risk of interest rates on deposits that are so low that they are not worth the inflation rate. And it is an investment that does not require much study of investment details but study the details in the product, which is a condominium to reduce the risk of speculation and renting

Commercial recommendations

This research is useful to investors with small investments who ready to invest in debt instruments, equity instruments is an investment starting from saving money and used to invest in buying real estate. If investing, renting by using credit from financial institutions to help support. It will be a long-term investment. There may be money left over each month from the rent difference with installments for debt repayments with financial institutions. And finally, owning a debt-free property to continue earning from rentals or sell to earn money.

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