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Editorial Statement

Human Behavior, Development and Society is a refereed multidisciplinary journal that explores a wide range of scholarly topics, especially in fields relating to the humanities and social sciences. It is published online three times a year and is available free of charge through the ThaiJo website, with a limited number of hard copies available. The journal, originally entitled *Catalyst*, has been published since 2006 by Asia-Pacific International University, Muak Lek, Thailand, through its publishing arm *Institute Press*.

The journal has the following objectives:

a). To stimulate the creation and synthesis of beneficial information, as well as its broad dissemination, especially in the varied fields of the humanities and social sciences,

b). To foster a deeper understanding regarding the impact of business policies and practices on society, and

c). To promote the adoption of best practices in communities through education, and to aid in the resolution of community issues for the betterment of society; this represents the development aspect referred to in its name.

Editorial Objectives

The editorial objectives are to advance knowledge through use of classical – or the creation of innovative – methods of investigation, and to foster the examination of cross-cultural issues to increase mutual understandings among diverse social groups. Encouraging cooperative studies and scholarly exchange across borders, as well as within Thailand, remains one of its aims. The application of theoretical considerations to the field, business, or community situations is also an outcome that is sought.

Journal Positioning

The journal is broadly based and has the potential to impact thinking and practices across a range of subject areas, dealing with substantive issues that arise in both developing and developed countries. It will likely appeal to readers with a broad appreciation of the social issues facing organizations, communities, and governments operating under varied challenges and constraints. Its contents are meant to appeal to both the academic community and practitioners in numerous areas of interest.

The positioning of the journal means that a variety of topics is covered in most issues. These, in turn, differ in their philosophical content, academic appeal, and practical implications.

Appropriate Content

The journal covers a broad spectrum of topics. These include, but are not limited to, anthropology, allied health focused on community issues and health education, education from the primary to the tertiary levels, literature, language use and acquisition, business, management, finance, geography, psychology, social sciences, philosophy, and theology. Review essays and seminar/forum papers are also accepted when appropriately focused. Well-executed studies that address interesting and significant topics in the areas mentioned above are particularly welcomed. All articles accepted should make significant contributions to understanding and add to the corpus of knowledge in their respective fields.

The following constitutes a partial list of topics that are considered potentially suitable for publication:

1. Applied linguistic or linguistic studies that examine issues related to communication, language pedagogy and use, as well as theories and meaning of language.
2. Religious or biblical studies that explore historical, philosophical, sociological, as well as hermeneutical issues.
3. Anthropological or ethnographic studies which seek to reflect cultural nuances of communities for a better understanding of the society.
4. Cultural/intercultural issues and diversity, including how tensions involving these parameters might be handled to achieve social justice and acceptance.
5. Review articles or studies in the fields of marketing, business, stock market trading, and auditing practices, and their significance to the business and broader community.
6. Organizational behavior, resilience, and the creation of a positive psychological work environment and job satisfaction.
7. Teaching strategies, interventions, assessment, and other issues to the betterment of society.
8. Policies and political movements, and their impact on educational development.
9. Violence, discrimination, and marginalization: how these issues are viewed in contemporary society, and the factors contributing to their emergence.
10. Social trends in addictive behavior; how to address such issues creatively.
11. Impact of specific policies and interventions on health care, including how to promote positive health outcomes in communities.
12. Innovative and cost effective approaches to health care and education in poor, rural communities.

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From the Editor

Human Behavior, Development and Society (HBDS) is an interdisciplinary peer-reviewed journal of Asia-Pacific International University (AIU). *HBDS* publishes findings and discussions regarding most aspects of human behavior, development and society. The journal's scope is to advance knowledge through the use of classical methods of investigation and to foster the examination of cross-cultural issues that increase mutual understanding among diverse social groups within the international community, with a particular emphasis on Southeast Asia. All articles in the journal are indexed with the Thai-Journal Citation Index Centre (TCI) and with the EBSCO database. The editorial team is commited to maintaining meticulous peer-review standards and the highest level of ethical integrity, ensuring consistency and scientific rigor in each research article.

This issue of *HBDS* contains 10 articles, nine of which were written by researchers external to the university, and one that was authored by an AIU researcher. We are delighted to see reports and findings from various disciplines including liberal arts, business, education, the environment, psychology, and sociology. Most articles in this issue reflect studies conducted in Thailand or other Asian contexts. We hope that this issue of *HBDS* will contribute to the development of society and serve as a source of information for various academic fields and research projects.

The year 2020 has been a tough year for all of mankind, including our journal. The pandemic has impacted us in many ways, but these circumstances have been overcome, and we have finally made it to the last issue of the year. We appreciate the hard work of authors, reviewers, editorial board members, executive board members, and journal staff members who have contributed to make this achievement a reality. For the year 2021, our focus will be on improving the quality of the articles that are published in each issue. This means that more time must be taken to increase the quality of the screening, peer review, and editorial processes. For this reason, starting in 2021 only three issues – rather than four – will be published each year. Nonetheless, we would like to invite readers to publish your valuable papers with us. More information may be found on our website, *https://www.tci-thaijo.org/index.php/hbds*. We would also appreciate comments or suggestions from you to help us improve the journal.

Assistant Professor Dr Damrong Sattayawaksakul, Editor
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Hooks and Endings in Magazine Articles to Engage Readers

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Abstract

In view of the lack of research on types of hooks and endings which are commonly used in articles for leisure reading, this study examined hooks and endings in magazine articles. A total of 19 articles from Kuching In and Out (KINO) magazine published in Malaysia were selected for analysis (6 by males, 13 by females). The most common types of hooks to draw readers into the next sentence and set the tone for the rest of an article were flashback, description, and facts. Flashback and self-introduction were new, probably due to the nature of the KINO magazine which features the life experiences of writers from Kuching who are presently living in other parts of the world. Less-frequently used hooks were empathy, mystery, plot twist, and questions. Most endings were a return to the writer's hook or information mentioned earlier in the article, taking the form of reflections or issue resolution, as well as two other less-used endings, questioning and giving revelations. An ending that was different was taking leave, which reflected a talking style similar to "a good-bye" in social interactions. The study suggests that some hooks and endings are specific to the subject matter and readership of magazines.

Keywords: *Magazine articles, organisational features, hooks, endings*

Introduction

Magazine articles are written to entertain, which is why they are mostly stories of human interest. Even when an article is about technical subject matter in specialist magazines, the articles are set in more casual settings and written to attract the audience's attention, capitalising on captivating pictures, catchy headings, and hooks. Magazine articles may not have a clear organisational structure like academic texts because the casual tone leaves a lot of space for writers to structure articles in their own ways. However, the introduction and conclusion parts of magazine articles define their success; in magazines, these are referred to as hooks and endings respectively (Copeman, 2006). To our knowledge, there is a lack of academic research on the introductions and conclusions of magazine articles, and most of the available information is from websites on magazine writing. Therefore, little is known about the types of hooks and endings which are commonly used in magazine articles. The extant studies on magazine writing focused on gender-based variations in magazines for women and men (Argamon et al., 2003; Arvidsson, 2009; Kapidzic & Herring, 2011; Miller, 1987; Rusling, 2010; Schler, 2006; Willemsen, 1998).

This study investigated hooks and endings of articles in a magazine written for a largely Malaysian readership. The analysis focused on the introductory and concluding paragraphs of the magazine articles. A genre analysis of the entire article was not conducted because magazine articles may not have a clear organisational structure like academic texts. The casual tone of magazines gives leeway for writers to structure their articles in their own ways, and there is great variability in organisational structures. This study adds to knowledge in the field of magazine writing, in view of the lack of previous academic research on the use of strategies to hook readers and to leave a memorable impact on them in the conclusion.

Literature Review

In this section, articles on strategies used in hooks and endings of magazine articles will be reviewed. The hook refers specifically to the first sentence in the introduction. The purpose of the

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hook is to entice the reader to read the next sentence and to set the tone for the rest of the article (Clear, 2016). Hooks address the 5Ws in journalism, drawing readers in and encouraging them to continue reading (Vannini, 2013). Researchers using content analysis techniques such as Copeman (2006) identified four types of hooks: asking questions, providing unexpected facts, including helpful new information, and combining both writing and talking ("chalk and cheese" approach). The unexpected facts, which can be in the form of quotations or statistics, may create expectations or intrigue (Evans, 2012). In addition, Evans (2012) also stated that some writers show empathy as a hook to draw readers into the article. These strategies hook readers by drawing them into the world of the article and providing perspective (Stewart, n.d.). The framework for the analysis of hooks in magazines has to be constructed from publications in websites rather than from academic journals due to a lack of such studies about magazine articles.

The endings of magazine articles is as important as the hooks because an effective conclusion leaves the reader feeling satisfied. Due to the lack of academic research findings, the available information from magazine writing websites on endings is used to construct a framework on endings of magazine articles. Copeman's (2006) content analysis of magazine endings showed that common endings were a chronological ending, or a return to the writer's hook (i.e. either by resolving the issue, or by answering the question posed earlier). By offering more information about something introduced earlier in the article, the ending developed naturally from the article. A powerful ending has to surprise readers and give them something new to think about, but it should not be so foreign that it does not fit into the article (Pawlik-Kienlen, 2020). In addition, writers can create an image (e.g., providing a picturesque description, ending with action or dialogue), or use reflection to convey feelings (Mack, 2012). Shen's (2019) analysis of endings in 94 articles from the Atlantic, Fast Company, and the New York Times Op-Ed section showed 23 elements of endings. The most frequent elements were quotes, questions, zingers (memorable statement), optimism, and zooming out (from the topic to the wider scenario). A zinger may also take the form of a memorable fact, detail, image, or a lesson (Hegarty, 2015). Besides quotes and questions, summaries and statistics may also be used in almost any kind of ending, which is why the frequency of usage was high (number 10 and 15 respectively), but higher frequency does not imply better quality (Shen, 2019). To Shen (2019), the effectiveness of conclusions depends on the subject matter and the effect the author wishes to have on the readers.

Study Methodology

The corpus for the preliminary descriptive study was comprised of 19 issues of the magazine *Kuching In and Out (KINO*), which is published in English for a Malaysian readership. Kuching is the capital city of Sarawak, an East Malaysian state located on the island of Borneo. The articles were selected from "I Love Kuching", a regular section featuring travel experiences of writers from Kuching who are living elsewhere. The print form of the magazine is provided free at the counters of shopping complexes, and it can also be downloaded from http://www.kuchinginandout.com. KINO is published six times a year. Articles in the lifestyle magazine are usually one page in length (about 500 words) and consist largely of descriptions.

The magazine article writers are usually Malaysians or foreigners who have lived in Malaysia for some time before returning to their home countries. They do not work for KINO. The Malaysian writers are at least bilingual, and can write in both English and Malay, although their proficiency in these languages may vary. Others are also able to write in Chinese. In Malaysia, English is the second most important language after Malay, and many people read magazines in English, particularly the English-educated (Idid, 1988). Nevertheless, the most popular magazines are Bahasa Malaysia titles which have a wider reach compared to English and Chinese titles (Advertising, 2018). As previous studies have concentrated on magazines with a global reach, this study will offer information on the types of hooks and endings which characterise magazine articles written by Malaysians for a largely Malaysian readership.

The articles were descriptive writing which involved description of events or places in great detail (Meer, 2011). Writers were free to organise their writing and not bound to any structure like narrative writing, which contains a plot, conflict, theme, and characters. The issues analysed were from the time when the magazine was first available online (Issues 3 to 22, August 2013 to December 2016). An article in Issue 6 (February 2014) was excluded because the article had more than one writer. A total of 19 articles (6 by males; 13 by females) were selected for analysis.

The analysis of organisational features of the magazine articles focused on the hook and the ending. To develop the framework for analysing hooks, existing descriptions of types of hooks were referred to (Copeman, 2006; Evans, 2012). After the preliminary analysis, two new types were added (flashback and self-introduction). The analysis framework was specified or combined until most of the hooks could be placed in a meaningful category (Table 1). An example of a hook is "creating mystery and deploying elements", which differs from plot twists. Plot twists means that unexpected information is provided, whereas mystery is created by including facts that pique readers' curiosity, leaving them in suspense, which leads them on to read the rest of the article.

Table 1 *Types of Hooks in Magazine Articles*

Hook	Definition	Example
1. Giving flashbacks	Describing their lives at some point in the past	It is almost 43 years since I left Kuching; a young and naïve 15-year-old destined for British Public School life, in an effort to make something of a poor set of Senior Cambridge results.
2. Describing	Describing a place or scenario for readers to imagine	As I emerged onto the street behind the crowds queuing for Madame Tussauds, and my eyes slowly adjusted to the glare of the sun, I felt slightly superior to my fellow tourists. I had seen the real London.
3. Giving factual information[2]	Using quotes or statistics	Nearly 66% of companies on the Fortune 100 list in 1990 are not on the list some twenty-odd years later.
4. Providing self-introduction	Stating names, birth year, educational background, and other personal details	I was from a small farming village in Samarahan Nonok. My parents were farmers and we grew cocoa and coconuts on our land. I have seven other siblings and I am number five.
5. Showing empathy[2]	Presenting the problem as one that is common and readers are not alone	Have you ever thought you could be a great writer… If only you had the time?
6. Creating mystery and deploying elements[1,2]	Providing facts to pique the readers' curiosity	You may not believe me, but I have news about global warming: Good news, and better news.
7. Providing plot twists[2]	Including unexpected information	It was a bright, cold day in April, and the clocks were striking thirteen.
8. Asking questions[1,2]	Posing question(s) to readers	Did you know that there are 7 writing mistakes that a spell checker won't spot?

Note. [1]Copeman (2006); [2]Evans (2012)

The analytical framework for the endings was based on Copeman (2006), Mack (2012), and Hagerty (2015). A new ending ("taking leave") which emerged from the preliminary data analysis was added to the framework, along with a definition and example from the data set (Table 2). In addition, "resolving an issue presented earlier" was added to the analytical framework, based on the preliminary data analysis. "Resolving an issue presented earlier" is different from answering a question that was posed earlier in an article, because the latter refers to an explicit question such as "Is the increase in allergies in any way linked to our increased use of chemicals around the home?"

Table 2 *Types of Endings in Magazine Articles*

Ending	Definition	Example
1. Reflecting[5]	Using quotes or writer's thoughts about what has happened. May take the form of dialogue.	… I wished that he had been beside me so that I could have searched his face for the answers which only the future would give me now.
2. Resolving issue presented earlier[1,4]	Providing a solution to the problem raised in the hook	Hook: But you don't need to go to the gym to get these benefits; you can exercise effectively at your desk. Ending: So, go on, before you reach for that digestive, reach up and stretch your abs instead. You know your bank balance and your body will feel better for it.
3. Answering questions posed earlier[1,4]	Answering questions asked in the hook or article	Hook: Is the increase in allergies in any way linked to our increased use of chemicals around the home? Could it be that by cleaning our homes we are killing our children? Ending: While some scientists remain skeptical of the hygiene hypothesis (explained in article), they cannot rule it out as a possible trigger for allergies. I know one thing for certain. Mrs. X won't be using any more antibacterial cleaners in her home, and after talking to her, I don't think I will be either.
4. Giving a revelation[4]	Including details that are surprising	Although, if you are really looking for a reason to leave an angry comment, I did eat a dog in Vietnam like three weeks later.
5. Reinforcing with facts, details or images[4,5]	Creating a picture in the readers' minds to reiterate the article's central point	Here we were: two grown men in roomy seats, each blubbering in his own élite puddle of light.
6. Taking leave	Taking leave of readers, such as thanking them, wishing them well, or explaining why they have to take leave	A big warm thank you to all my friends in Kuching.

Note. [1]Copeman (2006); [4]Hegarty (2015); [5]Mack (2012)

Results and Discussion

This section describes the results regarding hooks and endings in KINO articles. The female writers are referred to as F1 to F13, and the male writers as M1 to M6.

Hooks in KINO Magazine Articles

Table 3 shows that the most common hooks in KINO articles were flashback, description and facts, which were used. Flashback and self-introduction are new, and had not been identified by previous researchers in the field (Copeman, 2006). The rest of this sub-section presents excerpts to illustrate the eight types of hooks.

Table 3 *Types of Hooks Used in KINO Magazine Articles*

	Type of Hook	Frequency
1.	Flashback	7
2.	Description	5
3.	Facts	3
4.	Self-introduction	2
5.	Empathy	2
6.	Mystery	1
7.	Plot twist	1
8.	Question	1

Note. Some writers use two types of hooks in the introduction

The most frequently used hook was a flashback, or a description of the writer's life in the past. This hook was new to this study. In Excerpt 1, M3, a pilot now living in Amsterdam, described his life in Kuching 43 years ago before he went to the UK for his secondary education.

Excerpt 1

It is almost 43 years since I left Kuching; a young and naïve 15-year old destined for British Public School life, in an effort to make something of a poor set of Senior Cambridge results. Fast-forward to the present (via spells in UK, the US, Switzerland, and Holland) and I am on the verge of retiring from a 34-year flying-career. The invitation to write this contribution raised many long-buried emotions. (M3)

Excerpt 2 shows the use of flashback as a hook by F1. F1's personal sharing of details about herself and her family is very different, from an almost-third person viewpoint at some points, from M3's hook, where he referred to himself as "a 15-year-old destined for British Public School life". In contrast, F1 concentrated on herself, a foreigner who had studied in Kuching before returning to Jeddah 40 years ago. In her article, F1 compared life in Kuching and Jeddah.

Excerpt 2

I studied in Kuching for 12 years. My late father was the Mufti of Sarawak, and when his 12-year contract ended, my family and I returned to Jeddah, Saudi Arabia. That was in 1970. I had lost touch with my old classmates both from St. Theresa's and St. Joseph's schools. But despite all these 40 odd years, my memories of my years in Kuching still linger on vividly. (F1)

Flashback is like the orientation of recounts (Derewianka, 1990) where the reader is given the background information to understand the text. Good flashbacks can heighten interest in a story, as they create excitement through the situation and present information that happened long ago (Kress, 2008).

The second most frequent type of hook in KINO articles was description. Description provides imagery. In Excerpt 3, readers get an insight into M1's thoughts and actions as he chanced upon on a satay grill advertisement. This description led into his article, where he recalled his younger days of eating satay at a hawker centre along the side of a monsoon drain. M1 used many adjectives (e.g., yummy, flashing, simple, exotic, steel, charcoal, authentic) in his description.

Excerpt 3

I was surfing the internet in the usual fashion, looking at yummy foods and thinking about what to prepare for supper. Then a flashing advertisement link appeared on the left screen. A link of all links. Satay grill for sale! Can this be, I thought. And so the fingers left the keyboard for the mouse and off it clicked the link to the website. Voila. A simple website listing all kinds of exotic South East Asian foods and cookware based out of Washington State. Nothing out of the ordinary until one scrolls down to the satay grill. Stainless steel. Charcoal. So simple and it looks authentic. Never have I expected that I was US$50.00 away from preparing something that I had not ever contemplated: making satay. (M1)

Excerpt 4 shows F9's description, also full of adjectives (e.g., cobblestone, small, historical, gorgeous, gothic) to create images of her first impression of the University of Oxford. Writers who use many adjectives in their descriptions hook readers by appealing to their senses and transporting them to the situation that is being described, so that they can imagine the writer's experiences, sights, and sounds.

Excerpt 4

A year ago I arrived at the University of Oxford to pursue my master's degree, armed with two suitcases and the feeling of anticipation. Oxford exceeded my expectations in terms of beauty. With its cobblestone streets, colleges with quadrangles and small historical pubs peppered between gorgeous gothic architecture, it was love at first sight for me. (F9)

The third type of hook is factual information. Facts are sometimes provided in hooks for the benefit of readers who are unfamiliar with the place or situation. In Excerpt 5, M4 informed readers that Kuching is the capital of Sarawak (where he once lived) and Tasmania is an Australian island (where he is now living). M4 also said that Tasmania "feels" like "home", and focused on geographical facts, different from F5 who described a time period. Excerpt 6 shows F5 using facts on Chinese New Year to hook readers to read her article on the celebration of the festival in Taiwan, and did not express her own personal feelings in the article. She informed readers of alternative terms for Spring Festival and that Taiwan is a Chinese-dominated country.

Excerpt 5

Born and raised in Kuching, the capital of Sarawak – a land laden with stunning geographical and cultural heritage – I somehow found myself, a good 20 years later, studying in one of the most unlikely of places which I would dare say feels like "home". Located a couple kilometres south from mainland Australia, in a cosy little island of just over half a million people, it is called Tasmania. (M4)

Excerpt 6

It may be quite safe to say that Chinese New Year, otherwise known as Spring Festival, is everyone's – well, almost everyone's – favourite event of the year. Preparations in a Chinese dominated country can begin as early months ahead as homemakers start looking out for festive bargains as well as clearing and cleaning their homes up. (F5)

The analysis indicated that although both M4 and F5 used factual information, M4 was inclined to focus on impersonal facts about a place, whereas F5 focused more on the human aspects. Quotations or statistics also constitute facts (Evans, 2012), but none of the writers used these as hooks.

Next, self-introduction is a hook that was used only by male writers in this study. Self-introduction can be defined as writers introducing themselves by stating their names, birth year, educational background, and other personal details that are commonly given in self-introductions, as shown in Excerpt 7. M2 also introduced himself as a farmer's son and gave other family background details, such as being number five among seven siblings. Self-introduction is a commonly used hook in a magazine pitch (Vannini, 2013). In the case of high-profile writers, a self-introduction can be an excellent hook (Ivanič, 1998), but the writers of KINO articles are not in this category as they are people who have lived in Kuching but are now temporarily or permanently living in other countries–either because they are studying overseas or have migrated.

Excerpt 7

My name is Laurence Jong Choon Jin. I was from a small farming village in Samarahan Nonok. My parents were farmers and we grew cocoa and coconut on our land. I have seven other siblings and I am number five. My kampong school was Chung Hua Semera, and later I studied at Sekolah Menengah Tun Haji Openg Stampin, Kuching. (M2)

Empathy is a hook used by F10 and F13 to tell readers that they understand a problem. Empathy is relevant because the magazine articles were taken from the section allocated for former Kuching residents who were living in other countries. Many writers wrote about life adjustments, like F10 about her difficulties in learning French (Excerpt 8).

Excerpt 8

Living in a foreign country might sound hard at first, especially at the thought of adjusting yourself to the new environment. My first few months in France were spent living with my in-laws while waiting for our flat and we were like a chicken talking to a duck at the beginning. But it had its advantages too as she really made great efforts to teach me the language. ... (F10)

Creating a mystery is an uncommon hook used by only one writer, F2. Phrases like "weekly ritual" and "timing was utterly essential" (Excerpt 9) suggest a mystery brewing, but it was only to buy the delights of hawker food in the evening.

Excerpt 9

It was the weekly ritual. As soon as twilight set in, there was the late night calling. With only a narrow window to satisfy any intense cravings, timing was utterly essential. (F2)

A hook that is different from creating a mystery is incorporating a plot twist. F4 was the only writer who used a plot twist. Excerpt 10 illustrates how F4 created a plot twist by providing surprising information about a famous café in Melbourne to hook readers. This was followed by a description of her new-found identity as a Malaysian in Melbourne because she had grown up watching American television, and wanting to be Westernised.

Excerpt 10

If you are really lucky on a weekend, you might get a table in The Hardware Société (Melbourne's top brunch café) under half an hour. Otherwise the queuing time can stretch up to a maximum of three hours, but despite the insane wait the place is constantly packed. (F4)

Finally, questions can engage readers to momentarily reflect upon their own lives, and this is used as a bridge to the writer's experiences. Only one writer used a question to hook readers. Excerpt 11 shows F12 starting off her article with a general question which created intrigue about what was the unfamiliar turn that caused her to live in Osaka.

Excerpt 11

Have you ever taken an unfamiliar turn when you're driving and ended up in a totally unexpected location? In 1974, when I left Kuching to go to Christchurch for university, I never for once imagined that I would end up spending a major chunk of my life in Osaka, Japan. (F12)

To sum up, the most frequently used hooks in KINO articles were flashback, description, and facts, but other hooks were used by one or two writers only (i.e. self-introduction, empathy, mystery, plot twist, and question).

Endings in KINO Magazine Articles

Table 4 shows that the most common endings in KINO articles are reflection and resolving issues. The exclusively female endings are answering an earlier question, taking leave, and giving a revelation.

Table 4 *Types of Endings Used in KINO Magazine Articles*

Type of Ending	Frequency
1. Reflection	10
2. Resolve issue	4
3. Answer questions posed earlier	2
4. Take leave	2
5. Revelation	1

Reflection is the most common ending for the KINO article writers. Two writers (F7 and F9) tied their reflection type of ending to their hook. Excerpt 12 shows how F9 felt as she was about to leave the University of Oxford and what she would do. Her hook (Excerpt 4) described her first impressions of the university. Reflections are written as if the writers have taken a step back, looked at what has happened before in their lives, and assessed how they feel about it.

Excerpt 12

As I wrap up my masters course in Oxford, I will miss the beautiful libraries that I spent most of my time studying in. More importantly, I will miss being able to have the opportunities given to me to talk to some of the world's most brilliant minds. That being said, I look forward to returning to Kuching, the city I call home and the place I feel most alive in. (F9)

The second most frequently used type of article ending is resolving issues. In Excerpt 13, F10 presents a resolution – she loves everything French – to language difficulties she encountered when she first lived in France (hook in Excerpt 8). F4 resolved the issue of her wanting to be American by telling readers that "you can never take the Kuching out of the person", meaning that she is finally settled with the idea that she is a Kuchingite and a Malaysian. M1 resolved his indecision to buy a satay grill by telling readers that he had completed his PayPal transaction and the grill would arrive in two weeks. M2 ended his article by showing how a poor farmer's son had become the head chef of a famous restaurant chain in Hong Kong. The resolution is like the last stage of a narrative where personal comments may be added (Derewianka, 1990).

Excerpt 13

But gradually, it was no problem adapting myself to the local cultures. Honestly, I love France. I love French cuisine. I love their wines. The French adore their cheese and moi aussi! (F10)

The other three types of ending were only used by female KINO writers. F8 and F12 answered a question they posed in the hook and earlier parts of their article. Excerpt 14 shows F12 ending her article with two questions; the first is a hypothetical question asking readers what they would do in her situation; the second is a rhetorical question that suggests a last resort that people who marry and live in foreign countries keep in mind. Questions are more commonly used in hooks (Copeman, 2006; Evans, 2012), but the analysis revealed that some KINO article writers used questions to end their articles–and with good effect.

Excerpt 14

I have often been asked, "If you had the choice, all things being equal, where would you live?' Obviously Osaka is where our hearts are at this point in time. But, hey, I'm hanging on to my Malaysian passport! Who knows what the future holds?" (F12)

Using a revelation to end a magazine article is a strategy identified by Hegarty (2015), but in this study, only F11 used included details that were surprising or unexpected to readers (Excerpt 15). F11 announced that she would not want to move back to Kuching, different from the longings of other writers to return home. This revelation is considered a surprise because she had described how easy it was to buy food at the market and to eat out in Kuching, but she turned around and said that food was no longer such an attraction to her. Furthermore, the printed KINO magazine is widely distributed in cafés and restaurants in Kuching, and the readers would see F11's revelation as rejecting the fondness they have towards their homeland. F11's choice of using a revelation was probably effective as it aroused readers' feelings, albeit negative ones.

Excerpt 15

After 40 years of living in Germany now, if given a choice to move back to Kuching, it would be a difficult situation for me as I have learned to love the four seasons and living in a country with one season could be quite monotonous. In the evening of my life, even food is not such a big attraction anymore to tempt me to move back for good. (F11)

Strange as it may seem, two writers (F1 and F5) ended their articles by taking leave of their readers–a new ending not identified in previous studies. F1 wrote, "A big warm thank you to all my friends in Kuching". F5 wrote, "Speaking of which, I have to stop writing now as I am off to an early annual dinner … bon appetit to me and Gong Xi Fa Cai to you!" F5 wrote as if she was close to her readers. The strategy of taking leave engages readers. It is also a sign of informal writing where writers feel free to "speak" to their readers, and it is also a sign of audience awareness in writing.

To sum up, the most common endings were reflecting and resolving issues. Female writers of the KINO articles analysed in this study tended to end their article by answering questions, taking leave, and giving revelations–which seemed designed to engage with their readers.

Conclusion

This study has identified a variety of hooks and endings of magazine articles, some of which were unique to KINO and had not been indicated in previous findings. Eight types of hooks were used, and the most common were flashback, description, and facts. Flashback and self-introduction were new, and have not been identified by previous researchers in the field such as Copeman (2006) and Shen (2019). Flashback resembles the hook Copeman (2006) termed as "including helpful new information". Flashback provides new information to readers who did not live in Kuching in the early days or those who have not been to Kuching at all. Flashback is unique to the present study, partly because of the nature of KINO magazine, which features the life experiences of writers from Kuching who are presently living in other parts of the world. The nature of KINO may have contributed to the emergence of another new hook, self-introduction. Only male KINO writers liked to be upfront about their identity and provide background information about themselves.

In contrast, mystery, plot twist, and questions were used by female writers to create suspenseful moments. In this way, they invited their readers to find the answers in their articles, and this could be a strategy to engage with readers. In the light of Copeman's (2006) finding about asking questions and providing unexpected facts as common hooks, female KINO writers were normative in their use of hooks. The KINO articles did not use quotations, statistics, or empathy in hooks to create expectations or intrigue (Evans, 2012). It is possible that the personal sharing of life experiences in the KINO articles made these hooks irrelevant. Topics may influence the strategies used in introductions of magazine articles, as indicated by Shen's (2019) finding that the conclusion varies with whether the topic is about entities (people or things) or ideas.

As for endings, Copeman (2006) identified only two common types of endings in magazine articles, that is, chronological endings and a return to the writer's hook. The chronological ending did not surface in the present study. Instead the most common ending was reflecting, followed by resolving issues raised earlier in the article. A closer look at these two endings showed that they were what Copeman (2006) described as a return to the writer's hook. This result indicates that the ending of the KINO magazine articles developed naturally from them, and reinforced the value of what was built throughout the articles.

The other three types of endings were only used by female KINO writers, namely, answering questions, taking leave, and giving revelations. Answering questions is in the category of a return to the writer's hook, broadened to include questions raised in other parts of the article. Similarly, giving revelations takes off from information introduced earlier in the article, but the revelation may surprise, or even amuse readers (Hegarty, 2015). Finally, taking leave is a different kind of ending which was unique to the present study. It reflects a combination of both writing and talking, which Copeman (2006) identified as a type of hook, but in the present study, the talking style surfaced in two conclusions written by female writers. In social interactions, "taking leave" takes the form of "good-bye", but in magazine article endings, it may take the form of "A big warm thank you to all my friends in Kuching". The "taking leave" type of ending was high on reader engagement because it assumed a close relationship with readers. The KINO magazine articles did not use any of the common endings identified by Shen (2019) from his analysis of magazines published in the United States. This suggests that the KINO magazine articles, which were written with a local flavour for readers united through their Kuching connection, called into play different hooks and endings for reader engagement.

This study suggests that some hooks and endings are specific to the subject matter and readership of magazines. The study did not investigate readers' responses to the types of hooks and endings used in magazine articles. Readers' response is important to determine which type of introduction and conclusion is engaging, taking into consideration that 89% of readers never get to the end of an article (Shen, 2019). Although we do not advocate that writing and journalism courses teach a particular way of writing, awareness of readers' preferences may increase the chance that readers will read to the end of articles.

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The Relationship between Factors Affecting the Public Mind: Developing a Model for University Students

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Abstract

The purpose of this research is to develop a model of factors affecting the public mind among university students. The first sample used consisted of 375 students. The second sample was made up of the experimental group, which consisted of 36 students who participated in learning units, and the control group, which consisted of 17 students. The instruments utilized were tests, questionnaires, and evaluation forms. Quantitative data was analyzed in terms of frequency, percentage, mean, standard deviation, and multiple regression. The findings indicated that factors affecting the public mind of students were social support, self-efficacy, and attitude towards the public mind. The multiple correlation coefficient between these factors and the public mind of students was equal to .77. These factors explained 59.4% of the variance of public mind of students. The study also found that knowledge about public mind and the public mind of the experimental group was significantly higher than the control group. The model adopted considering factors affecting the public mind consisted of principles and rationale, objectives, methods of operation, content, and measurement and evaluation.

Keywords: *Public mind, support, parenting, self-efficacy, attitude, modeling*

Introduction and Literature Review

In Thailand, the key to sustainable human development is education, which will protect the youth (Chalapirom et al., 2019). As society becomes more complex, educational institutions shoulder the responsibility to prepare as many of the youthful generation as possible to cope and flourish (Office of the National Economic and Social Development Board, 2017). As stated by the Higher Education Act of 2019, Section 40, higher education institutions are responsible for providing academic services to communities and society. For this reason, higher education institutions must encourage students to participate in various social activities. Without institutional intervention or prompting, students would not take the initiative to plan public service activities and will thus lack willingness to sacrifice for the common good (Kampan et al., 2015). As a result, interest in helping others will decrease, and the effectiveness of good citizenship of the state will also decrease (Pratoomthai et al., 2018).

With its value and benefits to the nation at large, it becomes necessary to develop society and the country, especially the youth (Thai Ministry of Education, 2008). As a Thai higher education institution, Nakhon Ratchasima Rajabhat University supports the notion of a public mind through graduates who have good moral knowledge, a sense of being Thai, universal thinking, as well as love and commitment to the local community. Having these characteristics is not only a signature of this university, but it also corresponds with the royal initiative for local development (Boonchan et al., 2017). To effectively instill the notion of public mind among students, there needs to be a clear understanding of factors that may have an impact on this process. Hence, in this study, factors were investigated that are believed to influence the development of a public mind. The findings were expected to inform the contextualized process of developing a public mind, which bears significant educational implications.

Public Mind in Thailand: Service to Society

Currently, there is a campaign for Thai people to show a spirit of volunteerism with the military units of the Royal Chamberlain. This campaign finds its roots in the incident where 13 youthful football players and coaches were rescued after being trapped in a cave in Tham Luang, Khun Nam Nang Non Forest Park on 23 June 2018. The success of this operation would not have been possible without the cooperation, dutifulness, and sacrifice of all those involved. When volunteering with a public mind, volunteers are not procuring money or fame; instead, it is the satisfaction found in helping society become better than it was before (Ajpru, 2013; Wongkun, 2013). Together with the spirit of volunteerism, public mind also involves having a sense of generosity to fellow humans and compassion for the good of society (Wasi, 2007). Moreover, having a public mind not only refers to helping other people, but also means to conserve the environment and to support positive social reform. Maintaining a public mind has been found to result in a more positive disposition (Visalo, 2011). Individuals will also be more cognizant and more willing to learn through reflection (Suyajai, 2013).

Besides higher education and educational institutions in general, other entities may be involved in the development of the public mind. These includes family, religious groups, and the media (Sutthirat, 2013). All these entities need to work with each other to foster a public mind. If one or more entities fail to see the value of having a public mind, then the efforts by others may go wasted. When the value of public mind is reduced, the whole community, and even nation, will suffer as there is constant competition and disagreement between community groups and members (Chanasuwan et al., 2018). Along with the responsibility held by different entities, a public mind also consists of many facets. On top of volunteerism, there are also other characteristics, such as practices of a practical nature, caring for public property, public responsibility, respecting the rights of the public, and willingness to help others (Jaichalad, 2017; Jitsaeng, 2018).

A public mind, as influenced by entities found in a community, indicates that the notion is conceptually complex. To understand the notion of public mind and the process to nurture a public mind, studies have identified several factors, especially within the education setting. From these studies, factors that are found to directly or indirectly influence students' public minds are morality, ethics, teacher training, democratic parenting, emotional intelligence (Pewpet et al., 2012), attitude towards public mind (Nakasaney et al., 2014), modeling (Amornbunpiti, 2010), social support (Pongsritasana, 2010), and self-efficacy (Supapoj, 2018). These factors will be discussed briefly in the following paragraphs.

Social Support

Social support refers to interpersonal interaction consisting of emotional support, decision making, and assistance. Emotional support arises from closeness, attachment, love, care, and trust. Supporting ideas and decisions is based on acceptance and appreciation. Providing assistance in various aspects, such as advice, information, objects or services, and feedback makes a person feel emotionally stable (Snyder & Lopez, 2002). Moreover, social support is a relationship in a society that provides material and interaction resources (Edvardsson et al., 1994). It is the exchange of resources between two people that is meant to achieve well-being. In addition, social support can be formed through social bonds with other people, groups, or larger communities.

Parenting

Parenting refers to contact between the caretaker and the child through speaking and acting. It is communication with children both in action and at the emotional level. In addition, it is also an opportunity for children to look at the behaviors of their caretakers (Sanamkate & Bhanthumnavin, 2016). Children learn about the development of attitudes, beliefs, values, knowledge, and hopes of society, as well as how to behave appropriately, through observing their parents. The three types of parenting styles are Permissive Parenting (which provides few behavioral guidelines because parents do not want to upset their children), Authoritarian Parenting (a parents-know-best approach that emphasizes obedience), and Authoritative Parenting (blends a caring tone with structure and consistency) (Green & Kreuter, 2005).

Self-efficacy

Self-efficacy, which was proposed by psychologist Albert, refers to the personal judgment of how well one can execute courses of action required to deal with prospective situations (Bandura, 2007). Simply put, it is a person's belief in their own ability to perform their work (Greenberg, 2002). Belief in one's own perceptions can influence many aspects of life. The ability of people is not fixed but flexible according to circumstances (Matsushima & Shiomi, 2003). People who believe that they are capable will have patience, perseverance, not give up, and will eventually succeed (Graham, 2011).

Attitude towards Public Mind

Conspicuous values have a significant positive relationship to attitude (Vinijcharoensri, 2016). In psychology, attitude is a psychological construct, a mental and emotional entity that is inherent to or characterizes a person (Perloff, 2016). It is an individual's predisposed state of mind regarding a value and is precipitated through a responsive expression towards a person, place, thing, or event (the attitude object), which in turn influences the individual's thought and action (Minton & Khale, 2014). Attitudes towards the public mind are emotions, feelings, thoughts, beliefs, and trends in a person's behavior in a direction that they either like or dislike, are satisfied or dissatisfied with. It is something that happens automatically, caused by learning and experience. Attitude is an emotion or feeling that arises from opinions by showing one's inclined behavior in the form of an assessment such as a like or dislike (Saiyot & Saiyot, 2010). The attitude variable has been found to have a direct influence on the public mind, with a path coefficient equal to .16 (Makeeree & Rinthaisong, 2017).

Attitudes can be influential on many processes, such as being utilitarian (useful), social, relating to values, or a reduction of cognitive dissonance. They can be beneficial and help people interact with the world. An attitude's function is more important than whether it is accurate or correct (Carpenter et al., 2012). University students with a positive attitude towards public mind will do things that are beneficial to themselves, society, and the nation. Furthermore, students are satisfied with their service to the university and choose to participate in volunteer activities willingly and more frequently.

Modeling

People who are observed are called models and the process of learning is called modeling (Newman & Newman, 2007). Bandura's stated second and third stages of social learning, imitation and behavior modeling will occur if a person observes positive, desired outcomes in the first stage. If, for example, an instructor attends and observes a course in-world and is entertained, informed, and approves of the way students act, they are more likely to want to teach a course in-world themselves. They can then use the behavior that they experienced to imitate and model other instructors' teaching styles in-world (Bandura, 2007). The model is a characteristic of learning behavior. It is the learning that a person observes from behavior of the model. These may be famous people, teachers, parents or friends. Especially when the model shows some behavior that has been reinforced, the tendency to emulate the behavior of that model is high. On the other hand, if the model shows certain behavior and is punished, the person will not imitate that behavior. The model may be a person or object. The person who sparks a teenager to emulate or inspire is the person the teenager wishes to be like in some way. The person can either be alive or deceased (Kanchanapee & Jetchamnongnuch, 2009).

The Study

Concept of Model Development

A model refers to a systematic relation pattern of components (Nopphakhun et al., 2017). It is a simulation of the truth of a phenomenon in order to understand the relationships found within that phenomenon (Stoner & Wankel, 1986). Models generally have the following important components: (a) the model must lead to prediction and the consequences must be proven, (b) The structure of the model must consist of a causal relationship that can explain the phenomena in that matter, (c) the model must be able to help create images, concepts, and interrelations as well as helping to expand the scope of the quest, and (d) the model should consist of structural relationships rather than associative relationships. The present researcher synthesized the concept of academics (Sestapanich, 2007; Runcharoen, 2012; Chulajata & Chattiwat, 2013; Klayluck et al., 2013; Nopphakhun et al., 2017; Nadler & Nadler, 1989) and concluded that the development of the model had five components which are (a) principles and reasoning, (b) objectives, (c) methods of operation, (d) content, and (e) measurement and evaluation.

Methodology

A research and development strategy was adopted using a mixed research methodology. The term "mixed methods" refers to an emergent methodology of research that advances the systematic integration or "mixing," of quantitative and qualitative data within a single investigation or sustained program of inquiry (Creswell & Clark, 2011). The methodology was separated into two parts:

Part I: Investigating Factors Affecting the Public Mind

The sample for investigating factors affecting the public mind consisted of 375 Nakhon Ratchasima Rajabhat University students. The research instruments used were questionnaires that were developed by the current researcher and divided into three parts: Part 1, general information; Part 2, public mind; and Part 3, factors affecting the public mind. The Item-Objective Congruence Index was between .80 and 1.00. The public mind was divided into six components that were (a) useful activities (items 1–8), (b) caring for the public (items 9–18), (c) public responsibility (items 19–26), (d) respecting the right to use the public (items 27–30), (e) willing to help others (items 31–36), and (f) the efficient use of public (items 37–42). The public mind questionnaire had a reliability value of .95. The present researcher created a public mind questionnaire with five rating levels from frequent practice to no practice. Factors affecting public mind included (a) social support (items 1–8), (b) parenting (items 9–17), (c) self-efficacy (items 18–24), (d) attitude towards public mind (items 25–32), and (e) modeling (items 33–38), which had Cronbach's alpha coefficient factor reliability scores of .96, .94, .89, .90, and .57, respectively. The public mind and factors affecting the public mind were summarized using means and standard deviations. Other statistical analysis included Pearson's (r) correlation. Furthermore, the relationship between each factor was analyzed using multiple regression.

Part II: Comparing the Knowledge about the Public Mind and Public Mind

The sample for comparing knowledge about the public mind and public mind consisted of two classrooms, the members of which volunteered to participate in the program. The sample was randomly assigned to form the experimental and control groups—36 students in the experimental group and 17 students in the control group. The experimental group participated in three, fifty-minute sessions dealing with attitude towards the public mind, social support, and self-efficacy. The research instruments used in this section part were the same as those used in the first part including an evaluation form on the efficiency of model development. Knowledge about the public mind and public mind were compared by independent sample t-test.

Findings

Part I

The profile of respondents, level of public mind, and factors affecting the public mind are presented in Tables 1 to 3. From Table 1, it was found that most students were from the Faculty of Education, were female and ranged between 20 to 21 years of age.

Table 1 *Profile of Respondents*

Profile		Frequency	Percentage
Faculty :	Education	78	20.8
	Humanities and Social Science	93	24.8
	Management Science	117	31.2
	Science and Technology	53	14.1
	Industrial Technology	17	4.5
	Public Health	17	4.5
Sex:	Male	118	31.5
	Female	257	68.5
Age:	18–19 years	97	25.9
	20–21 years	165	44.0
	22years and above	113	30.1

Factors affecting the public mind of students are presented in Tables 2 to 5. From Table 2, the public mind of Nakhon Ratchasima Rajabhat University students, seen through the overall average, is at a high level. When considering each component, it was found that each was at a high level, too. The highest mean was “Respecting the right to use the public mind” (M = 4.38). The lowest mean was “Willing to help others” (M = 4.12).

Table 2 *Mean and Standard Deviation of the Public Mind*

Components	*M*	*SD*	Level
Practical practice	4.23	0.50	High
Caring for the public	4.16	0.45	High
Public responsibility	4.16	0.51	High
Respecting the right to use the public.	4.38	0.52	High
Willing to help others	4.12	0.53	High
Public use	4.32	0.50	High
Average	**4.21**	**0.40**	**High**

From Table 3, it can be observed that the overall average value of factors affecting the public mind was at a high level (M = 3.95). When considering each factor, it was found that the majority of factors were at a high level. The highest mean was attitude towards the public mind (M = 4.17). The lowest mean was parenting (M = 3.38).

Table 3 *Mean and Standard Deviation of Factors Affecting the Public Mind*

Items	*M*	*SD*	Level
Social support (X_1)	4.16	0.55	High
Parenting (X_2)	3.38	0.73	Medium
Self-efficacy (X_3)	4.16	0.55	High
Attitude towards public mind (X_4)	4.17	0.58	High
Modeling (X_5)	4.01	0.70	High
Average	**3.95**	**0.47**	**High**

From Table 4, it can be seen that three factors affected the public mind of Nakhon Ratchasima Rajabhat University students (statistical significance of .01). The most influential factors were public attitudes (X_4), social support (X_1), and self-efficacy (X_3). The multiple correlation coefficient between these factors and the public mind of Nakhon Ratchasima Rajabhat University students was .77. These factors could explain 59.4% of the public mind variance of the students investigated.

Table 4 *Multiple Regression Step-wise Analysis on Factors Affecting the Public Mind*

Model	Unstandardized Coefficients (b)	Standardized Coefficients (β)	*t*	*p*
Constant	1.57		13.38	.000
Attitude towards public mind (X_4)	.34	.48	10.58^{**}	.000
Social support (X_1)	.16	.22	5.18^{**}	.000
Self-efficacy (X_3)	.14	.19	4.24^{**}	.000

Note: R = .77, R^2 = .59, p = .000; $^{**}p$-value < .01

The raw score and standard score can be written as follows:

$\hat{Y}=1.574+.338(X_4)+.157(X_1)+.138(X_3)$

$\hat{Z}y=.483(X_4)+.216(X_1)+.190(X_3)$

R = 0.917, R2 = 0.840, p = .000

Part II

The results of Part I indicated that attitude towards the public mind, social support, and self-efficacy affected the public mind of students. This permitted a model to be created to develop factors that affect the public mind of students. It consisted of five components: principles and reasoning, objectives, methods of operation, content, and measurement and evaluation. The following were some comments made by experts regarding the model: “Measurement and evaluation should be written in behavior because it will increase clarity;” “The question should be concise, clear and focus on keyword only;” “The content and illustrations should be added to make it easier to understand the theory and principles;” “Each unit should design action activities that are appropriate and diverse and not overlap;” “The purpose of each unit is for students to demonstrate public awareness of real-life situations in their society;” “Questions about the application should be added to the end of the unit;” “Measurement and evaluation should be consistent with objectives;” and “Each unit of study does not have to be the same number of questions.”

The efficiency of model development and comparisons of knowledge about public mind and public mind of Nakhon Ratchasima Rajabhat University students are presented in Tables 5 to 7. From Table 5, it is evident that the efficiency of the form of factor development that affected the public mind of Nakhon Ratchasima Rajabhat University students as a whole was at the highest level. The aspect with the highest average was utilization (*M* = 4.77). The lowest aspect was rightness (*M* = 4.73).

Table 5 *Mean and Standard Deviation of the Efficiency of the Model of Factors Development Affecting Public Mind of Nakhon Ratchasima Rajabhat University Students*

Efficiency	Rightness			Appropriateness			Utilization			Feasibility		
	M	*SD*	Level	*M*	*SD*	Level	*M*	*SD*	Level	*M*	*SD*	Level
Principles and Rationale	4.93	0.25	Highest	4.96	0.18	Highest	4.90	0.30	Highest	4.83	0.37	Highest
Objectives	4.80	0.40	Highest	4.80	0.40	Highest	4.83	0.37	Highest	4.73	0.44	Highest
Methods of Operation	4.73	0.44	Highest	4.83	0.46	Highest	4.73	0.44	Highest	4.73	0.44	Highest
Content	4.66	0.47	Highest	4.66	0.47	Highest	4.76	0.43	Highest	4.83	0.46	Highest
Measurement and Evaluation	4.53	0.62	Highest	4.53	0.62	Highest	4.63	0.61	Highest	4.56	0.62	Highest
Average	**4.73**	**0.29**	**Highest**	**4.76**	**0.28**	**Highest**	**4.77**	**0.25**	**Highest**	**4.74**	**0.33**	**Highest**

The data shown in Table 6 indicate that the knowledge about the public mind of Nakhon Ratchasima Rajabhat University students differed significantly (*p* = .002) between the experimental group and the control group.

Table 6 *Comparison of Knowledge about Public Mind between the Experimental and Control Groups*

Knowledge about Public Mind	*n*	*M*	*SD*	*t*	*p*
Experimental Group	36	21.44	3.48	3.33	.002
Control Group	17	18.29	2.54		

Data in Table 7 shows that the public mind of Nakhon Ratchasima Rajabhat University students differed, at a high level of significance, between the experimental group and the control group. The value obtained for the public mind of the experimental group was higher than the control group.

Table 7 *Comparison of Students' Public Mind between the Experimental and Control Groups*

Public Mind	*n*	*M*	*SD*	*t*	*p*
Experimental Group	36	4.37	0.29	4.31	.000
Control Group	17	4.28	0.40		

Discussion

For this research, the standardized coefficients (β) of self-efficacy (X_3) was equal to .19 and it was shown that it affected the public mind of the participants (statistical significance at the level of .01 in the *t*-test). In this study, self-efficacy can be treated as a belief that a student can perform public activities adequately in a given situation (Greenberg, 2002). Possessing self-efficacy will encourage students to participate in community activities. Furthermore, students who believe that they are self-efficient will most probably have high academic achievement (Motlagh et al., 2011). Students with their self-efficacy also are confident in deciding what they can do with their skills (Sin et al., 2015).

The standardized coefficients (β) of social support (X_1) was equal to .22 and it affected the public mind of Nakhon Ratchasima Rajabhat University students (statistical significance at the level of .01 in the *t*-test). Consistent with the study of Makeeree and Rinthaisong (2017), this study found that public mental variables are directly influenced by social support variables. Social support variables were able to predict (65.1% of variabiance) factors affecting the public mind of students at Silpakorn University, Phetchaburi Information Technology Campus (significant at the .001 level; Kleebsuwan & Rotjanalert, 2018). In addition, social support has relationships with self-efficacy (Wang et al., 2015). Social support is seen in interpersonal interactions consisting of emotional concern, instrumental aid, information, and appraisal. There are many social support sources for students, such as family, friends, teachers, or other social organizations (Yamwong, 2012). Social support stems from close relationships and trust. Students with social support will have a better quality of life (Snyder & Lopez, 2002) and will find opportunities to become social supporters (Edvardsson et al., 1994).

The standardized coefficients (β) of attitude towards public mind (X_4) was equal to .48 and it affected the public mind of Nakhon Ratchasima Rajabhat University students (statistical significance at the level of .01 in the *t*-test). Attitudes towards the public mind are emotions, thoughts, beliefs, and tendencies of a student's behavior in a direction that they like or dislike, or are satisfied or dissatisfied with. This feeling is automatic, which is caused by learning and experience (Srithong, 1999).

Concluding Remarks

There are two main implications of this study. The first is the research design utilized to verify the public mind of a particular group of students proved valuable. In this study, the development model of factors affecting the public mind of Nakhon Ratchasima Rajabhat University students consisted of five components: (a) principles and reasoning, (b) objectives, (c) methods of operation, (d) content, and (e) measurement and evaluation. Their relevance still will depend on specific circumstances or phenomena being studied. The principles for creating models are processes and conceptual steps. The theoretical concepts must be practical and can be evaluated in every component, process, and step.

The efficiency of the model of factor development affecting the public mind of Nakhon Ratchasima Rajabhat University students overall is at the highest level. This may be because the current researcher proposed a model to develop factors that affected the public mind of students at the University through a systematic process modified by suggestions from professionals.

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The Effect of Health Consciousness on Reusable Bottle Behavior from the Theory of Planned Behavior Perspective

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Abstract

The use of reusable bottles is known to reduce reliance on single-used liquid containers at an individual level. However, the adoption of reusable bottles remains limited in many areas, despite the availability of external factors encouraging use. While health consciousness could influence the use of reusable bottles, it is unclear whether such a relationship is positive or negative. The present study aimed to identify the effect of health consciousness on reusable bottle behavior by proposing a conceptual model based on the theory of planned behavior. College students completed questionnaires regarding their on-campus use of reusable bottles for five school days. Results revealed that health consciousness did not influence intention. Nonetheless, the fitness indices showed an excellent model fit. Behavior was predicted by intention ($p < .001$), which was in turn determined by attitudes ($p < .001$), perceived norms ($p < .05$), and perceptions of control ($p < .001$). Examination of the antecedents of on-campus use of reusable bottles revealed important implications for designing effective behavioral interventions.

Keywords: *Planned Behavior Theory, reusable bottles, health consciousness*

Introduction

Encouraging people to use reusable bottles–and to use them regularly–is a promising way to reduce reliance on plastic bottles. However, the use of reusable bottles remains low in many areas despite the availability of external factors encouraging use (e.g. financial incentives or water refill stations). In Thailand at Chulalongkorn University for example, it was found that only 10% of respondents used reusable bottles on campus regularly (Environmental Research Institution, 2020). A similar pattern can be seen in the United States (Easley-Appleyard et al., 2011; Romero et al., 2018) and Europe (Manuroner, 2019). This highlights that the decision to use reusable bottles is not determined solely by external factors.

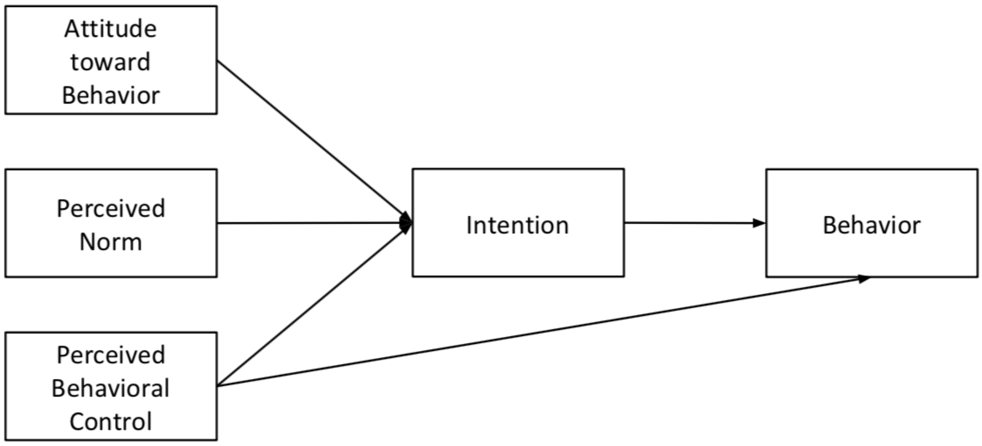
Previous research findings have suggested that health consciousness, the degree to which individuals are concerned about their health (Hong, 2009), can influence the use of reusable bottles. However, both positive and negative relationships have been found between health consciousness and reusable bottle behavior. On the one hand, people who are highly aware of their health may avoid using reusable bottles because they can act as a source of bacteria (Sun et al., 2017; Easley-Appleyard et al., 2011) and the components of reusable bottles, especially polyethylene terephthalate and bisphenol A, can be harmful to one's health (Halden, 2010). On the other hand, some highly health conscious people may use reusable bottles frequently because they enable control over water intake (Bhesyanavin & Pichalai, 2015). People have also reported that water in plastic bottles can be contaminated with chemicals (Yang et al., 2011), making reusable bottles a healthier choice. Due to the mixed evidence, the effect of health consciousness on the use of reusable bottles remains unclear.

To fill the knowledge gap, the present study aimed to identify the role of health consciousness on the use of reusable bottles, using the theory of planned behavior (TPB) as the framework. In particular, the present study examined the relationship between health consciousness and intention to use reusable bottles. The specific research questions posed were as follows. First, does health consciousness influence the intention to adopt reusable bottles? Second, in order to replicate prior work on the determinants of reusable bottle behavior (Ertz et al., 2017; Laner, 2018; Qian, 2018; Zhou, 2010), do the TPB variables influence adoption of reusable bottles?

The Theory of Planned Behavior

According to the TPB (Fishbein & Ajzen, 2011) (Figure 1), behavior is determined by intention and perceived behavioral control, while intention is influenced by attitude toward behavior, perceived norm, and perceived behavioral control.

Figure 1 *Theory of Planned Behavior Model*



Previous research has shown that the TPB can predict the use of reusable bottles (Ertz et al., 2017; Laner, 2018; Qian, 2018; Zhou, 2010). Intention was found to be a strong predictor of behavior, while attitude toward behavior, perceived norm, and perceived behavioral control had a significant effect on intention to use reusable bottles. Despite such consistent results, previous studies measured reusable bottle behavior in a general manner (e.g., "How often do you use the reusable bottles?") (Ertz et al., 2017; Laner, 2018; Qian, 2018; Zhou, 2010). It is highly unlikely that all respondents had the same idea of the location and time to use reusable bottles when completing the questionnaires (Lange & Dewitte, 2019), hence yielding inaccurate results. To minimize such problems, a context-specific measure of reusable bottle behavior was used in the present study.

Health Consciousness

Hong (2009) defined health consciousness as the degree to which individuals are concerned about their health. Health consciousness consists of three elements: self-health awareness, personal responsibility, and health motivation. Health consciousness has been well documented to predict both intention to engage in health behavior and environmental behavior (Akhondan et al., 2015; Buaprommee & Polyorat, 2016; Chen, 2013; Cho et al., 2014; Ellison et al., 2013; Gould, 1988; Kaynak & Eksi, 2011; Kraft & Goodell, 1993; Hong, 2011; Hwang & Cranage, 2015; Mai & Hoffmann, 2012, 2015; Melody & Shang-Hui, 2013; Royne et al., 2014; Singhal, 2017; Sinkevičius, 2016). For example, Chen (2013) found that people who had high health consciousness tended to have high intention to use functional foods. Melody and Shang-Hui (2013), as well as Kaur and Bhatia (2018), found that health consciousness predicted intention to purchase green products. However, certain behaviors that are less well-known in terms of their health impacts tended to have an insignificant relationship to health consciousness. For example, Hoque et al. (2018) did not find an effect of health consciousness on liquid milk consumption, as many people were not aware of harmful adulteration during certain processes of liquid milk production (Chanda et al., 2012; Islam et al., 2018).

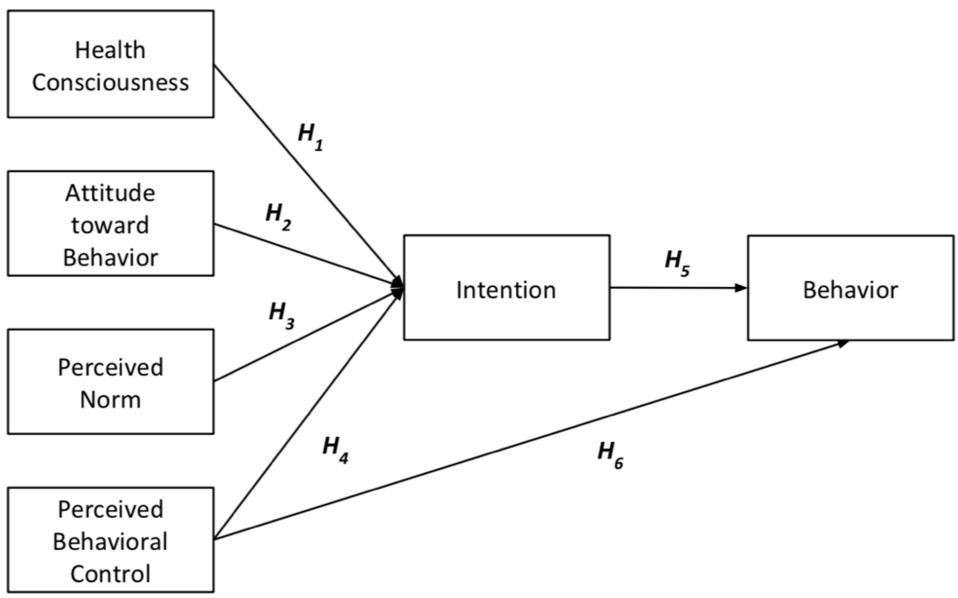
As discussed previously, past evidence has shown that people have health concerns over the use of reusable bottles (Appleyard et al., 2011; Bhesyanavin & Pichalai, 2015; Easley-Halden, 2010; Sun et al., 2017; Yang et al., 2011). It stands to reason that the use of reusable bottles can be seen as a health behavior. Thus, health consciousness should predict individuals' intention to use these bottles.

The Present Study

The present study investigated the role of health consciousness on the use of reusable bottles using the TPB. The conceptual model used is shown in Figure 2. All variables were assumed to be observed variables. The hypotheses generated were as following:

H_1: Health consciousness predicted the intention to use reusable bottles.
H_2: Attitude toward behavior predicted the intention to use reusable bottles.
H_3: Perceived norm predicted the intention to use reusable bottles.
H_4: Perceived behavioral control predicted the intention to use reusable bottles.
H_5: Intention predicted self-reports of the use of reusable bottles.
H_6: Perceived behavioral control predicted self-reports of the use of reusable bottles.

Figure 2 *The Conceptual Model*



Methods

Pilot Study

The TPB questionnaire was adapted from (Bhesyanavin & Pichalai, 2015). Items were adjusted in relation to the use of reusable bottles on campus over the next five school days.

Following the translation and validation guidelines proposed by Sperber (2004), Hong's (2010) health consciousness scale was translated into Thai by two translators. Discrepancies between the two translations were discussed and adjusted to derive a Thai version of the health consciousness scale. This Thai version was then back-translated into English by another two translators. Discrepancies in the translation were discussed between the two translators before finalizing the English version of the scale. The back-translation was compared to the original using a 7-point scale by 30 English native speakers in terms of meanings and form. Items that scored below midpoint received a revision. Results indicated that all health consciousness measurement items scored above five, indicating high validity of the cross-cultural questionnaire.

Before conducting the study, a pretest was conducted to test the psychometric qualities of the TPB constructs and health consciousness with two sample groups of Chulalongkorn students. For a total of 60 students, Cronbach's alpha results ranged from .79 to .95, while the discriminant *t*-test indicated a significant difference between the means of the high and low groups. With 100 students, confirmatory factor analysis showed a model fit for each variable.

Data Collection

Chulalongkorn University, Bangkok, Thailand, has campus-wide water refill stations, incentives when making beverage purchases, and giveaway reusable bottles to students. Therefore, it was selected as an appropriate location to examine the effects of internal factors influencing the use of reusable bottles. All the undergraduate students were eligible to participate in the survey and 120 completed two questionnaires. The first questionnaire, administered in October 2018, assessed five predictor variables, while the second questionnaire obtained self-reports of on-campus use of reusable bottles and was administered one week after the participants completed the first questionnaire. To generate a unique identifier to match the two questionnaires, the students were asked to add the last three digits of their identification numbers. Participants were assured of their anonymity.

Materials

The first questionnaire assessed the four constructs of the TPB and health consciousness. Participants were asked to respond to a series of questions in relation to the on-campus use of reusable bottles.

Health Consciousness. Responses to 10 questions were used as reflective indicators of health consciousness (e.g., “I am very self-conscious about my health”). Participants rated each item on a 7-point scale ranging from *strongly disagree* to *strongly agree.*

Attitude toward Behavior. Participants evaluated the common stem, “For me, using the usable bottle for the next five days on campus would be ....” on six, 7-point bipolar adjective scales, such as “*looks good/looks bad,*” “*proud/not proud,*” and “*pleasant/unpleasant.*” Responses were aggregated to yield a measure of attitude.

Perceived Norm. Responses to six questions were used as reflective indicators of perceived norms (e.g. “people who are important to me think that I should use the usable bottles on campus for the next five school days”). Participants rated each item on a 7-point scale ranging from *strongly disagree* to *strongly agree.*

Perceived Behavioral Control. The mean of six items was used to assess perceived behavioral control. Participants rated their preferences on a 7-point scale such as “to me, using the usable bottle on campus for the next five days is likely” (*strongly disagree* to *strongly agree*).

Intention. Intentions were assessed by computing the mean response to the following three items “I intend to use a reusable bottle on campus for the next five school days,” “I am planning to use the reusable bottle on campus for the next five school days,” and “I am willing to use the reusable bottle on campus for the next five school days.” Responses were provided on a 7-point scale ranging from *strongly disagree* to *strongly agree*.

Behavior. One week after the first questionnaire was completed, the second questionnaire was administered containing one question to assess the behavior. Participants indicated how many days they had used reusable bottles on campus, with scores ranging from 0 (*never*) to 5 (*always*).

Statistical Analyses

The proposed model was tested by structural equation modeling (SEM) using LISREL 9.2. Each variable was treated as an observed variable. Model fit was assessed with sample size independent fit indices such as the comparative fit index (CFI), *p*-value, and the root mean squared error of approximation (RMSEA). According to conventional rules of thumb (Hu & Bentler, 1999; Kline, 2015), acceptable and excellent model fit was indicated by RMSEA values smaller than .08 and CFI, NNFI, and *p*-value greater than .90, .95, and .05, respectively.

Results

Descriptive Statistics

The response rate was 53.6%. There was no missing data. Respondents (N = 120, female = 70) reported moderately strong intentions to use reusable bottles on campus (M = 5.65, SD = .14), positive attitude (*M* = 5.95, *SD* = .10), perceived norms (*M* = 5.47, *SD* = .09), perceived control (*M* = 6.21, *SD* = .09), and health consciousness (*M* = 5.78, *SD* = .09). Out of five days in the week, respondents reported relatively low frequency of using reusable bottles on campus (*M* = 2.20, *SD* = .18). All variables were significantly correlated with one another (Table 1).

Table 1 *Means, Standard Deviations and Correlations among All Variables*

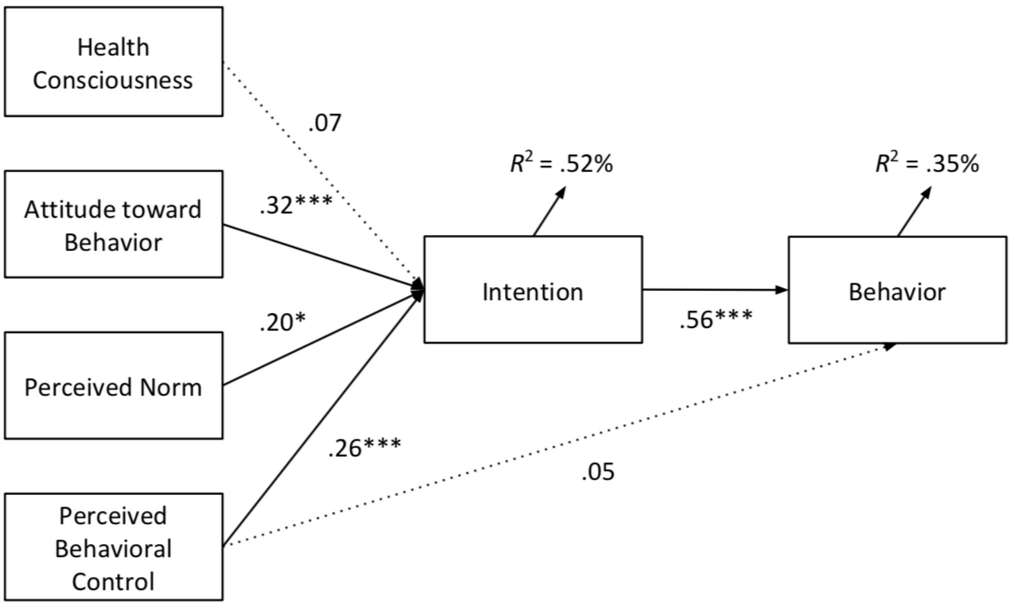
Variables	*M*	*SD*	HC	ATT	PN	PC	INT	BEH
1. Health Consciousness (HC)	5.78	.09	-	.50**	.49**	.57**	.47**	.25*
2. Attitude (ATT)	5.95	.10		-	.69**	.60**	.65**	.40**
3. Perceived Norm (PN)	5.47	.09			-	.60**	.61**	.35**
4. Perceived Control (PC)	6.21	.09				-	.61**	.39**
5. Intention (INT)	5.65	.14					-	.59**
6. Behavior (BEH)	2.20	.18						-

Note. * = *p* < .05 level, ** = *p* < .01 level, *** = *p* < .001

Testing the Conceptual Model

The fitness indices indicated that the model provided an excellent fit to the data: CFI = 1.00; NNFI = 1.02; RESEA = .00; *p* = .85. The model accounted for 52% of the variance in students' intentions and 35% of the variance in their reported on-campus use of reusable bottles (Figure 2). Intention had a strong direct effect on behavior (ß = .56, *SE* = .90, *p* < .001). However, perceived behavioral control did not have a direct effect on behavior (ß = .05, *SE* = .08, *p* > .05). The effects of attitude toward behavior (ß = .33, *SE* = .13, *p* < .001), perceived norm (ß = 21, *SE* = .14, *p* < .05), and perceived behavioral control (ß = .28, *SE* = .12, *p* < .001) on intention were moderate. Finally, health consciousness did not have an effect on intention (ß = .07, *SE* = .08, *p* > .05).

Figure 3 *Health Consciousness and TPB Variables Predicting On-campus Use of Reusable Bottles*



Note. * = *p* < .05 level, ** = *p* < .01 level, *** = *p* < .001; …. = non-significant; ___ = significant

Discussion

This study builds on prior literature suggesting that health consciousness predicts the use of reusable bottles (Bhesyanavin & Pichalai, 2015; Easley-Appleyard et al., 2011; Halden, 2010; Sun et al., 2017; Yang et al., 2011). A conceptual model was proposed under the TPB framework, in which intention mediated the effect of health consciousness on reusable bottle behavior. From the

Chulalongkorn student sample, health consciousness did not have an effect on intention to use the reusable bottle over five school days. Thus, H_1 was not supported. These results imply that concern over one's health does not have an effect on reusable bottle adoption. Another consideration that may help explain the insignificant finding is that health impacts from the reusable bottle usage, either beneficial or harmful, take time (longer than five days) to manifest. Sun et al. (2017), for example, found that over the course of seven days or longer with frequent usage, reusable bottles started to accumulate bacteria. Thus, future study should investigate such relationships over a longer period of time.

Consistent with previous studies (Ertz et al., 2017; Laner, 2018; Qian, 2018; Zhou, 2010), the results of this study confirmed the utility of a conceptual model as a framework for understanding the intention to use reusable bottles and behavior. Structural equation modeling revealed an excellent fit between the conceptual model and the data. Self-reported behavior is predicted by intention, which is in turn determined by attitude, perceived norms, and perceived behavioral control. Thus, H_2, H_3, H_4, and H_5 were supported. However, there is little variation on the degree to which each TPB variable had on intention, compared to previous studies. This could be due to the different populations being studied (Fishbein & Ajzen, 2011). In addition, the results also revealed that despite differences between context-specific and general measures of reusable bottle behavior, the TPB variables' relationship remained relatively similar, indicating the robustness of the TPB.

H_6 was not supported. The effect of perceived behavioral control on behavior was insignificant. According to Fishbien and Ajzen (2011), such an insignificant effect indicates that individuals underestimate how difficult it is to perform the altered behavior. In practice, the use of reusable bottles requires a series of behaviors, including bringing the reusable bottles with them and cleaning the reusable bottles after use. Respondents may not be aware of these subtle behaviors as part of the use of reusable bottles, leading to an overestimation of perceived behavioral control.

The present findings have implications for intervention design that aims to encourage the use of reusable bottles. Because intention has a strong effect of behavior, it is important to create conditions to motivate individuals' use of reusable bottles. To do so, intervention design should target individuals' attitude toward behavior, perceived norm, and perceived behavioral control, as they are significant determinants of intention. In particular, intervention should highlight the emotional and cognitive aspects of reusable bottle behavior, peers' reusable bottle behavior and opinions about reusable bottles, and individuals' control over reusable bottle behavior. The insignificant effect of health consciousness on intention implied that individuals did not have health concerns that would impact their intention to use reusable bottles. Thus, messages about health can be excluded.

One potential limitation of this study was its reliance on self-reported on-campus use of reusable bottles, and the possibility that participants may have overestimated the extent to which they adopted these socially desirable behaviors. This study was comparable in this regard to most other studies of reusable bottle behavior. Participants were assured that their responses were anonymous to mitigate the tendency toward social desirability responses. Another limitation was the relatively small sample size. Nonetheless, the sample size of this study met Shumacker and Lomax's (2010) rule of thumb of 20 cases per variable, and did indeed yield significant results as discussed previously. Future research should confirm the present findings with a larger sample size, following other guideline rules.

Conclusions

This study made a number of important contributions to our understanding of the use of reusable bottles. First, health consciousness did not have an effect on intention and behavior over a short period of reusable bottle usage. Second, the data revealed that the TPB was a suitable framework to study the use of reusable bottles. Third, compared to previous studies, the results showed that differences between context-specific and general measures of the reusable bottle behavior did not affect the relationship among TPB variables. Finally, the discussion above shows how the results of this study can provide useful guidance regarding factors to be considered when designing effective behavioral change intervention to encourage the use of reusable bottles.

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The Effects of Service Fairness on Customer Recovery Satisfaction and Loyalty towards Internet Services: A Comparative Study between Kenya and South Korea

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Abstract

A comparative study was conducted among consumers in Kenya and South Korea to determine the effects of perceived service fairness on customer recovery satisfaction and subsequent customer loyalty toward Internet services. Multimodal surveys were obtained from each country (*N* = 401 and 475, respectively). The findings revealed that informational fairness, trust, and commitment had significant influences on recovery satisfaction in South Korea, and customer recovery satisfaction had a significant relationship with customer loyalty in both countries. Significant differences in responses occurred between the two countries, possibly due to customer behaviors and cultures. Management might build up trust to increase the level of customer satisfaction through honesty, open communication, and thoroughly described procedures. Management could sustain customer loyalty by offering responsive solutions to customer complaints. Future research may reveal more factors that influence recovery satisfaction, such as relationship quality and compensation.

Keywords: *Service fairness, recovery satisfaction, trust, customer loyalty*

Background

The Internet is an indispensable part of our lives and provides us with powerful functions within reach. Such precious and affordable resources are available to many people, which is unprecedented in history (Stewart, 2020). Presently, there are over 4.54 billion active Internet users worldwide, encompassing 59% of the global population (Clement, 2020). Consequently, the Internet is a universal and vital service. The speed of data and information distribution is critical in modern society. In 2017 South Korea's average Internet speed was 28.6 Mbit/s surpassing that of the world mean of 7.2 Mbit/s by four times (Akamai, 2017; Internet in South Korea, 2020). The South Korean government has formulated policies and plans that have enabled the rapid expansion of broadband use enabling it to be ranked first in the United Nations Information Communication Technology (ICT) Index (Internet in South Korea, 2020). In particular, South Korea's mobile business is due largely to the simultaneous release of 5G by many local telecom companies, and also fiber optic connections, a basis for gigabit fixed broadband (McKetta, 2019).

Similarly, Kenya's Internet speed development is also very good. The broadband market in Kenya has changed, mainly due to increased investment by major providers in network upgrades and government support for four submarine optical cables (Businesswire, 2019), leading to lower wholesale prices. According to Akamai (2017), Kenya has a fast Internet connection speed averaging 12.2 Mbps, outperforming the global average of 7.2 Mbps, with mobile Internet speeds averaging 13.7 Mbps. Birir (2020) reported that Google Loon aims to provide wider Internet coverage to empower Kenya to maintain its competitive advantage in ICT and innovation during the Covid-19 crisis, and to lay a foundation for further development. In 2019, an estimated 46,870,422 Kenyans used the Internet, a penetration rate of 89.7% (Internet World Stats, 2019). By contrast, in January 2020 there were 49.21 million Internet users in South Korea, a penetration rate of 96% (Kemp, 2020; Statistica Research Department, 2020).

According to Kwach (2019), it is almost impossible to imagine a world without the Internet. Basic pursuits such as communications and entertainment bank heavily on it. Businesses and individual customers need an agile, trustworthy Internet connection (McKetta, 2019). However, regardless of the advancements in Internet technology and despite the hard work of Internet Service Providers (ISPs), companies still encounter risks online, and the Internet may go down periodically. When the connection fails, consumers have a right to lodge a complaint due to the inability to access and use communication services (Consumers and Public Affairs, 2018). The magnitude of use increases the possibility of service failure, so there is an increasing need to understand the impact of service fairness as a recovery strategy on satisfaction and customer loyalty.

Research Objectives

1. To determine the effects of perceived service fairness (distributive, procedural, interpersonal, and informational) on customer recovery satisfaction toward Internet services among consumers in Kenya and South Korea.
2. To determine the effects of customer recovery satisfaction on customer loyalty toward Internet services among consumers in Kenya and South Korea.
3. To examine significant differences in the above influences (such as service fairness on customer recovery satisfaction; customer recovery satisfaction on loyalty) among consumers in South Korea (a developed country) and Kenya (a developing country).

Literature Review and Hypothesis Generation

Justice theory, which will be referred to as service fairness, provides a strong theoretical basis for service recovery research. Studies have shown that perceived fairness has an important impact on establishing customers' key judgments on the recovery process (Wen & Chi, 2013). Organizational justice theory is rooted in fairness theory (Adams, 1965), which expresses the extent to which consumers feel fairly treated through service failures and recovery efforts (Blodgett et al., 1993; Ding & Lii, 2016; Maxham & Netemeyer, 2002; Tax et al., 1998) and how this impacts satisfaction through exchanges between an individual and a firm (Colquitt et al., 2005). An exchange happens when a customer swaps a cost for a service from a provider. Customer service is altered when the service is interrupted through provider service failure. When there is a service failure, chances are the customer will evaluate the recovery efforts of the service provider in a bid to estimate the fairness performance level of the provider, given that the customer incurred a cost for the service, and also based on how crucial the service is to the customer. In equity literature, four different dimensions of justice are described: 1) distributive fairness; 2) interpersonal fairness; 3) procedural fairness; and 4) informational fairness. The idea of perceived justice proposes that the fairness of recovery procedures, interpersonal communications and activities, and the outcome are the key antecedents of customer evaluations. Therefore, perceived justice can be viewed as a three-dimensional construct that includes distributive, procedural, and interactional justice (Blodgett et al., 1997; Clemmer & Schneider, 1996; Ding & Lii, 2016).

Distributive Fairness denotes the perceived fairness that the service provider implements to allocate the resources to resolve and make restitution for a service failure. Generally, it focuses on the tangible recompense given to consumers through service recovery, including financial rewards such as refunds, discounts on future purchases, coupons, and swapping goods or services (Blodgett et al., 1997; Ding & Lii, 2016; Homburg & Fürst, 2005; Maxham & Netemeyer, 2002; Tax et al., 1998). In this study, the definition adopted was the customer's perception of fairness of outcome allocations after service failure in Internet services.

Procedural Fairness is about the perceived fairness of the precise policies, processes, and methods followed by the service provider in taking care of the service problem and restoring the failed service (Blodgett et al., 1997; Ding & Lii, 2016; Maxham & Netemeyer, 2002). This included timeliness, process control, accessibility, and flexibility to adjust to the customer's recovery needs. In this study, procedural fairness was taken as the customer's perception of fairness of the policies, processes, and methods used by the Internet service provider in handling a complaint.

Interactional Fairness refers to the way customers are treated during the complaint process. This fairness displays itself as showing interpersonal understanding, dealing with consumers with politeness and respect, or providing appropriate justifications for the service failure (Blodgett et al., 1993; Ding & Lii, 2016; Maxham & Netemeyer, 2002, 2003; McColl-Kennedy & Sparks, 2003; Smith et al., 1999).

Nearly all studies on service failure and recovery use the three-dimensional approach to perceived justice (del Río-Lanza et al., 2009; Ding & Lii, 2016; Kim et al., 2009; Maxham & Netemeyer, 2002; Wirtz & Mattila, 2004). Greenberg (1993) asserted that *Interactional Justice* involved two forms of treatment. Their effects on customers' perceptions are different; therefore, they should be addressed as two distinct dimensions.

Informational Fairness is about consumers receiving satisfactory and truthful explanations and justifications for their recovery treatment (Colquitt, 2001; Mattila & Cranage, 2005). In this study, it was defined as the customer's evaluation of explanations by the Internet service provider concerning the procedures used, or why outcomes were distributed in a certain fashion.

Interpersonal Fairness refers to the extent to which consumers are treated with courtesy, respect, and dignity by organizations or staff who are involved in carrying out the recovery processes or deciding on outcomes. In this study, it was the customer's perception of the degree to which they were treated with politeness, dignity, and respect by the staff of the Internet service provider in executing procedures or determining outcomes. A four-dimensional perception of justice provides a better fit to the data compared to the three-dimensional approach (Colquitt, 2001). Hence, this study adopted the four-dimensional framework by taking into account distributive, procedural, interpersonal, and informational justice as distinct dimensions of service fairness perceptions.

Commitment-Trust Theory

Morgan and Hunt (1994) stated that both commitment and trust are critical for effective relationship marketing. Their study revealed that exchange partners are more committed to their relationship when they have shared values. The concept of trust was popularized by Parasuraman et al. (1985), who proposed that customers ought to be able to trust their service providers, feel safe in their transactions with them, and be confident that their transactions were confidential (Coulter & Coulter, 2002). Trust is how the customer regards the integrity, honesty, and competency of the service provider (Morgan & Hunt, 1994). In this study, it consisted of the customer's perception to believe in their Internet service providers' integrity, honesty, and competence. Commitment is the belief that an ongoing relationship with another is significant enough to require considerable efforts in sustaining it (Morgan & Hunt, 1994). In this study, it was the customers belief that an ongoing relationship with an Internet service provider was so important as to warrant maximum efforts at maintaining it. It is vital to assess the trust and commitment factors in promoting long-term relationships following service recovery.

Service Recovery

Service recovery refers to the process that a service provider initiates after a service failure to recover discontented customers, and it is aimed to maintain a business relationship with the customer (Boshoff, 1997; Zemke & Bell, 1990). In this study, it was the extent to which aggrieved customers were brought back to a state of satisfaction with the Internet service provider after experiencing a service failure. Service failure happens when a customer experiences a loss due to a failure of service provision. Consequently, the service provider endeavors to provide a gain, in the form of the recovery effort, to make restitution for the customer's loss (Smith et al., 1999).

Oliver (1999) defined customer loyalty as a deeply held commitment to re-buy or re-patronize a preferred product/service steadily in the future, and by that means cause repetitive same-brand or same brand-set buying. The anticipated result of service recovery models is customer loyalty (DeWitt et al., 2008). Customer loyalty has assured financial dividends because the cost to appeal to a new customer is substantially higher than retaining an existing one (Boshoff, 1997; Fornell & Wernerfelt, 1987). In this study, it was defined as the extent to which customers are committed to re-buy Internet services from the same provider consistently in the future, despite circumstantial influences and marketing attempts prejudicing the conversion of customers to competitors.

Customers' trust is obtained through fair service recovery (DeWitt et al., 2008). Consumers possibly will perceive a service provider as untrustworthy when the service recovery they get is inadequate. It also is probable that consumers who are satisfied with the service recovery will display a greater trust position than those who are dissatisfied (Coulter & Coulter, 2002; Kau & Loh, 2006; del Río-Lanza et al., 2009; Tax et al., 1998). Research conducted by Kim et al. (2009) and de Witt et al. (2008) indicated that service recovery had an impact on trust in the hospitality industry. In situations where there is strong trust between a service provider and customer, it is predictable that there will be a long-term relationship (Kim et al., 2009). Therefore, it is hypothesized that a positive influence is exerted on trust toward Internet services among consumers in Kenya and South Korea by Distributive Fairness (H_{1a}), Procedural Fairness (H_{2a}), Interpersonal Fairness (H_{3a}), and Informational Fairness (H_{4a}).

Customer satisfaction with service recovery indicates a customer's overall emotional response to a service firm's process, and the consequences of recovering after a service failure (Kim et al., 2009). In their model, Smith et al. (1999) tested customer satisfaction with service failure/recovery in the context of hotels. They found that the three justices (distributive, procedural, and interactional) accounted for a high percentage of customer satisfaction after the service recovery. According to Boshoff (1997), the outcomes of service recovery are better service quality perceptions and better customer satisfaction, culminating in deliberate loyalty and repeat purchases. Hence, it was hypothesized that a positive influence is exerted on recovery satisfaction toward Internet services among consumers in Kenya and South Korea by Distributive Fairness (H_{1b}); Procedural Fairness (H_{2b}); Interpersonal Fairness (H_{3b}); and Informational Fairness *(H_{4b})*.

According to Nusair (2010), if a customer has a service recovery experience that they consider positive, their commitment probably will be improved. Andreassen (2001) pointed out that exemplary service recovery compliments relationships in nearly all cases. On the other hand, service recovery that is managed unsatisfactorily has the possibility to damage loyalty (McDougall & Levesque, 1998). Service recovery is positively correlated to customer commitment. Thus, the following hypotheses are suggested. Four categories of fairness have a positive influence on commitment toward Internet services among consumers in Kenya and South Korea as follows: Distributive Fairness (H_{1c}); Procedural Fairness (H_{2c}); Interpersonal Fairness (H_{3c}); and Informational Fairness (H_{4c}).

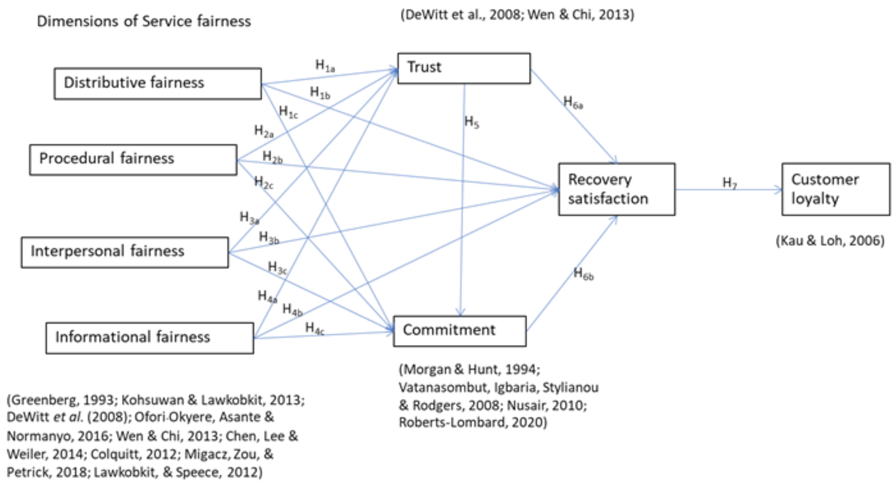
For trust to occur, a customer must trust in a company's integrity and be willing to rely on it (Morgan & Hunt, 1994). For robust relationships to prevail, trust plays an important part (Sirdeshmukh et al., 2002). According to Chiou (2004), the Internet-related business involves numerous intangible service features. Consequently, managing customer trust is significant to customer satisfaction. This can apply to recovery satisfaction. It was therefore hypothesized that Trust has a positive influence on recovery satisfaction toward Internet services among consumers in Kenya and South Korea (H_{6a}).

According to Morgan and Hunt (1994), when customers develop trust in a given company, they possibly will commit to repurchase actions, and tell others positive things about the company. Trust strongly affects relationship commitment. When trust is part of a relationship, the relationship is held in high esteem, and partners find it desirable to commit to these relationships (Li et al., 2011; Vatanasombut et al., 2008; Wang & Head, 2007). Hence, the hypothesis developed was that Trust has a positive influence on commitment toward Internet services among consumers in Kenya and South Korea (H_5).

Both Dwyer et al. (1987) and Morgan and Hunt (1994) acknowledged that, in addition to trust, commitment was a vital antecedent for thriving inter-organizational relationships. Commitment influences a customer to a strong intent to establish and maintain a relationship with a supplier (Kartiwi et al., 2013; Ryssel et al., 2004). As a result of the significant role of commitment in relationship marketing, it was hypothesized that commitment had a positive influence on recovery satisfaction toward Internet services among consumers in Kenya and South Korea (H_{6b}).

The final result of service recovery models is customer loyalty (DeWitt et al., 2008; Oliver, 1999). Hence, it was suggested that recovery satisfaction had a positive influence on loyalty toward Internet services among consumers in Kenya and South Korea (H_7).

Figure 1 *Conceptual Framework*



Methodology

Based on previous research, a structured questionnaire was developed and used to collect data using both paper and online platforms such as e-mail, Facebook, WhatsApp, and Line. The first section was an introduction to the research, followed by three screening questions, and then six demographic and general questions adapted from Shah and Shah (2010). Finally, 27 scale items were measured on a 5-point Likert scale anchored from *strongly disagree* (1) to *strongly agree* (5). The questionnaire included distributive and procedural fairness items (four each) adapted from Maxham and Netemeyer (2003); interpersonal fairness items (three) adapted from Colquitt (2001), Ding and Lii (2016) and Maxham and Netemeyer (2003); informational fairness items (three) adapted from Colquitt (2001), Ding and Lii (2016); satisfaction with service recovery items (three) adapted from Maxham and Netemeyer, (2003); trust items (three) adapted from Morgan and Hunt (1994); commitment items (three) adapted from Morgan and Hunt (1994); and customer loyalty items (four) adapted from Kau and Loh (2006). Data were analyzed using the Item Objective Congruence (IOC) test for content validity, and revised according to expert opinion. A pilot study was conducted to test the reliability of the questionnaire with 30 and 34 sample respondents from Kenya and South Korea, respectively.

Data were collected over a period of 10 months between September 2018 and July 2019 using a convenience sampling technique. A total of 401 and 475 respondents were involved from Nairobi and Seoul cities, respectively. Cronbach's alpha was used to analyze the reliability of the scales used to measure all variables. Confirmatory Factor Analysis (CFA) was used to establish convergent and discriminant validity in the measurement models (Hair et al., 2010). Finally, Structural Equation Modelling (SEM) was used to test the fit of the structural model. Kenya and South Korea were chosen for comparisons between a less advanced and a more advanced economy, both with a high Internet penetraion rates of 87.2% and 96%, respectively (Internet World Stats, 2019). In addition, both countries are leaders in Internet average connection speed, with Kenya rated among top 10 in Africa and South Korea rated among top 10 worldwide (Akamai, 2017), hence providing a familiar context for respondents.

Results of Analyses

For Kenya, a majority of the respondents were male (81.5%) whereas in South Korea, women accounted for 68.6%. Young adults aged from 18–27 years accounted for more than 82% of the respondents in both countries. Undergraduates accounted for 75.6% and 45.1% of the respondents in Kenya and South Korea, respectively. Students accounted for 83.3% in Kenya and 56.4% in South Korea. The majority of respondents in Kenya (85%) earned Kes.10,000 and below, and in South Korea, 55.6% of respondents earned Krw500,000 and below. Sixty-seven percent of respondents in Kenya had used the Internet for 6–10 years, while 42% of respondents in South Korea had used the Internet for 11–15 years.

To confirm the hypothesized relationships among variables and their underlying constructs, confirmatory factor analysis (CFA) was used, together with an exploratory factor analysis (EFA) as a preliminary analysis. Two groups of factors were involved in the CFA measurements: Group 1: distributive fairness, procedural fairness, interpersonal fairness, and informational fairness; and Group 2: satisfaction with service recovery, trust, commitment, and customer loyalty. The variables within a group were related to one another, and thus were refined to obtain the acceptable model fit indices. In SEM, specific measures were calculated to determine the goodness of fit using acceptable thresholds along the lines adopted in previous research (Baumgartner & Homburg, 1995; Doll et al., 1994; Hu & Bentler, 1999; MacCallum et al., 1996; Savci & Griffiths, 2019). Some scale items were deleted to improve the model fit indices, with the final models having 23 and 20 scale items to measure the eight variables for Kenya and South Korea, respectively.

The required goodness of fit level was achieved in the proposed model. Table 1 shows that the data fitted the hypothesized model well, as all the fit indices met the requirements for SEM analysis. Therefore, the proposed structural model has a good fit for both Kenya and South Korea.

Table 1 *Fit Index of Confirmatory Factor Analysis and Structural Equation Modeling*

Item		χ^2/df	**PCLOSE**	**GFI**	**AGFI**	**CFI**	**NFI**	**RMR**	**RMSEA**
Fit criteria		< 0 5	≤ 0.05	> .80	≥ .80	≥ .95	≥ .80	≤ .08	≤ .05
CFA	Kenya	2.175	.000	.96	.93	.98	.96	.05	.05
(Set 1)	South Korea	2.329	.000	.95	.93	.97	.95	.03	.05
CFA	Kenya	2.177	.000	.96	.93	.98	.96	.05	.05
(Set 2)	South Korea	3.042	.000	.95	.92	.97	.96	.02	.07
SEM	Kenya	2.336	.000	.91	.88	.96	.93	.06	.06
model	South Korea	2.142	.000	.94	.92	.97	.94	.03	.05

Note. GFI = Goodness-of-Fit Index; AGFI = Adjusted Goodness-of-Fit Index; CFI = Comparative Fit Index; NFI = Normed Fit Index; RMSEA = Root Mean Square Error of Approximation; RMR =Root Mean Square Residual; χ^2/df = Chi-Square

Hypothesis Testing

Model fit results were used to evaluate whether hypothesis paths were supported or rejected in the model (Table 2). To find out if the hypotheses were supported or rejected, the standardized path coefficient and critical ratio (*t*-value) of each hypothesis were checked. According to the standard criteria of statistical significance testing, a hypothesis is supported if its critical ratio (*t*-value) exceeds 1.96 and the *p*-value is less than .05, and vice versa (Byrne, 2013).

Table 2 *Summary of Hypotheses Testing Results*

	Hypothesized Path	**Country**	**Standardized Coefficient(β)**	**CR/*t*-value**	***p*-value**	**Results (Supported/ Not Supported)**
H_{1a1}	Dist → Tru	Kenya	-.218	0.802	.423	Not supported
H_{1a2}	Dist → Tru	South Korea	.019	0.131	.896	Not supported
H_{1b1}	Dist → Sat	Kenya	.133	0.493	.622	Not supported
H_{1b2}	Dist → Sat	South Korea	.045	0.35	.726	Not supported
H_{1c1}	Dist → Com	Kenya	.228	1.382	.167	Not supported
H_{1c2}	Dist → Com	South Korea	.192	1.273	.203	Not supported
H_{2a1}	Pro → Tru	Kenya	.920	1.069	.285	Not supported
H_{2a2}	Pro → Tru	South Korea	.704	3.121	.002**	Supported
H_{2b1}	Pro → Sat	Kenya	-.302	-0.496	.62	Not supported
H_{2b2}	Pro → Sat	South Korea	-.155	-0.586	.558	Not supported
H_{2c1}	Pro → Com	Kenya	-.032	-0.064	.949	Not supported
H_{2c2}	Pro → Com	South Korea	.681	2.54	.011**	Supported

	Hypothesized Path	Country	Standardized Coefficient(β)	CR/*t*-value	*p*-value	Results (Supported/ Not Supported)
H_{3a1}	Int → Tru	Kenya	-.321	0.558	.577	Not supported
H_{3a2}	Int → Tru	South Korea	-.142	0.573	.567	Not supported
H_{3b1}	Int → Sat	Kenya	.44	1.071	.284	Not supported
H_{3b2}	Int → Sat	South Korea	-.170	-0.77	.441	Not supported
H_{3c1}	Int → Com	Kenya	.083	.248	.804	Not supported
H_{3c2}	Int → Com	South Korea	-.241	-0.882	.378	Not supported
H_{4a1}	Inf → Tru	Kenya	.481	2.362	.018**	Supported
H_{4a2}	Inf → Tru	South Korea	.248	2.047	.041*	Supported
H_{4b1}	Inf → Sat	Kenya	.447	1.423	.155	Not supported
H_{4b2}	Inf → Sat	South Korea	.296	2.719	.007**	Supported
H_{4c1}	Inf → Com	Kenya	-.264	-1.54	.123	Not supported
H_{4c2}	Inf → Com	South Korea	-.105	-0.846	.398	Not supported
H_{5a}	Tru → Com	Kenya	.943	5.741	.001***	Supported
H_{5b}	Tru → Com	South Korea	.423	4.305	.001***	Supported
H_{6a1}	Tru → Sat	Kenya	-.549	-0.674	.500	Not supported
H_{6a2}	Tru → Sat	South Korea	.415	3.892	.001***	Supported
H_{6b1}	Com → Sat	Kenya	.953	1.196	.232	Not supported
H_{6b2}	Com → Sat	South Korea	.640	3.473	.001***	Supported
H_{7a}	Sat → Cus	Kenya	.841	12.574	.001***	Supported
H_{7b}	Sat → Cus	South Korea	.855	15.006	.001***	Supported

Note. * = *p*-value < .05, ** *p*-value < .01, *** *p*-value < .001

As displayed in Table 3, a *t*-test of independent samples was used to examine if there were any significant differences in variable means between the two countries. The responses between Kenya and South Korea were statistically different, since their *p*-values were less than .05.

Table 3 *Summary of the Compared Means Test Result*

Averages	Kenya vs South Korea (All Scale Items for Each Variable)		Kenya vs South Korea (Scale Items for Final Model for Each Variable)	
	F- Value	Sig	*F*- Value	Sig
Distributive Fairness	55.592	.000***	39.976	.000***
Procedural Fairness	42.871	.000***	43.895	.000***
Interpersonal Fairness	111.616	.000***	111.737	.000***
Informational Fairness	92.159	.000***	55.655	.000***
Customer Recovery Satisfaction	63.692	.000***	75.961	.000***
Trust	36.306	.000***	28.799	.000***
Commitment	70.808	.000***	90.899	.000***
Customer loyalty	114.502	.000***	105.759	.000***

Note. * = *p*-value < .05, ** *p*-value < .01, *** *p*-value < .001

Discussion

As described below, this research reveals important similarities and differences among Internet users in Kenya (a developing economy) and South Korea (a developed economy).

Effects of Distributive Fairness on Trust, Commitment, and Recovery Satisfaction

The distributive dimension of service fairness did not influence trust, commitment, and recovery satisfaction in either Kenya, a developing economy, or in South Korea, a developed economy. This is consistent with the results of Ofori-Okyere et al. (2016), who indicated that the majority of respondents did not agree that the overall schemes studied provided satisfaction after service failure. Our data are similar to those of Wen and Chi (2013)—distributive justice had no significant direct impact on customer trust. This may suggest that customers in both developing and developed economies expect service providers to put in effort to fix their problems and distribute outcomes fairly. It could also be that consumers in both economies considered distributive fairness to be common practice in handling their complaints, and in the same way, this could apply to other developing and developed economies.

Effects of Procedural Fairness on Trust, Commitment, and Recovery Satisfaction

On the other hand, procedural fairness had a significant influence on trust and commitment in South Korea; this was consistent with previous research, which revealed that the procedural justice variables were strong predictors of organizational commitment and trust in supervisors (Colquitt, 2012; Wen & Chi, 2013). These findings demonstrate that factors of procedural fairness, such as receiving quick response from their service provider and fair policies in handling the problem, were highly correlated with trust and commitment towards Internet services among consumers in South Korea. Procedural fairness did not influence trust and commitment in Kenya or recovery satisfaction in Kenya and South Korea, which mirrored the findings of Lawkobkit and Speece (2012). Contrary to these findings, other studies have shown that procedural fairness can influence recovery satisfaction (Kohsuwan & Lawkobkit, 2013; Migacz et al., 2018). A plausible explanation could be a lack of knowledge in procedural fairness for consumers in Kenya, and in developing economies generally.

Effects of Interpersonal Fairness on Trust, Commitment, and Recovery Satisfaction

Notably, the interpersonal dimension of service fairness did not influence trust, commitment, and recovery satisfaction in Kenya or South Korea. Previous research showed that there was no significant relationship between social fairness and satisfaction (Lawkobkit & Speece, 2012). As may be the case in countries at either level of economic development, this could be because customers in both countries considered interpersonal fairness to be a common practice in handling their complaints. This means that when aggrieved, consumers do not perceive staff honesty, courtesy, and caring communication as considerations for rebuilding trust, commitment, and recovery satisfaction.

Effects of Informational Fairness on Trust, Commitment, and Recovery Satisfaction

With regards to informational fairness, it influenced trust in both countries. This is an indication of the importance of trust in any economy. Informational fairness also influenced recovery satisfaction in South Korea, but not in Kenya. This is in agreement with DeWitt et al. (2008) who, in their study of relationships between perceived justice and trust, suggested a positive effect. It also is consistent with the previous research findings of Kohsuwan and Lawkobkit (2013), where a significant influence was found between structural fairness and social fairness on recovery satisfaction. Migacz et al. (2018) replicated the findings of this study in that the level of satisfaction of service recovery was impacted by all three justice dimensions. However informational fairness neither influenced recovery satisfaction in Kenya (similar to the data obtained by Lawkobkit and Speece, 2012), nor commitment in both countries. This may suggest that honest communication, thorough explanation of procedures, and communicating details, are essential in building trust both in developed and developing economies.

Effects of Trust on Commitment

Trust was found to have a significant effect on commitment in both Kenya and South Korea; consequently, it is significant in both developing and developed economies. This finding is similar to that of Vatanasombut et al. (2008) and Nusair (2010), whose studies found that trust had a positive effect on relationship commitment. It was replicated also by Roberts-Lombard (2020), who found that trust and relationship expectations significantly and positively influenced customer commitment. The results imply that the Internet services providers in both countries can be trusted completely, and that the service providers can be counted on to do what is right. Hence, they have high integrity, which leads to consumers to commit to the relationships that they have with their providers.

Effects of Trust and Commitment on Recovery Satisfaction

Trust and commitment had a significant relationship on recovery satisfaction in the context of South Korea, but not in Kenya. A similar finding also was highlighted in Roberts-Lombard's (2020) study in an Islamic African country.

Effects of Recovery Satisfaction on Customer Loyalty

Finally, recovery satisfaction was significantly related to customer loyalty in both countries, which is similar to Kau and Loh's (2006) findings in a different context. This indicates that providing a satisfactory resolution in either a developing or developed economy can lead to customer satisfaction being retained, and in turn lead to their willingness to stay with their Internet service provider.

There was a significant difference in variable means between the two countries. A possible explanation would be the variability in customer behavior between different cultures.

Theoretical Contributions

This study adds to the existing literature on the relationships between service fairness dimensions (distributive, procedural, informational and interpersonal) and recovery satisfaction. Many studies (Lawkobkit & Speece, 2012; Ofori-Okyere et al. ,2016) have been unable to show an influence of these factors on recovery satisfaction. However, other studies (del Río-Lanza et al., 2009; Ding & Lii, 2016; Kohsuwan & Lawkobkit, 2013) have shown that these factors may indeed influence recovery satisfaction. Therefore, this study is meaningful in that it showed that some service fairness dimensions have a significant influence on recovery satisfaction. Moreover, the data obtained in this study supports previous work (Kau & Loh, 2006) highlighting the link between recovery satisfaction and customer loyalty. The present study indicated that, among the dimensions of service fairness, only informational fairness had a positive influence on recovery satisfaction in South Korea. Elsewhere, similar findings have been obtained (Kohsuwan & Lawkobkit, 2013; Migacz et al., 2018).

Managerial Implications for Kenya

Management can use the results of this research to put in place equitable outcome allocation strategies that would influence distributive fairness delivery in developing economies. It is suggested that management might investigate additional outcomes that influence trust, commitment, and recovery satisfaction, as the current outcomes may not be adequate to secure trust, commitment, and recovery satisfaction in developing economies. For example, training their staff in procedural fairness approaches would enable proficiency in time management, and create an awareness of the rights of their customers. Management may track customer expectations and enable specific policies through feedback mechanisms, such as suggestion boxes or website reviews. Management may improve trust through staff training to enable them to handle complaints, be knowledgeable, honest, and reliable. Management could increase the level of commitment by maintaining high ethical standards, such as continuing to do what is right. Management could sustain customer loyalty by offering continuous satisfactory and responsive resolutions to Internet service problems, including continuous improvement of the overall handling of complaint processes.

Managerial Implications for South Korea

Management might research what other outcomes would positively influence trust, commitment, and recovery satisfaction, as the current outcomes may not be adequate in developed economies. Management can build trust and commitment through training staff to enable proficiency in time management, and knowledge of fair policies in handling service failure. This would improve responsiveness to customer complaints. In addition, management can build trust and commitment by offering feedback mechanisms to customers such as suggestion boxes or through website reviews. Management might investigate further what interpersonal factors influence trust, commitment, and recovery satisfaction in developed economies. Management can build trust and increase the level of satisfaction by giving honest and thorough explanations of their procedures and promptly communicate the details. Management can increase commitment and recovery satisfaction by maintaining high ethical standards, by being consistent, and doing what is right for the customer. Furthermore, management can sustain customer loyalty by continuing to offer solutions that satisfy them.

Limitations and Recommendations for Future Research and Conclusion

Although this study expands our knowledge of service fairness and recovery satisfaction, several limitations were identified. This study used quantitative methods to collect data and focused on a single industry, with an emphasis on Internet services in Kenya and South Korea. It involved a cross-sectional survey that has been commonly used in service failure and recovery studies (Kohsuwan & Lawkobkit, 2013). Future research should consider a longitudinal design using both qualitative and quantitative methods, with consideration to other regions of these countries to strengthen the applicability of the findings. In conclusion, this study indicated that the informational dimension of service fairness is critical in customer recovery satisfaction, and therefore industry players should take steps to ensure that it is practiced in addressing service failure. Furthermore, proper recovery satisfaction has been found in many studies to lead to customer loyalty–hence, its importance. In addition, practitioners in the service industry could find additional use for these research findings to improve the level of service recovery satisfaction.

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Examining Digital Practices of Thai Pre-Service EFL Teachers through Reflective Journals

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Abstract

In teacher education, a generally positive perception has been reported towards the use of technology in teaching. Nonetheless, in practice, pre-service teachers and teachers may actually be unwilling to integrate technology in their classrooms. Given that a positive outlook may be developed based on teachers' use of technology, the current study aimed to explore digital practices as a means to better prepare Thai pre-service teachers of English. This study employed reflective journals and a focus group interview to collect data. Findings from the reflective journals were utilized to construct guiding questions for the focus group interview. From both the journals and interviews, it became apparent that 24 pre-service teachers' digital practices were manifested through three interconnected dimensions: information consumption, task completion, and group participation. These dimensions may be useful for teacher educators to consider as a platform to better equip future English teachers with knowledge and skills pertinent for technology use.

Keywords: *Digital practices, technology, pre-service teachers, language education*

Introduction

As we navigate through the 21st century, digital engagement has become increasingly predominant across social media users. Inevitably, a series of changes are bound to take place, in particular the deployment of technology as a learning tool. Previous studies have informed us that engaging in digital practices could create meaningful learning experiences (e.g., Coffman & Klinger, 2007; Sadik, 2008; Starčič et al., 2016). Such experiences, if used appropriately (Keengwe et al., 2008), will serve as a useful indication of learning progress or teaching suitability to both students and instructors (Lewin & Charania, 2018). In English language teacher education, the impact of technology use is evident, especially in the examination of pre-service teachers' technological pedagogical content knowledge (TPACK) (e.g., Tseng et al., 2019). This area of study examines teachers' competency and knowledge in adapting technology to facilitate their teaching or their students' learning processes. TPACK was also utilized in the context of this study by Inpeng and Nomnian (2020). They found that pre-service EFL teachers' comfort and confidence was high when they used Facebook as a technological means to teach.

While studies that utilize TPACK, or others that investigate the use of technolgocay among pre-service teachers, have been valuable, their focus has been centred upon the teacher education program, without much attention given to what occurs beyond the context of pre-service teachers' formal education. Furthermore, it has been acknowledged elsewhere that encounters and experiences with technology beyond the learning setting could have an impact on the management of classes or development of lessons (e.g., China context, Teo et al., 2019). As such, the current study aims to account for the effects of technology beyond the classroom by looking at digital practices of pre-service English language teachers. This may provide insights into personal behaviours of pre-service teachers that may have an impact on their professional lives. It could also shed light on concerns regarding pre-service teachers' acceptance towards the use of technology, especially in Thailand, where scholarly interest in the use of technology among pre-service teachers is still growing.

Digital Practices of Language Teachers: Supporting In-class and Out-of-class Learning

The rise of digital practice in education is attributed to the development of technology. Initially, technology in education was associated with those from STEM fields, primarily because technology was thought of as an applied science. Nonetheless, in the 1990s, there was a movement to introduce technology in almost all disciplinary areas and aspects of life (Hasse, 2017). Since then, digital practices have supported teachers' in-class and out-of class learning. For instance, in a study on microblogging by Ebner et al. (2010), students were found to use technological platforms to facilitate informal communication such as social interactions, which were sensitive towards individual users' needs. The study also found that students viewed this platform as appealing because they could seamlessly shift between formal knowledge exchange and informal interaction. Furthermore, the study also reported that information and social exchanges made transparent to others in a course were helpful in promoting critical thinking and social skills. While the study by Ebner et al. (2010) was conducted in Austria, the findings may be relevant to the context of the present study in Asia, as they point to the use of a social pool. This involved friends or followers, as a learning resource, who provided ideas or feedback. The social nature of the digital platform also decreases forms of evaluative anxiety. This was also observed in the study by Inpeng and Nomnian (2020). Within the context of Thailand, these findings coincide with national-level efforts and interests, among both higher education teaching staff and students (e.g., Titthasiri, 2000; Siritongthaworn et al., 2006; Ngampornchai & Adams, 2016). The use of informal means for learning, especially those that are grounded in social networks, are also pivotal for the context of Thailand or the broader scope of Asia, especially with the prevalence of collectivist beliefs (Phuong-Mai et al., 2005).

For English language teachers, not much is known about out-of-class learning supported by digital practices or in the general sphere of education (see Fenwick, 2016), which is also a research caveat in the context of Thailand. The study of Saudelli and Ciampa (2016) took an ethnographic approach to examine three language arts teachers' learning and adaptation of the iPad (and its associated tools) in their teaching. One frequently employed informal approach by the teachers was to get their students (in between classes or during break time) to demonstrate the uses of an iPad. While their students demonstrated, the teachers would ask questions and seek clarification (e.g., Why do you do it this way? Is there another way of doing this?). After some time, these participants were found to have gained some confidence to adapt the use of iPad/technology in their teaching. From this study, we could see that teachers may potentially find ways to adapt to the use of technology in their teaching. Nonetheless, it should not be assumed that all teachers will view technology favourably, especially when learning takes place informally.

In the same study, it was reported that one of the three teachers studied still strongly believed in a teacher-centred classroom, despite the potential of decentring the teacher as source of information through the presence of technology. Other studies also have reported a similar outcome, albeit being done in a formal education setting (i.e., teacher education programs or institutions). For instance, Mei (2019) found that while future English or language teachers viewed technology favourably, not many were ready to accept a greater use of technology in their teaching or classrooms. This also was reported by Mumford and Dikilitaş (2020). They found that pre-service teachers, who held positive attitudes towards technology, may not be familiar with ways to integrate technology properly, and instead used it as a 'blanket solution' for issues faced in the classroom. Furthermore, confidence of using technology may be hampered if there was a disconnect between technology and lessons in a classroom. In other words, if pre-service teachers could still successfully teach or manage a lesson without the use of technology, they would insist on conventional approaches (e.g., paper and pen—Zipke et al., 2019; Hasse, 2017). The pervasive use of technology may also be detrimental, especially if it leads to competition and does not enhancing the quality of learning (Başal & Kaynak, 2020).

Expanding the Scope for Learning

The studies discussed so far illustrate that technology has become a common point for investigation and its presence in the English language classroom is no longer ground-breaking. Moreover, it appears that while teachers are being exposed to the possibilities of technology in the language classroom, there remains a preference for conventional methods for teaching (that is, without technology). This inevitably may reduce the impact that out-of-class learning could have on a teachers' willingness to work with technology in the classroom. Nevertheless, the need to understand the role of technology is still crucial, given the contextualized insights we may glean from its integration in different learning environments (Gönen, 2019), as well as from national initiatives encouraging teachers to be technology-savvy (Tayjasanant & Suraratdecha, 2016).

Areas that have received much attention, due to the emergence and necessity of technology, are a language teacher's professional development and the need to view teaching and learning in a new light. For instance, it may set technologically-savvy teachers apart from those who prefer more conventional teaching approaches (Hasse, 2017). Moreover, those who are more willing to work with technology will see a reconfiguration in the learning environment, where a teacher's centrality may be displaced. This is because technology creates a space where learning becomes multi-faceted, in particular, the learning process becomes subject to the adaptability of students themselves and is not reliant solely on the teachers (Mulcahy, 2012). In line with the possibility of inequality, the uptake of technology by teachers should not be viewed as homogenous; instead, it should be viewed as occupying different points along a continuum of acceptance and resistance. The placement of a teacher's uptake along this continuum will be affected by their agency or lack of—either having control over the integration of technology or being made to integrate technology by external forces (Johannesen et al., 2012).

The presence of technology in the education of future teachers also shifts the theoretical outlook towards teaching and learning. Currently, professional learning among pre-service teachers may be supported through collaboration or practitioner inquiry. However, through the prevalence of technology, pre-service teachers' learning should also account for individual encounters (with technology) and its application in the teaching practice. This inevitably calls for a theoretical framework that is cognizant of the varied ways an individual teacher might learn and adopt (Mulcahy, 2012). A theoretical perspective that takes into account individual encounters that promote learning is the notion of sociomaterial. Through this perspective, learning is extended beyond the scope of the classroom. As a result, learning is not only dependent on the teachers, but also on incidents with objects or entities not necessarily linked to the classroom. Gourlay (2017, p. 32) stated that this perspective is "seen to reside in the fine-grained, small-scale and often unobserved acts of situated practice, a close-up view which stands in contrast to ideological or abstract conceptions, allowing for more of an ethnographic lens to be trained on what is means to be a student." The sociomaterial perspective further encourages agency that is not reactive towards the presence of an authority; instead, agency is "enacted in the emergence and interactions … occurring in [the] smallest encounters" (Fenwick, 2016, p. 670). This perspective is crucial in the use of technology, as the digital realm is supportive of such small yet significant encounters.

While there may be concerns raised regarding pre-service teachers' perceptions towards technology, the possibilities for learning presented through encounters with technology should not be disregarded. What is more, studies reported earlier were mostly conducted in formal teacher education programs or institutions. To help build a scoping view of the value of digital practices of pre-service English teachers, this study will investigate the online activities that Thai pre-service English teachers engage in. Through this, it is hoped that a better glimpse of the relationship between online activities and learning progress may be established, and subsequently illustrate the sociomaterial practices that Thai pre-service English teachers may possess. This study will be guided by the following research questions:

1. How do pre-service EFL teachers use digital technologies in university learning?
2. What type of interest has influenced pre-service EFL teachers' use of digital technologies?

The Study

The present study was conducted in a local teacher education institution located in the northeast of Thailand. Since 2000, this university has played a significant role in raising the quality of regional education. To minimize illiteracy in the nation, the university prioritizes educational measures that cater to the wellbeing and development of poor communities. To this end, the university's Faculty of

Education offers eleven majors to cultivate young teaching professionals who aspire to contribute to their own communities. To achieve this, pre-service teachers spend time in classrooms learning about principles and theories of pedagogy, and later on they engage in a teaching practicum. However, there has been a concern that current class sizes (90–120 people) pose a challenge to implementation of quality instruction. Considering all that courses taught in different majors share a common goal, that is, to ensure pre-service teachers are equipped with sufficient knowledge of subject matter and teaching skills, it has become necessary to use digital platforms and technologies. Lecturers (the teacher-educators of the pre-service teachers) are also well aware that integrating technology into the classroom can be a fruitful way to promote engagement of pre-service teachers' daily practices and learning by employing tools that will take them into the 21st century.

Participants

This study employed convenience sampling, and involved 24 pre-service English teachers who were in the first semester of their junior year, studying at the Faculty of Education, Rajabhat University. They were all enrolled in compulsory subjects in the 2019 academic year, such as "English for other fields of study," "Development and evaluating teaching innovation," and "Teaching skills for English language teachers." These courses' aims are to furnish pre-service teachers with pedagogical skills, especially those that allow them to use English and technology. Even though the participants were Thai, they were familiar with English as the medium of instruction, as they were learning to be English teachers.

Data Collection

Guided by the ethnographic study of Saudelli and Ciampa (2016), reflective journals were used in this study as the primary means to collect data. There were two phases to data collection. In the first stage, reflective journal entries were written to document the voices of pre-service teachers. According to Leshem and Trafford (2006), the advantages of using reflective journals in language learning are the promotion of autonomy and the improvement of the regulation of learning processes. All the participants were required to write their weekly reflection towards their use of technology and their daily practice of digital engagement for three weeks. In order to keep track of pre-service teachers' progress, we recommended the use of Google Docs. From this first stage, 72 written journal entries were obtained. Five participants were subsequently invited to participate in the next stage, due to their openness to share opinions and their willingness to join the interview.

In the second stage, we conducted a focus group interview to garner an in-depth understanding of their interests in digital practices. Prior to the interview, a list of questions generated from the participants' reflection was prepared to serve as guiding questions. In the meantime, a brief meeting also was scheduled to inform interviewees that their identities would be protected through pseudonyms and their interview data would not affect their academic records or assessments in any subjects. During interviews, it was noted that a potential risk could arise from conflicting ideas, which might take a toll on representation of opinions (Smithson, 2000). Thus, a relaxing and inclusive atmosphere was created to encourage participants to freely express the issues that they faced while engaging in digital practices. Some interview questions were as follows: (a) How do find the use of technology in your everyday lives? (b) What do you think about using digital technology in learning? and (c) How do you find websites and applications (to use for your learning/teaching)? The interview lasted for about one hour and was audio recorded and then transcribed.

Data Analysis

Data analysis was an ongoing and iterative process between two co-coders (the researcher of this study and a professor relevant to the study context). The coders were familiar with the theoretical basis behind both the local context of English language education and thematic analysis. For the latter, there were two stages included. First, the coders read the data several times to become acquainted with the relevant aspects related to online learning. Then, the transcripts were coded in line with coding procedures from Braun and Clarke (2006). It is worth noting that this phase of the analysis emphasized the content of what was said, rather than examining how the conversation was produced. Thematic analysis, in effect, is understood as an inductive process of breaking down the data without having pre-existing coding themes. This data-driven approach allows themes to emerge from the data itself. The interviewees' responses were sorted into three themes: information consumption, task completion, and group participation. These were later compared with Meyer's (2019) digital platform map (Table 1). These findings answer the research question about how pre-service teachers use digital technologies for university learning.

Table 1 *Meyer's (2019) Digital Platform Map*

Digital Platform Map Items	Remarks
Digital Marketplace	The meeting space of buyers and suppliers
Digital Search	People with search targets being matched with multiple possible sources of information
Digital Repository	An online space where suppliers may deposit information or resources regarding items or services, which, at a later time, may be accessed by users or buyers
Digital Communication	A digital and online platform that allows users to send multi-modal messages and documents to others
Digital Community	An online community where people have the intention to remain over an extended period of time to communicate with each other in particular areas of interest
Digital Payment	An online space that facilitates various financial transactions

Findings

Twenty-six written journals were read, coded, together with an in-depth focus group interview with five pre-service teachers. Audio recordings of their responses were transcribed, analyzed, and thematized. The interviewees' responses to the questions were sorted into three themes: information consumption, task completion, and group participation. These three themes illustrated how pre-service teachers' digital practices were beneficial for their courses and task completions. The themes are also compared with Meyer's (2019) digital platform map.

Information Consumption

Participants used different programs to find information regarding their tasks, reflecting the use of the internet and various online platforms to locate and access information (Digital search and repository). Through frequency counting, it was found that the participants mainly used Google (83 mentions) and YouTube (38 mentions) as the preferred search engines to find information. Very few participants mentioned the use of Wikipedia (three mentions) as they were aware that this could be used as a starting point to obtain information, but they could not rely on this site since its content can be written or contributed by anyone. The search engine that the participants decided to use was varied, depending on the objective. If the task was challenging, they would look for the website that provided them with visual presentations and, at the same time, some learning content. Examples of participants written comments in their reflective journals were as follows.

> This week I use www.google.com to search information about Adverb and Adjective that what is it and how it functions to prepare for the camp. I use it to search for words in Adverb and Adjective in order to teach and play games at camps with students. And also use Google to research about Gerund what are the functions and structures. In order to be used as a learning activity because teacher provided the teaching clips in English, it was necessary to use Google to study the exact information. (Pre-service teacher 10, written reflection)

> Sometimes I choose YouTube in order to understand more content. Because of YouTube, it is an informative voice that contains images makes me not boring to want to listen to that content Such as finding information that will teach the digestive system to the learners easy to understand I chose this

website https://youtu.be/aumwoiSzs3c because it's a short cartoon. But can make us know about the digestive system easily. (Pre-service teacher 4, written reflection)

This week I use Wikipedia to search for my Thai subjects it has much information. I have searched for a way of human life and it's pretty interesting because it has a specific word that I can use for my homework and I can find related website for my work when I want to know more information. My friend told me that Wikipedia cannot use as a bibliography when I do some project because anyone can edit the information so it's not use much when you really want true information. (Pre-service teacher 18, written reflection)

The YouTube site was used because the pre-service teachers were assigned to write a lesson plan that had science content, of which they had limited knowledge. They had to learn more about the assigned topic in order to create a reliable lesson plan and activities. The reason that they used YouTube as the preferred platform to gain more knowledge was that certain subjects such as science can be difficult to explain and understand. As a result, using YouTube as a virtual library to support learning by accessing its videos allows the participants to better visualize complex concepts, procedures, and ideas. YouTube was also a commonplace for seeking entertainment. When asked about their digital engagement in free time, the participants often mentioned YouTube as their preferred sites for leisure as the following examples illustrate.

I like using YouTube after class because it is a way for me to kill my time and it is a way to access the world news. I always go to watch some drama that I don't have time to watch on TV. Using YouTube is fun because we can see strange things that I don't commonly see in real life such as weird animal reactions, people eating habits and interesting foreigners' life. (Pre-service teacher 4, focus group interview)

There are many times when I feel stressed about learning or work. I would like to open YouTube to listen to music, watch movies and watch interesting documentaries. I think YouTube has many benefits. I can watch music, videos, short movies and clips of almost every subject. (Pre-service teacher 22, written reflection)

What is observed here is the blurring of boundaries between access to information to support learning and access to materials that offer leisure (or a break from learning). This may reflect the sociomaterial notion that the learning space may contain materials that are not strictly used to enhance formal education. It also provides a plausible explanation for pre-service teachers' acceptance towards technology as a viable tool for education (e.g., Mei, 2019), but at the same time remain unwilling to integrate it into the learning environment. Perhaps the seamless transition between varied materials (such as that offered by YouTube) is a concern held by teachers, which is subconsciously translated through the minimal use of technology, or even the rejection of technology in the classroom.

Task Completion

The courses in the university aim at incorporating technology and engaging pre-service teachers in digital practices. The assignments often require participants to use technology to complete their tasks, for example, in writing lesson plans, creating materials, or giving feedback to peers by using online platform in some languages courses. This kind of assignment makes it unavoidable for the participants to engage in digital practices in order to complete their assignments. As seen in the previous theme, participants were familiar with an array of materials to help with their work as indicated by the following reflections.

The next thing that I did was discussing with my friends in group to prepare lesson plan. First, we agreed to discuss at the library and we helped one another to find data about the work assigned in which the topic is Social Studies: Australia and New Zealand. And got the website https://immi.homeaffairs.gov.au/citizenship-subsite/files/thai-non-test.pdf it's about Australia in presence and we chose many interesting stories from this website because it's the thing we need. After that, we needed to get data of New Zealand and we got https www.educatepark.com,which is great because it provides us with the brief data about New Zealand and I and my group colleagues love it. (Pre-service teacher 3, written reflection)

The last assignment was journal. I noted my work on memo in telephone and used www.translate.google.co.th and www.th.ilovetranslation.com to checked grammar. (Pre-service teacher 13, written reflection)

Before sending images, use the Meitu program on my smartphone in the Android system to add photos, add filters to make the image more vivid and look better, and modified the additional directory using the PPT program. (Pre-service teacher 14, written reflection)

This information came from an instance where English had to be taught through using social studies content. The pre-service teachers had to create a lesson plan and prepare materials to teach the sophomore students. That was why they reported the extensive use of resources in order to complete the task. Since the topic assigned was about Oceania, of which they had limited knowledge, the participants relied on different websites and online resources.

In this case, task difficulty was reduced because of the pre-service teachers' engagement with technology. Beyond the scope of the course, pre-service teachers already had encounters with particular sites (Pinterest and Shutter Stock), and these sites came in handy when they had to create lesson materials with attractive visuals. Pre-service teachers' autonomy to independently refer to external sources, which are not necessarily geared for education purposes, is reflective of a study by Tayjasanant and Suraratdecha (2016), where students self-regulated their learning by identifying useful spaces to support learning. The theme of task completion is also interesting as it was not necessarily informal learning, given that the real purpose was to complete required school work. This may reflect a sociomaterial approach to learning, where there is no distinction between formal and informal learning, even if learning materials come from an informal source. This approach is similar to the seamless shift reported by Ebner et al. (2010), as reflected by one interviewee.

It's very difficult to get this work done because I know nothing about Australia and New Zealand. We have only 2 weeks to prepare to teach. I think our Power Point must be attractive, so the junior wanted to pay attention to our teaching. I looked for pictures from many websites such as Pinterest and Shutter Stock. Normally, I always spend my free-time browsing through those websites so I know where to look for those photos relating to the topic. (Pre-service teacher 1, focus group interview)

Group Participation

As mentioned earlier, the big class sizes in this study context may have hindered individual tasks. Lecturers tend to assign students to work in groups, since it is convenient and practical to give feedback and to allow cooperative learning. To develop group skills, students need to do more than just complete group tasks. Along the way, it is important that they learn to negotiate with each other to ensure that the task is completed in an equitable manner. The pervasiveness of various social media tools facilitate this process. In the following excerpts, we could see how students communicate with each other via Facebook or Google Docs, both of which have been reported as common social learning tools in Thailand (Inpeng & Nomnian, 2020).

This week I use Facebook and Google more often than other applications. Because most are working in groups therefore choose to use Facebook to submit work and let friends in the group help each other to see about the work in various courses. For example I use Google Translate to translate words 'the brain's control center' and use Google to find interesting teaching activities. To be used in making social studies lesson plans about geography, use Google to find pictures about tourist attractions in Sisaket province to put pictures in the innovation book In the course of development and evaluation of English language teaching. (Pre-service teacher 5, written reflection)

It can be seen that this pre-service teacher reported multiple tasks that she and her peers had to complete within a few weeks. To make sure that they could finish the work on time, they contacted each other using different digital channels, similar to what was reported by Lienhardt et al. (2010). When asked about the reason for using Facebook and Google during the interview, she revealed,

> Normally, we use Line to contact each other on the things that are not related to studying but it is not good for work because I cannot send file to friends. When doing the lesson plan, I think it is good to use Google Docs because we can all do the work from the same file. I save automatically, so I don't confuse if this file is the old version or new version. Using Facebook is also good to discuss because we can upload files and send documents. It's easy to trace what our friends have sent earlier too. Well, actually these are the common place where I use to talk to friends, so I don't have to spend time to study how to use it. But for Google Docs, it's a bit new. (Pre-service teacher 5, focus group interview)

To contact each other, the participants went through cooperative learning. This idea focuses on participants as a member of group work together to learn or solve a problem, with each individual responsible for understanding all aspects. By using digital technology in a group, the learning process appears to have been accelerated because pre-service teachers are able to both be heard and to hear their peers, while in a traditional classroom setting they may spend more time listening to what their lecturer says.

Discussion

Through the pre-service teachers' reflective journals and focus group interviews, we could see that various technologies were used to assist in different tasks. Using Google as a search engine was regarded as a practical choice for participants to identify initial information. Facebook was used to support pre-service teachers in the completion of their group work, since it is a familiar channel for communication. Videos on YouTube are appealing as they help learners to easily acquire and retain knowledge, as well as develop specific skill sets. This is on account of demonstrations being the most effective way to get a message across. Based on the uses of these technologies, and the themes that guided the discussion, we may summarize the participants' digital practices, based on Meyer's (2019) digital platform map, in the following manner (Table 2).

Table 2 *Summary of Digital Practices Based on Meyer's (2019) Digital Platform Map*

Digital Platform Map Items	Example	Description of Use
Digital Search	Content platforms and search engines *Google, Pinterest, Shutter Stock*	▪ To find potential answers ▪ To find useful and attractive visual aids for teaching resources
Digital Repository	Youtube and Wikipedia	▪ To access information regarding content or to learn in a motivating environment ▪ To provide entertainment during leisure time
Digital Communication	Social messaging platforms *Line*	▪ For communicating with peers
Digital Community	Online social community *Facebook*	

From these instances, it may be observed that the pre-service teachers employed a myriad of digital practices for formal and informal purposes. The participants of this study were also seen to work optimally with their peers. This was similarly observed in Saudelli and Ciampa's (2016) study, where the teachers who were confident with technology were more willing to share tips with others. Inpeng and Nomnian's (2020) also found there was a positive disposition towards using an online platform (i.e., Facebook) for sharing their pre-service education and experiences. This form of sharing, as well as digital practices, may also be encouraged by the openness of the courses that these participants were taking. These courses did not stipulate how pre-service teachers should work, which allowed them to enact agency. This included drawing in practices that may not necessarily be found in a formal classroom. As such, they were not forced to comply with a particular process decided by an authority figure. This approach would yield a lower resistance from teachers, and encourages more creativity (see Johannesen et al., 2012). More than just illustrating pre-service teachers' agency and creativity, it also reflects a form of engagement that is "rooted in the 'messy' networks of everyday practice and 'practical wisdom' (Gourlay, 2017, p. 32). For professional development, this is indicative that teachers are constantly faced with situations that require practical problem-solution approaches. With regards to teaching and learning theories, the benefits drawn from out-of-class digital practices necessitates the broadening of teacher practices to include experiences or knowledge obtained from beyond the formal educational realm. Hence, the learning process and source of knowledge are expanded to various objects or entities that the pre-service teachers encounter, such as that discussed by Mulcahy (2012).

Pedagogical Implications

While it was observed that pre-service teachers' digital practices may have a positive impact on their teaching practice, there are several pedagogical implications worth considering. First, with a more open learning environment that supports student agency and collaboration, the assessment of pre-service teachers' practice should weigh in on their decision-making process, instead of focusing only on the outcome. Second, while pre-service teachers may bring in valuable materials gained from their sociomaterial encounters, there still needs to be the filter to ensure that these materials are appropriate. As seen through the findings, participants brought in materials from familiar digital spaces. To ensure that materials are appropriate, the selection process needs to move beyond the familiar. This was actually already happening, as seen through the participants' reflection, where they pointed out issues pertaining to the validity of Wikipedia. Nonetheless, attention should be focussed on this issue by teacher educators, in order to cultivate a critical sense to better guide pre-service teachers as they encounter materials elsewhere. As such, they will be more cognizant of their roles and dispositions in processing materials obtained elsewhere, and the "political capacities that are exercised on them" (Fenwick, 2016, p. 670).

From this study, it appears that digital practices have potential to support independent learning, seen through pre-service teachers' ability to integrate knowledge and discover and solve problems. This study's findings also pointed out the value of task-driven classroom teaching that necessitates pre-service teachers' digital practices. These tasks provide participants with a heightened awareness of their knowledge and skills, particularly those gained outside of the formal learning environment. Through these tasks, pre-service teachers were thus able to combine theory, practice, previous encounters, and personal experiences. To some extent, this process also exercised participants' teamwork and communication abilities. In future studies, it would be fruitful to consider taking an ethnographic approach, such as that undertaken by Saudelli and Ciampa's (2016). This would enable digital practices to be identified that are distinctly held by pre-service English teachers, especially in a context where English is not the primary or official mode of communication. This examination should also include insights into the 'openness' of large classrooms, which have inadvertently compelled pre-service teachers to look for materials or information beyond their lecturers.

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Thailand University Students' E-Learning Behavior during the Global Pandemic

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Abstract

The Covid-19 global pandemic has brought massive disruption to education throughout the planet. This study sought to provide understandings of the relationships between e-learning activity and the independent variables of gender, maturity, study major, region of origin, and class level. Multiple regression and logistic regression were employed to understand the relationship between the dependent variable of e-learning activity with other variables considered in the study. Descriptive statistics showed that Freshmen were more active online than other class levels while Education majors demonstrated the highest online activity. Results of the multiple regression model indicated that Freshmen and Information Technology majors were statistically much more active online when compared with enrollees in other majors or with those who came from other class levels. The logistic model found that students who were not freshman or were not Information technology majors were significantly less likely to be active e-learning users.

Keywords: *e-learning, pandemic, regression*

Introduction

All higher education institutions throughout the world have been hit with the same crisis of developing ways to support students online in light of the global pandemic. At the peak of this global crisis, 1.6 billion students or 91% of all students on the planet were no longer able to attend traditional classes (United Nations Educational, Scientific and Cultural Organization, 2020). In many ways, this may have been the largest platform migration in education in all of human history.

With such a massive migration to online facilities many, if not most, higher education institutions were unprepared (Gwamba et al., 2018). This has led to economic pressure in universities from lost revenue, research funding, sports activities, and demands by students for a refund (Anderson, 2020; Fies & Hill, 2020). In addition, many students who have been forced to move online claim to have lost the motivation to study, have struggled to gain access to the technology they need, and generally are discouraged by the social isolation that accompanies social distancing (Hall & Batty, 2020; Hobbs, 2020). All this has happened in such rapid succession that there was little time to develop strategies to support students.

Within Thailand, the government voted to close all schools in the midst of the Covid 19 pandemic ("Cabinet Approves Plans," 2020). This had an impact on approximately 20 million students from kindergarten to university (Ministry of Education, 2008). Of those 20 million, around 20,000 were international students. Some of these students chose to return home, which put further distance between them and their institution.

Given the uniqueness of the situation that has compelled most of the world to move to online education, it is critical to study student behavior in the context of online learning. One major benefit of exploring this is to provide insights for educators and administrators who are struggling with how to support students in a context that is unfamiliar to them. Therefore, this study aimed to investigate the online activity of international university students during the Corona Virus global pandemic.

E-learning has been defined as material or information that is delivered over the internet (Roger et al., 2009). For others, e-learning is seen as a specific form of online learning with a focus on communication and education, through some form of a delivery method such as a learning management system (Sangrà et al., 2012). Generally, efficient e-learning encourages traits such as the development of thinking skills, collaboration, and empathy (Gachago et al., 2017).

During the pandemic, e-learning has become highly popular in one form or another (Radha et al., 2020). However, at times, students and teachers' beliefs and expectations are not always met in the context of e-learning (Scott, 2016). A specific complaint concerning the implementation of e-learning during the pandemic was a lack of proper planning, a heavier use of assignments, and a lack of ease of use (Rohman et al., 2020). Although it cannot be said that students and teachers are unanimously disappointed with e-learning, there were concerns that the users were indeed affected. General complaints, not limited to the context of the pandemic, about e-learning among students have been related to access, financial stress, and the competence of teachers (Harrison et al., 2017). Other problems are related to teachers' lack of social presence in the online course (Damm, 2016). Furthermore, students have made such statements as feeling injustice and being "lost at sea" when learning online (Reid et al., 2016). Students who take more and more courses online have experienced a decline in both effective teaching and interactions with others (Dumford & Miller, 2018). It may be safe to say that a negative perception of e-learning is not surprising and affects many (Abbasi et al., 2020).

Nonetheless, it is possible to create a positive e-learning experience for students. For instance, it was found in one study that the use of a flipped classroom led to an improvement in thinking mathematically; however, this was limited to a blended learning context (Chen et al., 2016). Other studies have found that e-learning in general was correlated with satisfaction with learning and verbal/written proficiency (Alqurashi, 2019). Visual engagement and the structure of the learning environment involving the use of forums has been found to be correlated with student satisfaction in an online learning course (Farhan et al., 2018). Furthermore, students who were enrolled in more online courses also have been found to be more engaged in quantitative reasoning (Dumford & Miller, 2018). The quality of the system used and information about how to use it has been found to be associated with peoples' ease of using e-learning tools (Thongsri et al., 2019).

Among students who are academically successful in online courses, researchers have found that these students are intrinsically motivated, show self-regulation, and are higher in self-efficacy (Broadbent, 2017; Kew et al., 2018; Kizhakkacharuvil & Duangekanong, 2017). Time management and elaboration strategies are also important factors in student success online (Broadbent, 2017). One study found a difference in engagement based on concentration of study (major) among various medical students (Browne, 2019). As such, online success may be based on personality traits and choice of subjects among students.

Studies that have looked at differences in online learning behavior based on the students' ages are inconclusive. For example, younger students do better by taking a mixture of online and traditional classes, while older students struggle as they take a larger proportion of online courses (Glazier et al., 2020). However, another study found no difference between groups based on age (Li & Lee, 2016). Student age and employment predicts their adoption of mobile learning options (Han & Shin, 2016). Differences have also been found in longitudinal studies of new students in relation to the students learning and perception of teaching (N. Li et al., 2017).

In a study that compared students above the age of 45 with those below 45, the researchers found that younger students valued clear instructions and expectations for grading while the older students were most concerned with course technology facilities (Barczyk et al., 2017). There also has been a study that found a difference between academic levels at university in terms of motivation levels in the context of e-learning (Kew et al., 2018). Therefore, despite the controversy over whether there are differences based on age involving factors related to e-learning, it appears that more often differences are found than are not found.

Research also indicates that there is not much agreement in terms of gender differences in relation to e-learning. Men and women have been found to perform equally well in online classes while women outperformed men in traditional classes (Amparo et al., 2018). In the context of blended learning, no difference was found in assessments based on gender (Wongwuttiwat et al., 2020). However, there may still be some variations based on gender. For example, feelings have been found to predict the final grade of males while the course design was a better predictor of the final grades of females (Chen et al., 2016). Females suffer less from multitasking in online courses than males do in terms of academic performance (Alghamdi et al., 2020). In addition, as the number of online courses taken by males increases, their performance decreases (Glazier et al., 2020). Lastly, men and women tend to be motivated differently when they study online (Liu & Young, 2017).

In Southeast Asia (SEA), among ASEAN nations, e-learning is being mainstreamed and the perceptions of online learning generally are reported as positive (Flor, 2018). Furthermore, students have indicated that they have a readiness in terms of e-learning use (Widyanti et al., 2020). However, not all parts of ASEAN community are equally ready for e-learning (The & Usagawa, 2018). This indicates a willingness to use e-learning but without the corresponding skills with e-learning tools.

Studies conducted in Thailand deal with a variety of concerns related to e-learning. Ease of use, performance expectancy, and social influence have been found to be associated with actual use of tools associated with e-learning (Thongsri et al., 2019; Thongsri & Bao, 2019). In the context of blended learning, studies have found a weak association between blended learning and academic performance, while another study found that blended learning students performed better than traditional students (Thomas, 2018; Wongwuttiwat et al., 2020). Self-efficacy was found in several studies to affect student behavior online as those who had higher self-efficacy towards technology were more comfortable online (Thongsri & Bao, 2019). Lastly, several studies within Thailand have found that students who study online have slightly positive attitudes towards e-learning, were moderately motivated, and that the use of online learning systems had a positive influence on thinking and motivation skills (Chootongchai & Songkram, 2018; Kew et al., 2018; Ngampornchai & Adams, 2016).

Based on the review of literature the following research questions were addressed in this study.

1. What is the relationship between e-learning behavior and region, maturity, major, class level, and gender?
2. What is the relationship between active/inactive users and region, maturity, major, class level, and gender?

Methodology

Sample/Setting

The setting of this study was an international university located in Thailand that fully employed online teaching after the shutdown commenced. Random sampling was employed in the selection of courses with a sample size of N = 378 students from the selected courses. Demographic statistics indicate that 54% of the sample was male and 46% was female. Based on maturity, 86% of the students were considered less experienced while 14% were classified as more experienced (26 years old or older). In the selection of majors, 35% were from education, 28% were from business, 14% were information technology (IT), 9% were English, 7% were religion, and 7% were science majors.

According to regions, 10% of students came from Africa or Western countries, 9% came from other parts of Asia, 55% were from Mainland Southeast Asia (i.e., Cambodia, Laos, Myanmar, Thailand, and Vietnam), 25% came from Maritime SEA (Indonesia, Malaysia (East Malaysia), the Philippines, Singapore). Malaysia is normally divided into Peninsular and Maritime, with Peninsular being classified as being a part of Mainland SEA and East Malaysia is classified as being a part of Maritime SEA. However, at the University from which students came, almost all of the Malaysian students are from East Malaysia, which is why Malaysia was not divided by region but fully classified as being a part of Maritime SEA.

Research Design

A cross-sectional survey design was employed. Data was culled at the conclusion of the semester from the learning management system (LMS) employed by Asia-Pacific International University. The LMS employed at the institution is Moodle, which is a commonly used open-sourced LMS. Among the data collected by the LMS was the number of times students clicked on links and activities in the various courses in the system. This action of clicks within the system was used to measure e-learning activity, as this is a form of click behavior that is used in industry to examine customer behavior (Jerath et al., 2014). The use of the LMS in each class was left to the discretion of teachers. However, all courses in this study required an online final exam as indicated in the course design. There were no complaints of internet access problems from the students in a way that influenced the results. All other data collected was demographic, which included gender, major, class level, and region of origin.

Data Analysis

The e-learning activity (clicks) constituted the count data. It was log transformation before multiple regression analysis in order to normalize the data and meet the assumptions of multiple regression. In addition, the assunmptions of multiple regression were checked in regards to homoscedasticity, independence and normality, as discussed concerning the log transformation. Lastly, the continuous variable “number of clicks” was described using means and standard deviations.

For logistic regression, the clicks variable was divided categorically. The top 1/3 of participants were classified as "active" users while the bottom 2/3 were classified as "inactive" users. For the demographic variables, contingency tables were used to compare active/inactive users with the other demographic variables (region, gender, experience, major, class level). Multiple regression was used to explain the number of clicks, while logistic regression was used to explain active/inactive users.

Results

For online activity, the average number of clicks was 831.8 with a 95% CI of 748.74–914.82. The means, recorded by groups, are provided in Table 1. Freshmen students had the highest mean of any group, while Senior students returned the lowest mean. The statistical significance for the means of each group was calculated in the multiple regression results. Table 1 also shows the proportion of active versus inactive users. Students who were less experienced had the highest proportion of active and inactive users of all groups. The sum of each group was 100%. The significance of the active versus inactive users was calculated using the logistic regression results.

Table 1 *Descriptive Statistics of E-learning Behavior and Contingency Values of Active/Inactive Users*

Group	Clicks Mean	95% CI	Active vs Inactive Users
Experience			
More	860.76	601.06–1120.46	5% vs 8%
Less	827.26	739.64–914.88	29% vs 57%
Gender			
Male	872.96	764.99–980.94	20% vs 36%
Female	779.19	648.98–909.39	14% vs 29%
Major			
Business	783.63	637.61–929.67	9% vs 18%
Education	939.52	767.00–1112.04	13% vs 22%
English	595.11	426.93–763.30	2% vs 7%
Information Technology	894.96	763.30–1026.63	7% vs 7%
Religion	731.51	393.61–1069.42	1% vs 6%
Science	761.61	398.89–1124.34	2% vs 5%
Region			
Mainland SE Asia	899.57	782.59–1016.55	21% vs 34%
Maritime SE Asia	750.09	605.60–894.58	8% vs 17%
Asia	915.09	607.24–1222.93	3% vs 6%
Africa & West	592.95	339.23–846.67	2% vs 8%
Class Level			
Freshmen	1080.59	904.44–1256.74	15% vs 24%
Sophomore	832.51	721.64–943.38	12% vs 18%
Junior	546.23	436.09–656.37	4% vs 12%
Senior	466.30	373.91–558.68	2% vs 12%

Table 2 provides the answer for research question one and displays the multiple regression results with the log of clicks as the dependent variable. Results indicated that there was a difference between Mainland SEA and participants from Africa and the West (b = -.36, t(364) = -2.36, p < .05). The exponentiation of the beta coefficients was calculated comparing Mainland SEA with Africa and the West. Being a participant from Mainland SEA meant an increase of 30% in the geometric mean of e-learning activity.

Differences were also found when comparing IT students with Business students (b= -.30, t(364) = -2.12, p < .05), English students (b = -.39, t(364) = -2.17, p < .05), science students (b = -.43, t(364) = -2.23, p < .05), and Religion students b = -.48, t(364) = -2.64, p < .001). The exponentiation of the beta coefficients was calculated and indicated that if a participant was an IT student, it meant an increase in the geometric mean of clicks of 26% when compared to Business students, 33% when compared to English students, 35% increase compared to Science students, and 39% increase compared to Religion students.

Differences were also found when comparisons were made between Freshman and Juniors (b = -.64, t(364) = -5.31, p < .001) and Seniors (b = -.68, t(364) = -5.15, p < .001). When comparing a Junior with a Freshman one can expect a 47% increase in the geometric mean and a 49% increase when compared to Seniors. No differences were found between young and older students or by gender.

Table 2 *Regression Results using Log (Clicks) as the Criterion*

Predictor	***b***	***b* 95% CI [LL, UL]**	***sr²***	***sr²* 95% CI [LL, UL]**	**Exp *b***	***t*-value**
(Intercept)	6.85**	[6.55, 7.16]			946.51	43.80
Region: Maritime SE Asia	0.05	[-0.15, 0.25]	.00	[-.00, .00]	-0.05	0.46
Region: Asia	0.02	[-0.26, 0.31]	.00	[-.00, .00]	-0.02	0.16
Region: Africa & West	-0.36*	[-0.66, -0.06]	.01	[-.01, .03]	0.30	-2.36
Experience: Yes	0.13	[-0.12, 0.37]	.00	[-.01, .01]	-0.13	1.04
Major: Business	-0.31*	[-0.58, -0.03]	.01	[-.01, .03]	0.26	-2.12
Major: Education	-0.18	[-0.46, 0.09]	.00	[-.01, .02]	0.17	-1.31
Major: English	-0.40*	[-0.76, -0.04]	.01	[-.01, .03]	0.33	-2.17
Major: Science	-0.43*	[-0.82, -0.05]	.01	[-.01, .03]	0.35	-2.23
Major: Religion	-0.49**	[-0.85, -0.13]	.02	[-.01, .04]	0.39	-2.65
Class Level: Junior	-0.64**	[-0.87, -0.40]	.06	[.02, .11]	0.47	-5.31
Class Level: Senior	-0.68**	[-0.94, -0.42]	.06	[.02, .10]	0.49	-5.15
Class Level: Sophomore	-0.16	[-0.35, 0.04]	.01	[-.01, .02]	0.14	-1.59
Gender: Male	0.05	[-0.13, 0.23]	.00	[-.00, .01]	-0.05	0.56
				R^2 = .174**		

Note. * indicates p < .05. ** indicates p < .001

Research question two is answered with the logistic regression results that are found in Table 3. The results indicate that if a participant was from Africa and or the West, they were 57% less likely to be an active user when compared to an individual who was from Mainland SEA. If a participant was a Business major, they were 47% less likely to be an active user compared to an IT major. English majors were 72% less likely to be classified as active users than IT majors, whereas Science majors were 71% less likely; Religion majors were 87% less likely to be classified as active users than IT majors. On a class level basis, Juniors were 47% less likely to be classified as active members compared to Freshmen and Seniors were 75% less likely to be classified as active users when compared to Freshmen. There were no differences for student experience or for gender.

Discussion

The results of this study have led to several conclusions. First, Freshman students were much more active online then other class levels. In addition, there was a clear decline in activity from Freshman to Seniors when examining the group means. These results seem counter-intuitive as often it is expected that coursework becomes more rigorous as one advances academically. However, it is possible that newer students were less efficient at studying and or had a general enthusiasm about using a LMS. In general, enthusiasm for learning decreases over time and this may happen in the online learning context as well (Brenneman, 2016). In addition, upper division courses are more project based and rely less on traditional summative assessments, such as quizzes and exams. Therefore, it may be due to the nature of the courses that there was a decline in LMS use from Freshman to Senior students.

Table 3 *Logistic Regression Results using Active/Inactive Users as the Criterion*

Predictor	Estimate	Std. Error	*z* value	Prob	Exp Estimate
(Intercept)	0.48	0.44	1.01	.27	-0.62
Region:Maritime SE Asia	0.17	0.29	0.59	.55	1.19
Region: Asia	-0.13	0.41	-0.31	.76	0.88
Region: Africa & West	-0.84*	0.48	-1.74	.08	0.43
Experience: Yes	0.39	0.35	1.11	.27	1.48
Major: Business	-0.63*	0.38	-1.70	.09	0.53
Major: Education	-0.88	0.39	-2.29	.02	0.41
Major: English	-1.27*	0.54	-2.35	.02	0.28
Major: Science	-1.22*	0.58	-2.12	.03	0.29
Major: Religion	-2.00**	0.62	-3.21	.01	0.13
Class Level: Junior	-0.64**	0.35	-1.83	.06	0.53
Class Level: Senior	-1.35**	0.44	-3.11	.01	0.25
Class Level: Sophomore	-0.13	0.27	-0.49	.62	0.88
Gender: Male	0.07	0.26	-0.31	.76	0.92
				AIC: 481	
Null deviance: 486.56 on 377 degrees of freedom					
Residual deviance: 453.28 on 364 degrees of freedom					

Second, IT was the most active major for both regression models in terms of e-learning behavior. This is not surprising given the content of this major. IT majors generally have a more positive disposition towards technology and thus will use it more. In addition, IT teachers are often highly supportive of technology and this may create a positive feedback system, where the students use the technology and the teachers provide more opportunities to use technology such as an LMS. Only a few have looked for a difference based on major and the results of this study provide a foundation for further investigation (Thongsri & Bao, 2019).

Third, students who were from further away in terms of geography were not considered as active as users from SEA. This may be due to this group being a smaller portion of the sample. Another possibility is the difference in culture. Students from African and Western countries are culturally more different compared with the other students involved. This may be one reason why even their participation online was less. One study found that students experience culture shock just from moving online (Leeds, 2014). Examining e-learning activity in the context of culture shock or adjustment would help confirm the results of this study.

Fourth, there were no differences found when considering the age of the students or their gender. This confirms studies that have looked at both of these factors (Amparo et al., 2018; Barczyk et al., 2017). In the context of e-learning, age and the gender of the students may not be a concern. Nonetheless, in the context of the traditional classroom, there are times when these two factors are significant (Glazier et al., 2020)

Recommendations

Several recommendations can be made based on the results of this study. For example, schools may want to consider finding ways to support students, particularly those who are from far away, as this study indicates that they are less active online. These students may also lack the local social support of students who are from the region and thus may require more care, even if the studying is online. Establishing social support is critical to student retention in the traditional classroom and may be critical in the context of online learning (Reid et al., 2016).

Second, Freshmen may need training in how to use the LMS of an institution. This study did not look at how the students used the LMS but it is clear that Freshmen were much more active online. Helping this group of students to become more efficient can be beneficial to retention and motivation (Abbasi et al., 2020; Dumford & Miller, 2018). Peer mentoring online would be one example of how to achieve this, without increasing the faculty burden.

In terms of further study, it would be beneficial to examine more closely not just the quantity of activity online but also the quality of the activity. This could be done perhaps through interviews structured in a qualitative manner. A study that more closely examines the role of culture in the context of e-learning would help understand the challenges that international students face when they need to adjust to studying in a place different from home.

Limitations

This study had several limitations. The amount of variance explained by the multiple regression model was low. This indicates that many explanatory variables were not included in the model. However, it is not often that one is presented with an opportunity to study a phenomenon that impacts the entire educational system worldwide. As such, the data collected was what was available at the time. In addition, the scope of this study means that the results can only be extrapolated to a similar context. What was facing one university in Thailand is not the same as what may be facing a different institution in the United States or Europe. A similar context such as other schools in the ASEAN region would be more appropriate.

Conclusion

This study looked at students' e-learning activities during a context where all students were moved to online learning due to an international crisis. Less experienced students and IT majors were the most active online. Students from further away were less active then those who were from SEA. In addition, older students and gender made no difference. Therefore, educators need to support foreign students and help less experienced students to become more efficient when studying online.

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Cognitive Sociology: Developing the *'Diversity Pathways'* Model in Cultural Neuroscience

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Abstract

Hofstede's *Cultural Dimensions* is a model for cross-cultural studies. To Hofstede, culture is "mental programming" derived from the social environment, shaping behaviours. Yet, intercultural researcher Dr. Nguyen Phuong-Mai suggests Hofstede's metaphor belies social determinism. With insights from Cultural Neuroscience, Nguyen proposes the *Diversity Pathways* model, marrying Evolutionary Biology and Cultural Sociology. Yet, unlike Hofstede's model, Nguyen's model is still developing as a unique expression of Cognitive Sociology, so is not yet realised for practical research. This paper attempts to reorient *Diversity Pathways* towards a practical methodological approach. To do this, it draws upon sociological insights from theorists Michel Foucault, Bruno Latour, and Jacques Derrida to analyse, and extend, a theoretical model of culture construction, offering a postmodernist pragmatic discourse. We propose a re-centring of Nguyen's model to place culture at its core while addressing critical concerns on genealogy, *différance*, and socio-technicality. To demonstrate the utility of our proposal, we then draw upon the construction of institutionalised racism in the United States. This tentatively introduces the model's value as a practical research tool for the discipline of Cultural Studies, introducing a new tool for researchers, which is particularly useful in underfunded, underprivileged, or remote contexts.

Keywords: *Diversity*, *cognitive sociology*, *cultural neuroscience*, *cultural dimensions*

Introduction

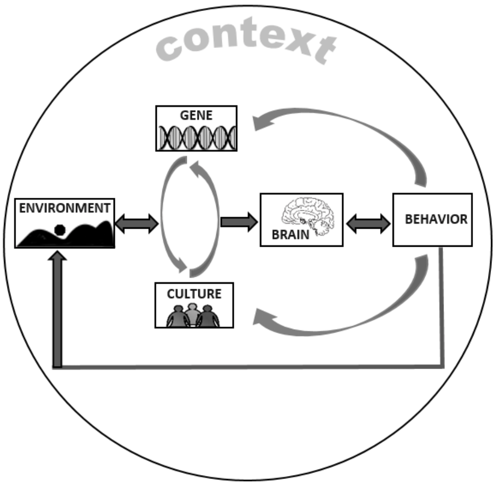
Human behaviour and culture are guiding sources of agency. The *Diversity Pathways of Culture* (*Diversity Pathways*) is a theoretical model, pioneered by intercultural communication researcher Dr. Nguyen Phuong-Mai, which seeks to extend the interdisciplinary exploration of Cultural Neuroscience and show that culture constructs behaviour in symbiosis with environmental and biological factors (Nguyen, 2017a; 2017b). To this end, *Diversity Pathways* is an act of Cognitive Sociology and an effort at overturning the traditional "static" paradigm prevalent in the Cross-Cultural Studies field. A prominent model here is Geert Hofstede's *Cultural Dimensions*, suggested as the "most cited and utilized cultural model" (Yaaqoubi & Reinecke, 2018, p. 1). Nguyen argues against Hofstede's assumption of the "stability of cultural values" inherent in his philosophy that culture is the "software of the mind" (Hofstede et al., 2010, p. 5), which regards culture as a set of defined social values guiding human behaviours (Nguyen, 2017b). Hofstede's work arose from research for International Business Machines (IBM), which investigated values amongst employees across 72 countries; he identified six polarised dimensions, namely high/low power distance, individualism/collectivism, high/low uncertainty avoidance, masculinity/femininity, long/short term orientation and indulgence/restraint (Jones, 2007; Hofstede, 2011). This entailed a hypothesis suggesting culture is learned as a mental programme from social environment conditioning (Hofstede et al., 2010). The high corporate value of cultural research, then, enabled the dominance of Hofstede's model (Jones, 2007). Nguyen, by contrast, proposes *Diversity Pathways* on the argument that, while human diversity has historically been investigated through the divergent academic disciplines of Evolutionary Biology and Anthropology, it has become increasingly apparent cultural acts are inseparable from biological processes (2017b). To this end, Nguyen (2017a; 2017b) proposed culture as one of a myriad of factors in human development.

[2] Independent researchers

The Diversity Pathways Model

Our paper situates Nguyen's view, suggesting a network of socio-technical factors construct the human experience, or what Nguyen calls context, and these factors are intertwined, thus co-constituted (Latour, 1988/1984). The construction of culture is shaped by not only social but also technical forces, so biological and physical elements, themselves susceptible to change and evolution (Nguyen, 2020; 2017a). Nguyen, then, proposes a more "holistic" perspective on the human experience, but to compete with the Hofstedean paradigm, *Diversity Pathways* has a hurdle to overcome: Nguyen's model itself needs to evolve more methodological applications in research. Presently, it is inherently philosophical. Within this paper, we consider methodological implications for Nguyen's model, as a practical research tool for cultural researchers. To this end, we first evaluate Nguyen's *Diversity Pathways* theoretical model and seek to situate a critical perspective. This leans towards the sociological and methodological application of *Diversity Pathways*, which itself was adapted from the *Environment-Culture-Gene Pathway Model* by Chiao et al. (2014). However, Nguyen's diagram (Figure 1.) consists of five co-constructing factors that try to explain human diversity: Environment, Genes, Culture, Brain, and Behaviour. Underpinning this, then, is the conceptualisation of human culture as a cumulative evolutionary trait, a role intended to help humans survive. Biology and cultural behaviour, consequently, share a co-constituted relationship. Nguyen (2017b) suggests one example of how historical nomadic culture in South America led to the prevalence of a novelty-seeking variant of the dopamine D4 receptor amongst people from the region. In other words, human diversity can result from environmental factors driving mutual changes across both culture and biology that reinforce human survivability in a given environment (Nguyen, 2017b).

Figure 1 *The Diagram of* Diversity Pathways *(Nguyen, 2017b)*



A key concept in Nguyen's model is that the brain, like culture, is a dynamic factor of human development; it co-operates via symbiosis of culture, as with biology. The idea that brain structure can change and develop dynamically is called neuroplasticity. Therefore, periods of such "plastic" development can serve to redefine both culture and biology (Costandi, 2016; Crawford, 2019; Nguyen, 2017b). However, our social behaviours also exert the power to alter the brain; biological studies have shown that the things we do, such as running, juggling, dancing, drug-use, or meditation, among others, result in changes in brain structure and the human body, which itself is shaped by socio-technical influences that redefine subsequent cultures, behaviours, and psychological models (Calvo-Merino et al., 2005; Cerulo, 2010). Consider, for example, a prosthetic running blade on a person who loses a leg in an accident; this creates a socio-technical adaptation coalescing in the brain and a force of change across interrelated socio-technical domains (Nguyen, 2017b). Indeed, a vital contribution of Nguyen's model is its "pathways" of thinking, which allow us to link neuroplasticity to socio-technical domains of experience such as the external physical environment, cultural practices, genetic composition, and behavioural habitus.

Context Tracing: Sociological Perspectives on *Diversity Pathways*

All such factors are discussed across the work of notable social philosopher Michel Foucault, who likewise argued human society was a realm of discursive possibilities, where discourse referred to the conversations, ideas, and the meanings among actors (Foucault, 1981; 1975/1995). So, members of society construct discourses, which construct social reality. Discourse is also at the intersection between Nguyen's views of culture and behaviour. This, for Foucault (1976/1978), was important to understanding how societies evolve. To study discourse, Foucault proposed two modes of analysis: critical and genealogical. In this framework, the former addresses what is excluded from discourse, to discern attitudes, beliefs, and social codes about what is deemed worthy of our attention. Meanwhile, genealogical focus involves tracing elements that construct phenomena (Foucault, 1981). In other words, genealogical analysis embodies the act of highlighting contextual factors and paying attention to "non-social" factors. These factors, which include "non-human" objects like tools, digital technologies, or environmental structures, also possess agency. So, they have power in their own right and thus cannot be assumed, a priori, to be less influential (Foucault, 1976/1978; Nguyen 2017a).

This idea was echoed in Actor-Network Theory (ANT), developed by Bruno Latour, Michel Callon, and John Law, a "socio-technical" approach to social theory recognising non-social objects as equally altering "members of society" that have power and agency (Latour, 2005, p. 71). In this tradition, for anything to happen there must be a combination of actors, whether social or technical, that come together in an aligned way, and at the right moment against other counter-actors; for example, Latour's example of microbiologist Louis Pasteur, who would not have discovered inoculation without agents such as bacteria, his Petri dishes, and the cleaner forgetting to wash them (Latour, 1984/1988). In *Diversity Pathways*, we trace this notion of socio-technicality as it corresponds to Nguyen's biological elements, namely our genes and brain, which would hardly be considered "social actors" yet are human and non-human simultaneously. Yet, Nguyen (2017b, p. 534) writes that from an evolutionary perspective "environment drives nature with genetic traits" and thus our environment remains a powerful force in determining what we do and not do. So, our social behaviours also derive from non-social forces of influence. In this way, the dichotomy between the social and non-social is deconstructed and by doing so, we are encouraged to trace the relationship between culture, people, and network phenomena (Derrida, 1967/2016). This idea, that things can only be understood concerning other things, underlies the *Diversity Pathways* model and ANT. This is also a tenet in the philosophy of *Deconstruction* founded by Jacques Derrida (Derrida, 1967/2016; 1972/1982).

Derrida provided a "deconstructive semiotic strategy" that, taken simply, asserts that the meaning of a given thing derives from not only what it is, but also from what it is not. This may seem paradoxical at first, but to put it another way, Derrida questioned boundaries between phenomena. He suggested that nothing was truly stable nor existed in isolation, for example, searching for a term in a dictionary. Here, an actor searching for the word "tree" will arrive at a definition composed of other words, each with definitions and synonyms. The dictionary offers only networks of words and concepts, but no way to understand tree in its standalone "fullness"—you know what a tree is, by what it is not. Derrida called this phenomenon *différance*, playing on the French verb *différer* as meaning both "to differ" and "to defer." Derrida recognised that concepts are distinguished by their differences from other adjacent concepts. Simultaneously, because concepts can never fully represent what they signify, they also defer and postpone them (Derrida, 1972/1982). Similarly, in Nguyen's *Diversity Pathways*, we observe that none of the five factors can exist without input from the others. Environment, for example, exerts a force on brain cells, and so to study the brain requires reference to environmental factors (de Geus et al., 2001). Likewise, Culture in the model is a factor that influences cognitive processes within this biological apparatus, and so we cannot separate these without reference to cognition (Posner & Rothbart, 2017). Derrida was critical of assertions of stable truths, arguing that such (mis)conceptions arose from an over-simplistic view of dichotomies (Derrida, 1967/2016). To assert a truth, Derrida contended, is to make a naïve binary assumption; "good" and "evil," for instance, depend on one another for coherent identity (Derrida, 1967/2016). The "deferral" aspect of différance suggests no concept can represent itself, without being part of networked meaning.

Philosophies of Methodology: Transcending Staticism in Research

We cannot isolate binaries. Hofstede's binary dimensions, like "masculinity" versus "femininity," limit his method because masculinity depends on femininity to exist as a concept. So, there is no basis for a distinction between both poles. We may observe this deconstructive spirit within *Diversity Pathways*. Nguyen (2017b) highlighted a significant dichotomy in that, amongst scholars of the human sciences, two disparate approaches were historically taken: Evolutionary Biology and Cultural Anthropology. This ensures a binary opposition. Waters (2014) describes both as "valid approaches" but reminds us the biological inquisition tends to place the individual organism at the centre of attention, reading social and behavioural phenomena in terms of advantage to the individual. This neglects the agency of the social environment to construct biology, and vice versa (Waters, 2014; Nguyen, 2019). Conversely, the socio-cultural method provides no definitive answer to the philosophical problem of free-will, unlike biological determinism (Waters, 2014). The logic of différance, however, questions such boundaries and suggests an interdisciplinary "biological-cultural," thus socio-technical, methodology that should drive research of cultural phenomena (Waters, 2014; Nguyen, 2017a; Latour, 1984/1988).

Methods define research, so researchers working within the *Post-Structuralist* school of thought, associated with the philosophies of Derrida and Foucault, adopt critical observational perspectives (Wright, 2003). In other words, qualitative methods are employed, in contrast to quantitative methods, which typically comprise the extrapolation of statistical data (Dawson, 2002). Yet, the Post-Structuralist researcher deviates from the traditional qualitative researcher in acknowledging the social construction of knowledge; they do not claim to capture hard truths, recognising the inevitable incompleteness of all data, quantitative or qualitative (Wright, 2003). Both sides of the traditional qualitative-quantitative dichotomy have been subject to criticism, themselves binary oppositions (Khaldi, 2017). Critics of qualitative methodology cite its tendency for subjectivity. Conversely, quantitative research has been criticised for craving only statistical "number fetishism" (Bryman, 2016; Nielsen, 2004). Yet, Post-Structuralist methods transcend this dichotomy; the researcher is less concerned with absolute truth, or validity, and more with the genealogy of the data they collect. Indeed, to the Post-Structuralist researcher, fixed truths are constructs that limit the potential of research (Derrida, 1967/2016). Put differently, truth is inevitably subjective, but data can help trace its construction; the Post-Structuralist researcher recognises that they too interact with the data and so contribute to its genealogy. So, a method must show that the researcher and their research co-construct one another. Therefore, it is not surprising that Hofstede's *Cultural Dimensions*, underscored by a philosophy based on statistical values, enjoys appeal amongst practitioners of traditional quantitative research, themselves seeking "stable" truths; this limits the approach underlying the claims made by Hofstede (Khaldi, 2017; Bryman, 2016).

Indeed, this approach is no stranger to controversy, and Jones (2007), to give but one example, notes detailed criticisms against Hofstede's model. For example, the model assumes all members of a nation share the same cultural values, thereby promoting a homogenous view linked to "colonial oppression" (Fougère & Moulettes, 2007). This monolithism is a limitation; cultural philosophies of the Hofstede type are vulnerable to critiques of being "Eurocentric," "orientalist," and "ethnocentric" (Mateo et al., 2013; Fougère & Moulettes, 2007). Despite criticisms of the homogenous view of culture, proponents have defended Hofstede, citing his model's individual "relative accuracy" (Jones, 2007). In Hofstede's IBM study, employees in the company's international branches were surveyed to a total of more than 100,000 questionnaires; this is not statistically insignificant (Hofstede et al., 2010; Hofstede, 2011). As such, Hofstede et al. (2010) recommended questionnaires as a diagnostic tool, although they acknowledged that people may not always act the way their scores indicate. Likewise, such methods lack depth, are open to self-bias, thus shaped by personality in many cases. In contrast to a Latourian view, Hofstedean researchers feel that they can extract reliable data about cultural values if they distinguish between a subject's cultural ideals and their practical choices. Yet, Maseland and van Hoorn's (2009) review of the methodologies employed by Hofstede's study, and other similar cultural indices, found a limitation: The data did not correspond with practices. This means that such “value surveys” reflect marginal personal preferences, rather than cultural values, creating doubt over the accuracy and usefulness of Hofstede type studies (Maseland & van Hoorn, 2009).

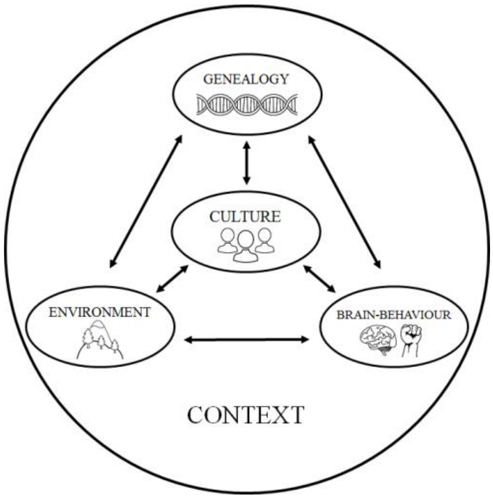
Dynamism and Pragmatism: Reinterpreting *Diversity Pathways*

There is a need for pragmatism in research methodology. Yet, can *Post-Structuralism* offer such an alternative? At first, the Post-Structuralist claim that nothing is true may seem counter-intuitive. Jones (2007), supporting Hofstede, calls for as “unbiased and unambiguous a research instrument as is practical”, yet this requires us to question what methods work to understand culture, given the complex genealogical and interdisciplinary implications raised in this paper. Here, the Post-Structuralist approach lends explanatory power over tracing context and genealogical factors, yet it falls short in practicality. Each part of Nguyen’s model (2017b), seen in Figure 1, is dynamic and, in our view, is subject to infinite deferral; it can never be traced completely (Foucault, 1977/1980; Derrida, 1972/1982). Koopman (2016, p. 75) characterises both genealogical themes and deconstruction as “obsessive about limits” and what follows is our attempt at reconciling this to expose the limits of a pragmatic approach to research in the context of *Diversity Pathways*. No research can be truly unbiased and unambiguous; yet, studies such as Hofstede’s IBM project aim to derive large scale conclusions about how people enact specific cultural behaviours, thus how people of a given culture “do” being human.

Post-Structuralism warns that expecting “hard facts” is problematic since unduly specific, stable truths cannot be isolated (Derrida, 1967/2016). So, within this chase for knowledge, one needs to know how much chasing is enough, a point Latour raised in discussing *punctualisation*, a term to express a need to isolate networks within network-tracing (Latour, 2005). While *Diversity Pathways* is philosophically compatible with Post-Structuralist thought and ANT, we argue that it may not be optimally visualised for pragmatic methodological use in cultural research. For example, social scientists likely do not have access to, nor the training for, complex scientific technology. This is particularly true in remote, or underprivileged, populations. Plus, somewhat contradictory, culture is not the focal point of *Diversity Pathways*, rather, the model situates it as but one part of a greater context; Nguyen calls this the “ultimate power” (2017b, p. 534). Here, context encompasses the circumstances in which the five factors evolve in different ways. So, the study of context aims to recognise the agency of each factor in co-constituting one another. Consequently, studying culture must entail recognition for how it responds to circumstances and situations (Nguyen, 2017b). Yet, Nguyen’s model currently visualises cultural acts from a macro-level perspective. So, if one were to examine the factor of Culture specifically, we contend one would need to reorient the model, and diagram, to place it at the centre of context. After all, such context is significant enough that Osland and Bird, as cited by Nguyen (2017b, p. 535), suggested that, contrary to Hofstede, cultural models should index context rather than countries.

Yet, to privilege context over culture as a concept and factor may create a research periphery too broad for most empirical studies on culture. A solution, then, might be the redefinition of contextual investigations into interlinked microstudies, which we contend is a necessary feature of making *Diversity Pathways* more effective. So, while culture would be the main target of study, it is only one factor within the specific context examined. To this end, to compete against static models such as Hofstede’s, we propose a reorientation of *Diversity Pathways* with the component of Culture not just as a factor, but the model’s focus. Therefore, to visualise this, we developed a methodological diagram (see Figure 2) based on Nguyen’s. As asserted, each component of the all-powerful context is dynamic, so the diagram emphasises cultural themes as co-constructed. We propose a “genealogical-relational philosophy of culture” within this model that is grounded by Derrida’s idea of différance and informed by the other socio-technical theories noted. This argues that Culture can only be understood in terms of other components of context, which we have reinterpreted as Environment, Genealogy, and Brain-Behaviour orientated around Culture. Environment refers to physical, social, and technical surroundings, so conditions where a culture is situated. Genealogy encompasses historical-social and biological-technical inputs, so supporting the Latourian human and non-human developments of a culture. Brain-Behaviour addresses biological structure and functional aspects of various faculties of the mind, including conceptual constructs such as metaphor, blends, and frames. Each of these contextual components has co-constituted boundaries, so interrelated that, frequently, there are overlaps. Therefore, we contend, each component, or factor, can then only be understood by the consideration of the other three—constructed through différance (Derrida, 1972/1982; 1967/2016).

Figure 2 *A Repositioned Diagram of* Diversity Pathways *to Cultural Construction*



Diversity Pathways: A Modest Issue of Re-Focusing

This rebuilds the ‘context’ as a socio-technical development philosophy that underpins *Diversity Pathways*. Nguyen notes Environment and Culture interact in two ways: first, that geographical environments shape the economic practices of its inhabitants, as well as their collective psyches, and second, that human cultural practices tend to, in turn, reshape the environment (Nguyen, 2019). Nguyen’s sense of the Environment factor, then, is bound to the physical and geographic. At this point, we deviate from Nguyen in expanding the Environment factor to include the intangible, such as digital spaces and socio-legal contracts, or constraints. To this end, the former, for example, includes Web networks: media platforms, Internet protocols, users, preferences, and the limits of computer hardware, which can allow, or disallow, the interaction between socio-technical agents. The legal system is an apparent example for the latter; the law is a codified system of rules imbued with, and often in service of, the power of the sovereign state, forming barriers to behaviours that, like the physical environment, determine social agency as well as collective action (Foucault, 1975/1995). Humans, as socio-technical actors, bear the ability to manipulate intangible environments (Latour, 2005). Consider the burglar trespassing on protected grounds while security tracks them; we can observe human actors solidify, almost golem-like, with environmental elements, non-human technicalities. The security guard is a fixture, but a mobile one, which serves to temporarily make it perilous for the burglar to trespass. This same security relies upon non-humans, such as cameras and other equipment. Environment, then, we contend, does not necessarily refer to what we can see and touch around us, nor is it something that necessarily lacks agency and thought. Rather, its form encompasses the invisible, the governmental, and the social ad hoc.

In a similar fashion of expansion, then, we draw inspiration from the thought of Foucault (1981; 1975/1995). Within our methodology, Genealogy is no longer exclusive to biological genetic factors, as it was for Nguyen. Rather, it includes socio-political, thus biopolitical, developments and discursive practice; Genealogy, then, represents an expanded sense, as the accumulation of ancestral information that fuels our *habitus* (Foucault, 1981; Bourdieu 1972/1977). So, genealogical experience influences behavioural dispositions of people within a culture and this knowledge nexus is built by biological, technical, political, and broadly social discourses. So, as with Environment, it is a socio-technical mechanism (Latour, 2005). Foucault elaborates that Genealogy, in his view, “does not resemble the evolution of a species and does not map the destiny of a people. On the contrary, to follow the complex course of descent is to maintain passing events in their proper dispersion…" and to this end, Foucault encourages us to see beyond linear boundaries limited by disciplinary silos and thinking, which instead forces us to rather trace "the accidents, the minute deviations—or conversely, the complete reversals… that truth or being do not lie at the root of what we know and what we are, but the exteriority of accidents" (1977/1980, p. 146).

The crux of Foucault's understanding of Genealogy, then, is the "accidental coming-together" of all the right elements. This is echoed in Latour (2005, p. 5) who sought to redefine the discipline of Sociology "not as the 'science of the social', but as the tracing of *associations*." Genealogy, then, offers us a methodological perspective to describe a culture in terms of tracing associations between those things and events which construct that particular culture, whether biological, environmental, social, political, or cognitive. So, for the Brain-Behaviour factor, we adopt an experientialist viewpoint of the human mind. In other words, we are concerned with physical-biological structures, but also with cognitive structures based on knowledge gained via experience (Lakoff, 2012). This knowledge extends to contextual and semantic domains of knowledge (Hickman, 2020). In Lakoff and Johnson's (1980) seminal proposal for *Conceptual Metaphor Theory* within Cognitive Linguistics, it is suggested that understanding emerges from participation and thus "constant negotiation with the environment and other people" leads to recurrent experiences that form "categories, which are experiential gestalts" defining the world as we know it (pp. 327-328). Nguyen (2019) also emphasises that our behaviours and lifestyles can affect epigenetic configurations of our DNA. Thus, we aim to consider the knowledge the mind draws upon to effectuate behaviour; Bourdieu (1972/1977) would see this as habitus.

Nguyen (2017c) touches upon this by suggesting that to "construct a multicultural mind" entails the expansion of an individual's cultural repertoire. This repertoire, from a cognitive perspective, encompasses competencies varied as linguistic ability, empathy, and reasoning (Lakoff, 2012; Halliday & Hasan, 1989; Chomsky, 1984). Yet as Halliday and Matthiessen (1999, p. 2) suggest, expression of meaningful knowledge, whether through language or cultural practice, is, ultimately, a social activity, not solely an individualistic process. To this end, we go further to view this as a socio-technical activity; thus the methodology proposed requires a researcher to explore each of the factors of Environment, Genealogy, and Brain-Behaviour in semiotic links with Culture, and then describe cultural outcomes in terms of the influences of all upon each other. This can be done with qualitative or quantitative methods, as long as the data provide insight describing a culture as part of a relational triple, which is key within semantic reasoning. So, in our subsequent section, we consider a hypothetical overview of methodological implications for such cultural construction. This provides a holistic approach, which does not attempt to draw fixed boundaries, or pin down static aspects of a certain pattern, but recognises the interconnected nature of human development, echoing Post-Structuralist reasoning. In the spirit of Nguyen's *Diversity Pathways*, this methodology gives due attention to the factors that contribute to cultural development, so that we may trace its construction beyond a simplistic paradigm of cultural dimensions and dispositions. Figure 2, we argue, is needed to develop more practical approaches to cultural research that recognise these socio-technical implications.

Nguyen's model, however, stops short of this direction, favouring the inherent ad infinitum cycle, so creating a need for a more pragmatic application of the model, if the purpose of the study is to examine cultural phenomena. We can display this in a four-part conceptual framework to suggest each methodological component for the model, and processes for engaging it. So, first, for Environment, we must describe the Environment, and trace the connections as well as influences of Genealogy and Brain-Behaviour on the Environment. Second, for Genealogy, we must describe the Genealogy, and the influences of Environment and Brain-Behaviour on this Genealogy. Third, in the same pattern, for Brain-Behaviour, we must describe the Brain-Behaviour, and impact of Genealogy and Environment on Brain-Behaviour. Finally, fourth, for Culture, we must describe Culture, and the influences of Environment, Genealogy, and Brain-Behaviour on such Culture. As Latour (2005) suggests, cultural phenomena become a black box, so a network we can focus on, unintentionally encasing the self-contained "punctualised" networks we refer to as Environment, Genealogy and Brain-Behaviour. Yet, each of these black boxed networks are both co-actors and sub-actors of one another. Simultaneously, Culture is a component of these and, from a socio-technical perspective, a co-constituted overlapping heterogeneous phenomenon, which creates the network and is created in return. Therefore, we need a methodological philosophy for how we trace these relationships and recognise cultures. To this end, our proposed model (Figure 2) offers a more coherent methodological footing for investigating cultural phenomena.

Ramifications for the Cognitive Sociology Researcher: A Methodology for Diversity Pathways?

We contend this because of our re-interpretation (see Figure 2) operates from a simple organisational method. This embraces the relational belief that to give due consideration to the factors of Environment, Genealogy, and Brain-Behaviour, a researcher must engage in condensed, manageable microstudies that engage a perspective on each of these components. They do so towards the core aim of relating a fuller explanation for constructing culture. So, tracing distinctive actors and forming a consensus, rather than a disconnected static approach; an interdisciplinary mixed-methods toolkit is needed. Environment shapes a culture that can be studied with methods such as field observation, interviews, or secondary sources. Researchers may also describe Environment from multiple points of view; as an outside observer, or as a member of the local culture. So, researchers need to personally observe the Environment, or, at least, interview members of the culture under study to describe their Environment. We contend this approach should form a relational methodology. Additional information thus could be sought through secondary sources, such as maps, or data on climate, structures and facilities. Yet, these approaches should not be limited to the study of just aspects of the physical-geographic Environment; they may be adapted to fit the investigation of socio-technical environments, whether intangible non-humans, like digital, socioeconomic, or normative environments, or human, as elements of an environmental setting. So, a researcher could turn to sources such as work schedules, daily routines, office rules and policies, then, to reveal potential to describe environmental constraints. Despite a great manifesto, this semiotic approach is an area of development needed in *Diversity Pathways* and one that this paper seeks to reinforce, to offer one way forward (Nguyen, 2019).

To illustrate a relevant example, upon writing, we may trace the construction of racism in the United States of America, and subsequent systemic racial discrimination, as a cultural phenomenon. There is a myriad of theoretical, philosophical, and methodological lenses with which a researcher may approach this vast topic, as well as an abundance of data types and sources. For illustration, we will refrain from detailing the specifics of how a researcher could approach the design of data collection, and rather exemplify the utility of the kind of thinking with which researchers should approach the cultural investigation of racism in this setting, via our proposed philosophical model (see Figure 2). Institutionalised racism is a complex socio-technical phenomenon; by nature, it is an interdisciplinary problem. For one, it bears socio-cultural premises; racism is practised within a paradigm of racial categories, hierarchies, and relations amongst, between, and because of actors in society. It exists beyond just human actors; so, it does not only need them to occur. Rather, it is also reliant on technical factors to effectuate itself. For example, the distribution of wealth, jobs, and homes are very real determinants of inequality that might spur and catalyse racial tension. There is undoubtedly a genealogical aspect; inequalities can be culturally reinforced and reproduced (Bourdieu, 1972/1977).

To use our proposed model (see Figure 2) to attempt to explain the construction of such a system of discrimination, particularly within the USA, as an example currently polarised by debates such as #blacklivesmatter and the role and position of African Americans in this year's Presidential Election, amongst other contemporary topics, we must first trace matters of Environment. Looking back to the 15th century, when the Transatlantic Slave Trade was in its nascent phases, we can observe that the Environment of the then-newly discovered Americas was rich in various resources valuable to Europeans, such as sugar, tobacco, precious metals, cotton, and other goods (Rawley & Behrendt, 1981/2005). Thus, an Environment for trade was primed. We can then trace Genealogical factors parallel to this; in the same period, European seafaring innovations allowed Europeans to travel to previously un-contacted regions of West Africa, predominately to seek out needed goods to fuel the environmental setting described, furthering competitive markets. At this point, several things occurred in sync establishing a heritage of racial inequality. These include the rich untapped resources of the Americas, the new technical ability to travel between Europe, West Africa, and the Americas, along with European colonialist ambitions, human agency and competitive natures. These resulted in the Brain-Behaviour, on the part of those in European positions of power, to begin acquiring slaves, including by snatching them up during raids, from the West African region, to transport to the Americas as slave labour to mine New World resources for profit (Rawley & Behrendt, 1981/2005).

Brain-Behaviour toward people of African ancestry was thus established, engaged by Environment and determined by Genealogical features that continued into racial segregation, inequality and social divisions both back then, and many years later. Although European indentured servants were not uncommon then, laws were passed in what was Britain's Thirteen Colonies, despite being contrary to English laws present even in this period, that legally institutionalised perpetual slavery, which was exclusively imposed on non-White servants and reinforced this Brain-Behaviour (Rawley & Behrendt, 1981/2005, p. 266). At this point, a socio-technical phenomenon emerges; genealogically passed down notions of racial bias began by lessening the humanity of those darker-skinned peoples, which itself interacted with, and was reinforced by, legal apparatus to construct a racialised slave caste system as a legal, social, personal, and conceptual construct. Whilst the legal bases of this caste construct were abolished in the USA in 1865 with the Thirteenth Amendment, negative Brain-Behaviour against African Americans was already an embedded feature of the white-dominated nation, which itself was passed forward into the Environment newly born people were raised into, thus continued to be effected in other avenues shaping Environment and Culture. Notably, the institutionalisation of racial segregation can be traced as a cultural norm long after the abolishment of slavery and well into the 1970s. Segregation arguably continues today in the distinctions drawn between predominantly White/Black neighbourhoods re-perpetuated by financial constraints that are themselves rooted in genealogical bias, or "racism by consequence," as opposed to malicious intent (Guess, 2006).

We have described how these various factors interact to produce institutionalised racism, relying on a brief literature review, alongside philosophical theorising, as our main research method. The next step, having sketched a tracing of our network (see Figure 2) would be to plan microstudies investigating each of Environment, Genealogy, or Brain-Behaviour as the focal areas of interest, planning an inter-related approach that links the common feature of interest: racism in the USA. The researcher could begin by establishing how certain features of Environment assist in the production of racism. As contended, these can be physical constraints as well as legal, digital, or what we might broadly term as socio-technical. An example could be the relationship between the police forces and racial bias; policing is a socio-technical institution where human operatives are environmental agents who can restrict, or allow, movement and behaviours. As a socio-technical network, the researcher can seek evidence of racial bias of the police concerning legal constructs, or by geographical positioning, or even look for evidence in training policy and operating procedures. This, in isolation, is intriguing but outlined in the framework of our proposed model becomes a more detailed narrative when considered as conditioning of the Brain-Behaviour of the police, themselves an institutionally powerful actor within communities and thus instrumental in the conditioning of others in a genealogical manner. Researchers may study these discursive extensions by engaging in methods borrowed from Social Psychology (DiMaggio, 1997).

In Social Psychology, as a field, the interest is in studying thought, emotion, and behaviour in the context of the human subject as a member of society, as well as the power inherent to them as agents acting upon society (Jhangiani, 2019). Thus, researchers could employ methods ranging from laboratory experiments, field experiments, survey research, subtle/non-conscious research techniques, active research, discourse analysis, and archival research to seek a relationship between the evidence sourced in Environmental microstudies and hypothesised beliefs of Brain-Behaviour (Jhangiani, 2019; Pereira & Álvaro, 2013). There is, consequently, a wide range of options for the cultural researcher regarding Brain-Behaviour; thus, keeping this relationship in mind, so to speak, the researcher, we contend, should pick a method that is impactful, relevant, and insightful for conclusions about Culture as the focal nexus of study. Inversely, the influence of Brain-Behaviour on constructing cultural Genealogy is a similarly significant relationship. We can trace how archaic concepts about race, dating back to the Slave Trade, might have been passed down, as an ancestrally institutionalised feature, so Genealogy, to the law enforcers of today, via the laws and lawmakers of this shared Environment, perhaps even perpetuated due to a relationship between shared militarised professions often within single-family units (e.g., father/son as a police officer). Indeed, to study Genealogy, one must already be thinking about the psychological states, actions, feelings, behaviours, and events that precede our surface impressions of a cultural situation—racism is no exception to this, as it still occurs today (Waters, 2014).

Conclusion

The logical progression, for a researcher, would be to draw connections between Brain-Behaviour, Environment and Genealogy as the salient artefacts of Culture. For example, the researcher may investigate how behaviours solidify into traditions, as norms that then characterise a culture. Indeed, the Genealogy component is an enabler of knowledge accumulation from experiences arising from the Environment and Brain-Behaviour factors and vice versa. The researcher seeks to know Culture, but this concept is defined by the components described. Without recognising the relationship highlighted by our proposed model (see Figure 2), researchers would lack a relational perspective identifying the features of a heterogeneous socio-technical network of networks. This lacks semiotic meaning about how phenomena came about. Consequently, this would limit us to a paradigm of simplistic dimensions and dispositions translated as numbers. *Diversity Pathways* is a dynamic model, one philosophically invigorating. Yet, like all new ideas, it needs further development; *Diversity Pathways* is concerned with all-encompassing context, rather than Culture, because the associated cultural agency is viewed as one component of context. This limits *Diversity Pathways* as a tool. So, the task of this paper was to propose a new model that reorients Nguyen's *Diversity Pathways*. Thus, we re-situated Culture at the centre of context, interacting with three revised and reformed factors of Environment, Genealogy, and Brain-Behaviour in an orbiting inter-directional relationship of influence; a network of actors. Our view recognises the dynamicity of culture as an actor linked to other socio-technical factors in the spirit of Derrida's understanding of différance. We exemplified co-constructed microstudies as an approach where each factor is a component towards knowing, more fully, the cultural object of study.

So, we contended, throughout this paper, that cultural phenomena incorporate Environment, Genealogy, and Brain-Behaviour. Furthermore, we recognised that cultural phenomena are complex, more so as the cultural acts found within them become more uncommon. Therefore, for those in field work as lone researchers of Cultural Studies, the benefits of collaboration become more apparent. Put another way, for those engaged in study within developing nations, often resource-limited, finding new ways, languages, and modes of 'common' discourse can be crucial to producing impactful research. To this end, the model we proposed (Figure 2) is useful. In this paper, then, we set out to shape the basis of a pragmatic methodology, and philosophy, for Nguyen's (2017a) critically enlightening ideas. Along with Nguyen's work, this is needed to challenge the static quantitative paradigm still dominant within Cultural Studies: "organisational culture" as a statistic. However, as we move forward in developing our rationale, we highlight a limitation; we need further exemplification of the methodological position adopted. Likewise, the need to now consider the inevitable increases in ethical complexity that arise from the interdisciplinary approach, incorporating mixed-methods drawn from different disciplines and between diverse, highly specialised researchers. To this end, the limitations of any newly proposed method of conducting research are present within our suggestions, which we are aware of. To this end, our proposed reconfiguration of *Diversity Pathways* requires greater application.

As of yet, for example, it is difficult to identify how a sample could be constructed for our method, due to the interlinked microstudy approach necessitating multiple groups, each with distinct ethical dynamics. To this end, the practicality of a method is as important to a researcher as issues of data triangulation. Whether our approach can be practically utilised requires study testing. We might likewise be influenced by our own cultural biases, as researchers seeking to bridge disciplinary silos—a problem. However, these limitations can be strengths—challenges to overcome in the field of research methods. Our ideas, we acknowledge, are based on *Diversity Pathways*, an established concept that is gaining repute. Thus, our approach could increase acceptance of dynamic cultural models. This includes, for example, nationality, where a nation can all too easily be treated as one context, yet includes a multitude of smaller contexts missed by such a grouping. The nation, then, is not just a boundary for culture, as per Hofstede. It is a network of socio-technical tribes and institutions, drawn from Environment, Genealogy, and Brain-Behaviour defining a nation's Culture. Thus, Nguyen's (2017b) view that intercultural competence entails the acquisition of a "multicultural mind" is important. Cognitive Sociology must bridge intellectual fields, including the biological, to understand what we term too simply as culture.

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No Place for "Nature" in the Sustainable Development Concept: The "Lack" of Incorporating Nature–The Case of Thailand

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Abstract

The objective of this article was to analyze the concept of nature, which is perceived as lacking in sustainable development in Thailand. The discussion of nature is based on the concepts of Naturalism, which considers nature through an ecocentric view, and Materialism, which considers nature as a usable resource. By looking at the example of the Eastern Economic Corridor in Thailand as a sustainable development project and its further deconstruction, this paper recommends that sustainability should be evaluated at two levels. The shallow level is based on the Materialist concept of nature and anthropocentrism. Deep-level sustainability, on the other hand, is based on environmentalism and ecocentrism. Even though deep sustainability is critiqued as being too ideal to deploy at the policy level, the concept is still useful. It could be an alternative discourse that creates space for suppressed sentiments in society.

Keywords: *Sustainable development, sustainability, nature, development discourse*

Introduction

The concept of nature is discussed in this academic article. In Thailand, the notion of sustainable development (SD) is seemingly lacking, particularly since the concept of nature is minimized to consist of "environment" and "resource" that humans can manage and exploit. The article also discusses how the concept of SD has come short in understanding the environment as a resource rather than as being integral to nature.

In recent times, SD has expanded its focus to include economic outcomes, together with social and environmental development. This is a shift from a sole emphasis on economic growth. While this may be a general trend, SD and the notion of sustainability remain complex concepts, which may be interpreted differently, leading to possible misunderstandings and misuse in various contexts. The differentiation of interpretation can be traced through the history of SD. Beginning with Brundtland's (1987) paper, called *Our Common Future*, the idea of SD was to combine contradictory dimensions, in particular, economic growth and environmental protection co-existing without any changes affecting the economic and market system (Charoensin-o-larn, 2011). In the Brundtland report, SD is defined as,

> development that meets the needs of the present without compromising the ability of future generations to meet their own needs. SD contains two key concepts which are 1) the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and 2) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs (1987, Chapter 2, Section IV).

Following this report, the paradigm of SD and sustainability was further expanded to consider the three dimensions (pillars) of development known as *The Triple Bottom Lines*, which were economy, environment, and (social) equity as the main objectives to address the needs of both the present and future generations. These may differ from previous development objectives as their emphasis was mainly on economic growth. After the Brundtland report was adopted as the main principal of the Rio Declaration on Environment and Development of the United Nations Conference on Environment and Development (United Nations, 1992), it became the "driving force" of global attempts to identify solutions for development that encapsulated all three dimensions. This finally resulted in the proposal of Sustainable Development Goals (SDGs), which have served as the blueprint for the new global future adopted by all United Nations member states since 2015. However, like previous forms of development, SD is still dominated by the development discourse of desirable economic, human, and environmental conditions of the West. Technical-based indicators, expectations, scholarship, and funding operate, under the "one size fits all" model, created a common understanding of SD among western societies (Boonchai & Beeton, 2015). Even if SD is readily adopted by policymakers and international aid agencies, the representation is still far removed from its conceptualization (Boonchai & Beeton, 2015). This is observed in the context of Thailand, where developments that claim to be sustainable are, in fact, running their operations from an economic perspective. This unfortunately renders social and environmental issues as minor considerations.

The contradiction may be better understood through the review of Aminpour et al. (2019), who suggested that sustainability in the context of indigenous people emphasized the connection between "human" and "nature" as significant. Specifically, their work argued that the division between indigenous people's perspectives of sustainability and prioritized traditional disciplinary lines of academia is an important obstacle to overcome, in order to start building sustainability. This is an ontological problem since different people construct different sets of reality, but the bigger problem is some sets of knowledge dominate the construction of reality through the stratification of power. In the case of SD, nature is a concept that ought to be an integral component. In the following sections, this academic paper will present the general concepts of nature and its relationship with sustainable development. This relationship is then viewed in the context of Thailand, after which some recommendations are provided.

Concepts of Nature

There are many definitions for the concept of nature that vary according to the context. For example, nature may be understood as the spiritual mother (animism); nature as the path to absoluteness (Taoism and *Dhamma* in Buddhism); and nature as the phenomenon (science). Each of these interpretations shape the way humans react to nature. In Thailand, nature have been understood differently through time. Sattayanurak (2002) proposed three different perceptions of nature according to the history of Thai society. In the first period of traditional society, the people of Siam perceived nature according to Thai cosmology, *Traibhumigatha,* which is a spiritual and supernatural perception. However, in the second period after the modernization of the country in the reign of king Rama IV, modern science became influential and it was the beginning of the perception of nature as a physical phenomenon. In the third period, encompassing the age of development in the 1950s, nature became an economic resource that was of value to the country's development.

Beyond the contextualized understanding of nature, there are pervasive views regarding its interpretation. The first is the Fundamental/Essentialist view that proposes the question "what is [the] nature of nature?" This view attempts to look at nature in an objective manner, that is, nature has an absolute reality of itself or contains uniqueness/authenticity as its essence. In other words, nature is not artificial. Mill (1874, p. 8, as cited in Connelly et al., 2003, p. 14) provided a clear representation of this view:

> …we must recognize at least two principal meanings in the word nature… it means all the powers existing in either the outer or the inner world and everything which takes place by means of those powers… not everything which happens, but only what takes place without the agency, or without the voluntary and intentional agency, of man.

The concept of nature in a fundamentalist/essentialist approach sees nature as a thing-in-itself that is powerful and uncontrollable. This approach represents nature as absolute being, the creation of god, the great chain of being, uncertainty, a flow, etc. (Connelly et al., 2003, p. 15). This kind of concept also appeared in oriental environmental philosophy such as in Taoism and Buddhism, as well as in indigenous societies such as the Inu in Japan and the Native Americans (Kinsley, 1995). Another approach is called Social Constructivism, which argues that nature never exists in itself. Instead, it is what we constitute as "nature"—the social creation of nature. Social constructivism believes that there is no innocent nature without human production; no uniqueness; no authenticity as fundamentalist/essentialist philosophy attempts to propose (Rolston, 1997). Aside from the divergent views of nature, there are also at least two significant problems in the definition of nature, which can be seen in the terms “nature” and “environment.” These two terms are used differently according to the discourse that regulates their understanding. A useful approach to take in discussing the terms of nature is to view them through metaphysical perspectives, which are “Naturalism” and “Materialism.” the former considers nature as “nature,” and latter considers nature as “environment.”

Naturalism emphasizes the importance of nature containing intrinsic value. The concept of Naturalism is that of ecocentrism, believing in the linkage between beings and non-beings in the world (Capra 1996). The idea of naturalism accepts the status of nature as being at the same level as humans and promotes the co-existence between humans and nature. As such, nature in Naturalism is the biosphere in which humans co-exist with other beings and non-beings. Humans neither have any legitimacy to take advantage nor to utilize nature to fulfil their wants. Indigenous concepts of sustainability and deep ecology are good examples of Naturalism that are effective in practice as a trend of social movement. Materialism runs contrary to Naturalism. While Naturalism sees nature as a chain of bio-systems each having its intrinsic value, Materialism looks at it as a source of resources that could be utilized for human consumption. Materialism emphasizes the importance of science and technology as tools to control and manage nature. In the Materialist view, nature exists to serve humans since humans hold a higher value over nature as conquerors or at least stewards. Materialism is anthropocentrism, which separates human from nature.

Hence, the identification of nature according to Naturalism leads to specific discursive practices, some of which emphasize living together with nature such as that demonstrated by green movements or environmental campaigns, even radical ones, where land is purchased in order to preserve areas in their existing state and to halt activities harmful to nature. On the other hand, the materialist discourse permits human intervention, including the utilization of natural resources in the most efficient way to bolster the growth of humanity’s well-being.

Nature and Sustainable Development

When considering the concept of SD, one important issue is its objective as a form of development, specifically the satisfaction of *human* needs and the improved quality of *human* lives (Brundtland, 1987). It seems that the center of concern in SD is human, as described in principle 1 of the Rio Declaration, which states “Human beings are at the *centre* of concerns for sustainable development.” This may be due to the importance of economic growth to achieve “our common future.” Furthermore, “meeting essential needs depends in part on achieving *full growth* potential, and SD clearly requires *economic growth* in places where such needs are not being met” (Brundtland et al., 1987). What is then seen in SD is the development objective in economy to meet the needs of humans. In other words, it takes on an anthropocentric perspective that separates nature/environment from human. In terms of the concept of nature in SDGs, Goal 14 (life below water) and Goal 15 (life on land) may be relevant to the discussion in this paper, and that in the context of Thailand. Goal 14 states “conserve and sustainably *use* the oceans, seas and marine *resources*,” while Goal 15 states “Protect, restore and promote sustainable *use* of terrestrial ecosystems, sustainably *manage* forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.” These two goals view nature as a resource that humans could *use* and *manag*e, which are explained in the target indicators of these goals. For example, Goal 14’s targets call for the proper use of marine resources so that by 2020 there is an effective regulation of harvesting and ending overfishing, illegal, unreported, and unregulated fishing and destructive fishing practices and implementing science-based management plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics. Though there are attempts, seen in SDGs, to address concerns of development affecting the social and environmental dimensions of nature, there remains the problem of power relations between knowledge of nature as environment with development practices that overlook the value of nature.

The Lack of Sustainability: A Case in Thailand

It may appear that there is no place for nature as “nature” in SD, but only nature as “environment,” used as materialistic resources for (economic) growth. What seemed to have happened is that the preservation of nature may be considered a form of deep ecology, which would deny the development and materialism needed for economic growth (Redclift & Woodgate, 2013). Thus, nature as environment in the context of SD is reductively valued as a resource for human activity. Protecting nature as environment is not to protect something with intrinsic value, but to protect as a resource with value for human activities and to make sure that natural resources are available to everyone including future generations as a natural capital. Escobar (1996) proposed the idea of capitalized nature suggesting that nature be merged into a part of capital. Therefore, the status of nature has been changed from “nature” as mystical and uncontrollable to “environment,” which is manageable and controllable for the sake of human manipulation, patrol, and monitoring. Moreover, environmental problems are reduced to managerial and technical problems that remove concerns of nature as a “subject” and remain only a passive worry. For Escobar, the acceptance of SD is hazardous since it does nothing about questioning development and is unable to cope with environmental preservation and restoration.

This may be seen in Thailand, where the first seven national socio-economic development plans paid attention to the use of natural resources to bolster economic growth, with the concept of nature being treated as resource written clearly in the plan itself (Sattayanurak, 2002, pp. 15–33). As a result of this, there has been a loss of environmental resources in the last 40 years of development in Thailand, which can still be observed in many projects today. Geisinger (1999) and Charoensin-o-larn (2011) shared the same view on how SD remains similar to previous mainstream developments, due to existing problems, namely, the environment and the imbalance of power and process leading to environmental destruction as a result of industrialization, consumerism, and capitalism. A case study in Thailand worth considering is the Eastern Economic Corridor (EEC), which is a governmental project “aiming to encourage investment, uplift innovation and advanced technology in Thailand for the future generation” with the target of “the completion of ready-to-implement regional development model helps to drive economic development and Thai society to a level of a developed country in accordance with the Thailand 4.0 policy” (EEC Office, 2019). The project focuses on three eastern provinces of Thailand—Chonburi, Rayong, and Chacheongsao, known as the Eastern Seaboard, to be developed in both physical and social perspectives in order to enhance the economic competitiveness of the country. On one hand, the Eastern Economic Corridor is considered an important development project to bolster sustainability in the country. This is according to one of its aims, namely, to “formulate EEC into a best-in-class area-based development that contemplates economic, social, and environmental advancement, supported by clear regulatory and governance structure, and serves as an example for Thailand's future area-based development” (EEC Office, 2019). On the other hand, the project is widely criticized, especially on social and environmental issues, which have been intentionally overlooked.

From an environmental lens, the EEC development seems to be in contrast with contemporary environmental knowledge at both the global and local levels. This may be observed from the Maptaphut industrial estate in Rayong, which had failed as a sustainable development and caused pollution in the local community. Despite this, industrial estates are still being constructed in the Eastern Corridor, with governmental policies being rescinded or changed to support this development. For instances, changes made in the Town Planning Act and Promotion and Conservation of National Environmental Quality Act B.E. 2535 could change the area usage from a green zone (agricultural) to a red zone (industrial). Moreover, the industrial park is also located very near to important natural spaces, such as the Khao Yang Dong area, which is situated in between Amphoe Plangyao and Amphoe Panomsarakham. This area is a conserved forest area, which is also the source of Bangpakong’s headwater, an important national wetland area being nominated to be a RAMSAR site due to its biodiversity and importance to local lives in Amphoe Panomsarakham, Chachoengsao province. In terms of environmental assessment, EEC still uses Environmental Impact Assessment and

Environmental Health Impact Assessment, the paradigms of which are project-based. This has been criticized as the assessment is only effective for evaluating the impact of individual projects, yet is unable to see the sum-total of impacts from many projects. Perhaps a more apt assessment tool is Strategic Environmental Assessment (SEA) that is area-based. Nonetheless, the Office of the National Economics and Social Development Council purported that SEA is not systematically pushed and its process is still unclear to provide any definite results (Kree-Aksorn, 2019). From these observations, it seems that assessment of the EEC has only been carried out for the sake of appearing to be aligned with sustainable development.

The oversight of nature in the EEC is as a manageable and controllable resource for the benefit of humans. While there are efforts to promote this project as environmentally friendly, it is nothing more than to create a discourse of difference from mainstream developments. Many development projects in Thailand, especially those conceived in recent times, have ignored the quality and safety of nature, seen through such developments as the concessions and opening of mines in many provinces; the continuation of dam building projects, especially, the Mae Wong Dam in Nakhon Sawan, which was once deemed unsustainable by the EIA; and the Chao Phraya delta plan 2040, for which many academics and researchers are concerned. These examples present Thailand's sustainable development as adhering to the model of mainstream development, and nature as "nature" is rarely considered in the country's development regime. The effects of SD on nature as environment are quite critical, since maintaining this perspective does not provide any complete sustainability as it is supposed to do. The adherence of SD to a development discourse is highly questionable, especially with its inability to create any solutions to solve environmental problems. The wide acceptance of SD should be re-considered and re-conceptualized, since the concept itself is very interpretative. A direction worth considering may be that recommended by Achavanuntakul (2019), who stated that real SD would not be confined to goals or targets; instead, it aims to improve existing development and ensures that future development will not pose any harm to nature and humans.

From Shallow to Deep Sustainability: Recommending a Typology for Sustainability

Neumayer (2003, as cited in Whitehead, 2014) claimed that sustainability is actually categorized into two forms: Weak sustainability and strong sustainability. Weak sustainability is based on the concept that human technology could be used to replace the depletion of natural resources while strong sustainability is based on the concept that natural capital could not be substituted for human capital. In the case of SD, the concept could be interpreted as both types of sustainability. However, both categorical forms still lack the dimension of nature as part of its core conception, as there is only the existence of environment. Hence, I would like to offer an expansion to the typology of sustainability. This expansion involves *shallow sustainability* and *deep sustainability*.

Shallow Sustainability is anthropocentric. It is based on the concept of nature as environment which humans could manage, use, and benefit from in a way that does not permanently deplete or destroy the environment. Shallow ecology focuses on the sustainable use of natural resources for humans. *Deep Sustainability*, on the other hand, is a concept derived from deep ecology. It is ecocentric and emphasizes the status of nature as "nature" holding its own intrinsic value and re-considers the position of humanity as a part of an organic whole. In this perspective, humanity has no legitimacy to do anything they want to do to nature, but must consider nature as a whole. Deep ecology sees the sustainability of everything in the biosphere. Its objective is to find a solution for the co-existence of lives in the biosphere. This typology can be seen in light of Ives et al.'s (2018) concept of reconnection with nature, where the treatment of nature can be differentiated into five levels, as follows.

1. Material level. The connection is about consuming goods and materials from nature and could be analyzed at both the individual and social levels. This level often is connected to each characteristic of the social system.

2. Experiential level. This level of connection is the direct interaction with the natural environment, such as going to the forest and the sea. The scale is measured normally in the individual, but could expand to the societal level.
3. Cognitive level. The connection is in terms of knowledge, awareness, attitude, and value toward nature. The analytical scale is at the individual level.
4. Emotional. This level of connection is about feelings of attachment, empathy, and the aesthetical valuation of nature. The analytical scale is at the individual level.
5. Philosophical level. The level of connection is in the context of perspective or world view considering both the metaphysical (the reality of nature) and the axiological context (the matter of nature/ the ethics between humans and nature).

These five levels of connection with nature lead to different levels of interaction and intervention with nature at both the theoretical and practical levels. This concept could be applied to classify the typology of sustainability based on the levels of connection with nature. The levels of nature connection in the context of sustainability could be described by the outer connection in levels one and two, leading to the interaction with nature, based on a shallow sustainability perspective, since the connection in these levels is the use and management of nature as a resource. In contrast, the higher levels three to five can be expanded to the level of connection from the outer to the inner, and connections between humans and nature, which results in no stratification as the perception of nature goes beyond the level of it as a resource. Furthermore, Abson et al. (2017, as cited in Ives et al., 2017) mentioned that changes at the shallow level are relatively ineffective in influencing the system/society, while minor changes at the deep level can alter the behavior of a system/society. A shallow level of connection relates to (a) system/society parameters and (b) feedback between variables. A deep level relates to (a) the system/society design or architecture and (b) the goals/intents pursued through the system/society (e.g., the proportion of protected land is less effective than changing of its design such as the rights of biodiversity to persist). In summary, to make changes, the system/society needs more than just shallow levels of intervention. Hence, shallow sustainability is not sufficient to build sustainability.

In practice, if we consider our connection to nature as a means to strengthen sustainability, there are many practices that affect different levels of connection, which require a re-evaluation. Beginning at the material and experiential levels, there are interactions such as the consumption of local products to reduce the consumption of resources. For instance, roof-top gardening for urban dwellers enables experiences of nature, as well as enhancing knowledge of natural processes and ecosystem functions in both consumption and experiential ways. This also contributes to an emotional attachment to a particular place. These interactions with nature are at the shallow level, but they play an important supporting role to create sustainability (see Boossabong, 2019). At the deeper level of nature—where there needs to be a connection from the cognitive to philosophical levels—the creation of value and a belief system about nature needs to be transcended to influence the desirable goals/meanings of an individual's life. For example, the arts could be used as an interactional medium between humans and nature, and also faith in religion could motivate conservative actions, such as tree ordaining in Thailand. Nature-based education, such as forest kindergartens (Waldkindergarten), which are popular in Germany, Sweden, and Denmark, is also a viable practice to help children develop a deeper empathy for nature (Kane & Kane, 2011). This may be implemented easily as there are many schools in Thailand attempting to add environmental studies as an important part in the syllabus for children (Piampongsan, 2005; Thathong, 2010). Globally, the numerous environmental campaigns also play an important part to build a deeper sustainability discourse. Locally, we have also witnessed campaigns, such as the proposition to reimagine Thailand's capital, Bangkok, as a space where bicycles could be symbolized as a conduit between urban dwellers and nature (Sengers, 2017).

A caveat affecting deep sustainability is its ideal goal, which might be too abstract to be deployed at the policy level. Nonetheless, the concept of post-development, such as de-growth, could be the strategy for adopting the concept of deep sustainability in practice. This is because de-growth itself directly criticizes and denies the objective of development as economic growth, and redefines the identity of humanity's well-being (e.g., Asara et al., 2015). Together with the pillar of equity, people at all levels need to have a fundamental capacity for their lives, such as that proposed by Amartya Sen in *Development of Freedom* (2000). According to Sen (2000), the emergence of a post-humanism discourse can be an epistemological weapon to challenge the existing dominant discourse, especially since humanity has experienced damaging effects from natural degradation and destruction from development schemes of the past. Though such social movements are not particularly powerful in the global context at present, global trends that question "development" are continuously emerging. At the very least, the concept of deep sustainability could be an alternative discourse proposing another angle of sustainability with "nature" as "nature".

Conclusion

Arias-Maldonado (2016), writing of the relationship between anthroposcene (the age of humans) and nature, stated that he did not agree with the dualistic perspective of nature that separates humans from nature. He argued that hybridization and natural combination are the result of human adaptation to the natural world, since humans are an integral part that interweaves with nature and cannot be considered as separate. Anthroposcene might bring nature to an end, but in contrast it is also the "resurrection" of nature. Arias-Maldonaldo believes in the ability of humans to adapt to natural circumstances and also that science and technology cannot be left behind since they are important for the survival of mankind.

The ideas of Arias-Maldonaldo seem to represent both sides of the concept of nature. On one hand, humans need to adapt themselves to nature since they are a part of it, but on the other hand, human technology is also important for mankind. There is a classical conflict between the naturalist and materialist views. Sustainably development is an attempt to offer a compromise between these two; however, SD has leaned too much to one side. This is especially prevalent in discourses regarding SD, which play a critical role in shaping our political and economic world. Since the discourse of SD is socially constructed, it could be deconstructed. And, if deconstruction could bring justice to the suppressed components in our world, then it is our responsibility to shoulder this deconstruction and strive to redefine it—such as the concept of nature within the model of SD.

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The Impact of Relationship Marketing on Millennial Customer Loyalty in the Bangkok Hotel Industry

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Abstract

The purpose of this study was to investigate and explore the effects of relationship marketing and demographic characteristics on millennial customer loyalty in the hotel industry in Bangkok. Questionnaires were used to collect data from 440 millennial travelers who stayed in Bangkok hotels during 2019. Analysis showed that most elements of relationship marketing—trust, commitment, communication, service quality, products, pricing, technology, and the social network—had a significant effect on millennial customer loyalty. However, customer courtesy did not have a significant effect on customer loyalty. There was no significant effect of gender or marital status on loyalty; however, education level, income, and occupation had significant effects on it. It is thus recommended that hotel management should recognize the importance of millennial customers and put their efforts into understanding the unique characteristics and preferences of this generation. They might implement relationship marketing to create good relationships with these clients and cultivate customer loyalty. Future research efforts might expand the scope of the sample to represent more millennial customers in Thailand. To reach different generations, such as Generations X and Z, other independent variables than those used in this study–such as social networks, online marketing, and mobile marketing–might be successfully employed.

Keywords: *Relationship marketing, millennial, customer loyalty, hotel industry*

Introduction

The tourism industry has been recognized as an outstanding source of revenue by many countries. According to the United Nations Tourism Organization (2020), in 2019 the tourism industry had grown by 4% from the previous year to 1.5 billion international tourist arrivals. Due to the growth of global tourism, Thailand welcomed some 39.8 million tourists in 2019 (Ministry of Tourism & Sports, 2019). This has made the country the fourth in terms of global tourism revenue (BLT Bangkok, 2020).

However, in 2020 the world's tourism growth has been halted due to the outbreak of the Coronavirus pandemic (COVID-19), which has threatened the health and lives of people and the global economy. Many businesses have been affected directly or indirectly, and especially the tourism industry. After the coming of the Coronavirus, most countries decided to go into lockdown to stop transmission of the disease. International airports in many countries were closed and outbound traveling was restricted to special cases under stringent rules and regulations, including state quarantine (Bangkokinsight, 2020). The cessation of international travelling had a huge impact on the global and Thai tourism industries. It is estimated that, if the outbreak continues until the end of 2020, Thailand will lose about 30 million international tourists compared to those in the previous year (Bangkokbiznews, 2020).

However, due to the government's efficient epidemic control and management, the number of infections within Thailand dropped to zero starting from the end of May 2020 for 100 days. This has allowed the government to gradually deregulate the stringent regulations. Due to its effectiveness in responding to the COVID-19 transmission, Thailand was ranked sixth in terms of the global health security index, and number one in Asia. This ranking was conducted by Johns Hopkins University and the Nuclear Threat Initiative report in 2019. The country was also ranked first by the Global COVID-19 Index in terms of its responsiveness and recovery progress. This has recommended Thailand as a standard-bearer for COVID-19 safety measures and revival efforts (Panorama Destination, 2020).

Hotel businesses are expected to recover after Thailand controls the transmission of COVID-19. Due to the need to revive, hotel managers have developed marketing strategies that respond to customer needs and create customer satisfaction and loyalty (Gajjar, 2013). According to Thomas and Tobe (2013) loyalty is more profitable since the expenses to gain a new customer are much more than retaining an existing one. Moreover, loyal customers will encourage others to buy their preferred products. Engendering customer loyalty demands a well-developed marketing strategy using a customer-centric approach (Rosenberg & Czepiel, 1984). Relationship marketing is one of the marketing tools that underpins the customer-centric approach and is widely used to attract, maintain, and enhance customer relationships. According to Hennig-Thurau and Hansen (2000), relationship marketing is a paradigm shift in marketing philosophy emphasizing the importance of long-term relationships and retaining existing customers over acquiring new customers. Gummesson (2008), on the other hand, held that attracting and enhancing customer relationships is an intermediary step in relationship building, leading ultimately to increased customer loyalty. However, a complicating factor is that customer loyalty is influenced by demographic characteristics such as gender, age, income, and education (Afzal & Pakistan, 2013; Busakornruangrat, 2015).

Generations have been classified according to their year of birth and the significant events they have shared (Bialik & Fry, 2019). Their varied experiences could impact loyalty. By 2020, according to Catalyst Organization (2019), 41.0% of the global population will be 24 years old or younger (Gen Y and Gen Z). Moreover by 2025, millennials (reaching young adulthood by the beginning of the millennium) will comprise three-quarters of the global workforce. Since millennials will outnumber other generations shortly, cultivating their loyalty will help hotels retain potential customers. Moreover, apart from regular revisits to a hotel, these loyal guests will willingly spread positive information about it.

Although many studies have been conducted regarding relationship marketing, studies emphasizing millennial hotel customer loyalty are rare in Thailand. This study aimed to determine the impact of relationship marketing and demographic characteristics on the loyalty of millennials. The finding can be used by hotel businesses to develop strategies to create customer loyalty.

Literature Review

Relationship Management

The relationship marketing concept emerged within the fields of service marketing and industrial marketing (Bamfo et al., 2018). The aim of relationship marketing is to establish, maintain, and enhance profitable relationships with customers and other partners, so that the objectives of both parties involved are met. Relationship marketing is about healthy relationships, which are characterized by concern, trust, commitment, service quality, and customer courtesy (Arokiasamy, 2013). The key virtues that underpin relationship marketing are trust (Morgan & Hunt, 1994), commitment (Grossman, 1998), and communication (Morgan & Hunt, 1994). lbidunni (2012) proposed that relationship marketing has to be implemented through marketing elements, such as product/service, pricing, and distribution channels. By contrast, Ndubisi (2016) urged that modern technology and media, especially the social network can play important roles in relationship marketing. The elements involved in relationship marketing include trust, commitment, communication, service quality, products, pricing, customer courtesy, technology, and the social network.

Trust is a key element for relationship success. It has an important role in developing successful relationships (Morgan & Hunt, 1994; Buttle, 1996). There is an emerging consensus that trust has two essential elements; trust in partner honesty and in benevolence (Baumann et al., 2012).

Commitment is an enduring desire to maintain a relationship (Morgan & Hunt, 1994). It is based on the perceived structural constraints that bind the firm to its partner and not a cognitive consideration of possible future opportunities provided by the latter (Edward & Sahadev, 2011).

Communication in relationship marketing means keeping in touch with valued customers, providing them with timely and trustworthy information on services, and communicating proactively with them if a delivery problem occurs. Communication also includes reaching satisfied and dissatisfied customers. When there is effective communication between an organization and its customers, a better relationship will result and their loyalty is more assured (Fraering & Minor, 2013)

Service quality is important for service industries, especially the hotel industry where services usually are delivered through personal exchanges between customer and service employees (Lovelock & Wirtz, 2015).

Product refers to the overall physical elements of the hotel. The first impression of the hotel is very important. Hotels must pay attention to the physical elements of their products, which includes both the exterior and interior appearance of the building (Ottenbacher, 2007). Customer concerns primarily revolve around hotel facilities and guest room amenities. Cleanliness is also a very important factor. Tangible features play an important role connected with customer satisfaction and have a direct impact on perceived value (Arokiasamy, 2013).

Price is the only element that generates revenue. Kandampully and Suhartanto's (2000) study of customer loyalty in the hotel industry showed that price plays an important role in determining whether customers will continue to repurchase and recommend the hotel to others.

Courtesy involves politeness, consideration, respect, and friendliness of the contact personnel (Dehghan, 2006). The courtesy of employees and their ability to inspire trust, confidence, and empathy reflects on the caring that a firm provides to its customers (Parasuraman et al., 1985).

Technology, especially the information technology, plays an important role in collecting, processing and using customer information in order to attract, retain, and win back customers (Ahlert, 2000).

Social networks such as Facebook, Youtube, Twitter, and Instagram have become crucial elements in building relationships with industry intermediaries and representatives of business organizations. Mass media has played a critical role in initiating and diffusing opinions. Social networking sites and blogs are most influential in regards to political and cultural issues (Liu et al., 2017).

Customer Loyalty

Customer loyalty means that "the consumer will return/repurchase over time even when other alternatives are available and other firms competitively respond" (Morgan et al., 2000). Customer loyalty has two dimensions: behavioral loyalty and attitudinal loyalty (Al-Msallam & Alhaddad, 2016). Customer loyalty in the behavioral dimension refers to a customer's likelihood to make a repeat purchase, which indicates a preference for a brand or a service over time. The attitudinal dimension relates to the customer's intention to repurchase and recommend the products and services of a particular company to others (Osman et al., 2016).

Millennials

Generation Y or the so-called "Millennials" is the cohort of people who were born between 1981 and 2000. Growing up with high technology and smart phones, this generation were able to access the Internet at an early age and also are familiar with social networking (Bolton et al., 2013). Therefore, the most notable characteristic of millennials is that they are typically more technologically proficient than previous generations (Cekada, 2012). Additionally, millennials show their preference for working in groups and the ability to multitask (Deloitte, 2009). They are in high demand and have high expectations (Thompson, 2011). In order to create customer loyalty among millennial customers, hotel businesses should learn about their unique characteristics and preferences so that they can develop appropriate strategies to gain their loyalty.

Customer Loyalty of Millennials

For the hotel industry, it is crucial to develop customer loyalty. In order to do so, hotels need to understand the target customers and the specific factors that lead to the development of loyalty (Gilbert et al., 1999). Millennials' affinity for technology is reshaping the way to look at a brand, with product information, reviews, and price comparisons. For millennials, strong brand recognition is not enough as this generation is less loyal. They usually turn to brands that offer maximum convenience and benefit at the lowest cost (Goldman Sachs Global Investment Research, 2014). Millennials are savvy consumers. They can discover the best deals and readily recognize dishonest marketing, which makes this generation less loyal to brand, product, and services. Clever advertising does not capture or have an impact on millennials as it did with previous generations (The Pixlee, 2020). Product and its price have significance, but for millennials the way they are being treated as valued customers is more important in gaining their loyalty. In order to generate customer loyalty, organizations need to provide value with the experience of their products and services (Power2Motivate, 2017). Millennials wish to engage with brands on social networks; if they can do this, they are more likely to become loyal customers. Millennials are often loyal to brands and organizations from which they currently purchase. Hence, it is crucial for these organizations to build strong relationships and deep connections with millennials to encourage them to continue purchasing. Millennials expect brands and organizations to be present on social networks and to engage and interact on network platforms. Engaging with social networking is vital in order to capture the attention and loyalty of millennials (Schawbel, 2015).

Factors Affecting Customer Loyalty

Many researchers have paid attention to customer loyalty and the factors affecting it (Cekada, 2012). However, this study emphasizes the effects of relationship marketing and demographic characteristics on millennial customers' loyalty.

Relationship Marketing and Customer Loyalty. Lan's (2015) study on customer loyalty in the airline industry showed that relationship marketing played a crucial role. Loyalty programs were recognized as essential factors contributing to customer loyalty. Similarly, Oteng's (2015) study on relationship marketing strategies in the hotel hospitality industry in Ghana revealed that relationship marketing had a positive effect on customer retention. These findings led to the generation of the first research hypothesis as follows:

H_1: Relationship marketing has an effect on the customer loyalty of millennial customers.

Demographic Characteristics and Customer Loyalty. Afzal and Pakistan (2013) conducted a study on customer satisfaction and the demographic factors influencing customer's loyalty in the banking sector in Pakistan. Their data revealed that gender, academic qualifications, and marital status had an impact on customer loyalty.

Along similar lines, Busakornruangrat (2013) conducted a study on factors impacting customer loyalty in Thonburi Hospital, Thailand. The result showed that gender, education level, and occupation affected customer loyalty; marital status, however, had no effect on it.

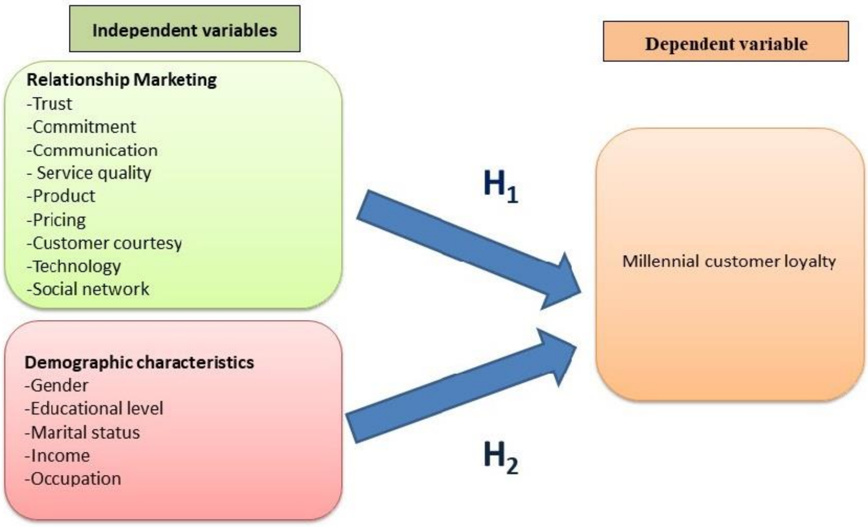
These findings led to the generation of the second research hypothesis as follows:

H_2: There are differences in loyalty levels among millennial customers with different demographic characteristics.

Research Framework

The research framework was developed using the literature review and the research hypotheses as the base line as shown in Figure 1.

Figure 1 *Research Framework*



Methodology

Research Population and Sample Size

The population involved in this research consisted of international tourists aged between 30 and 40 years old who used to stay at hotels in Bangkok in 2019. The number of international tourists who stayed in hotels in Bangkok in December 2019 was 2,473,725 (Ministry of Tourism and Sport, 2020). The sample size target for this study was calculated from Yamane's sample size formula; $n = N/(1 + Ne^2)$, where n = corrected sample size, N = population size and e = margin of error = .05 (Yamane, 1973). Hence, the appropriate sample size was calculated as 400 units.

Sampling Technique

A multi-stage sampling technique was used in this study. First a lot-drawing technique was used to select five districts from the 52 districts in metropolitan Bangkok. A similar technique was used to select a hotel from each district, which made five hotels from five districts of Bangkok. Convenience sampling was used to collect data from those willing to participate.

Research Instrument and Its Development

A four section, self-administered questionnaire was employed as a research tool for data collection. The first section involved demographic questions such as gender, marital status, and educational level. The second section consisted of closed-end questions concerning respondents' hotel staying behavior and traveling characteristics such as the purpose of travelling, reasons for choosing a hotel, length of stay, and hotel preference.

The third section addressed the respondent's attitudes toward the nine elements of hotel relationship marketing—trust, commitment, communication, service quality, product, price, customer courtesy, technology, and social media. The scales used were structured at six levels adapted from those developed by Al-Msallam and Alhaddad (2016). Each rating level was represented as follows: 1 = *not at all important*, 2 = *not important*, 3 = *slightly unimportant*, 4 = *slightly important*, 5 = *important*, and 6 = *extremely important*.

The final section incorporated questions concerning the respondent's loyalty toward hotels in Bangkok. The scales ranged over six levels and were adapted from the scales developed by Ahmed et al. (2019). Each rating level was represented as follows: 1 = *strongly disagree*; 2 = *disagree*; 3 = *somewhat disagree*; 4 = *somewhat agree*; 5 = *agree*; and 6 = *strongly agree*.

Research Instrument Testing

A draft of the questionnaire was reviewed by the thesis advisor for correctness and congruence with the research objectives (scale validity). The questionnaire was tested for reliability by conducting a pilot test on 30 millennial hotel guests. The collected data was analysed to obtain the Cronbach Alpha statistic. The result yielded a value of. 80, which was considered reliable (Ursachi et al., 2015).

Data Collection and Data Analysis

One hundred questionnaires were sent to each target hotel via email (N = 500). A total of 440 questionnaires were returned. Descriptive statistics, such as frequencies and percentages, were compiled to describe respondents' demographic characteristics. Additionally, mean values and standard deviation (*SD*) estimates were used to indicate the levels of independent and dependent variables characterizing this study. Inferential statistics were used to assess the research hypotheses. Multiple regression analysis was used to test the effect of relationship marketing on millennial customer loyalty (H_1), while *t*-test and one-way ANOVA were used to assess the effect of demographic characteristics on millennial customer loyalty (H_2).

Results

The 95% confidence level and 5% sampling error were applied to the 440 questionnaires obtained from the five hotels in five districts in Bangkok. Outlier detection was performed using z-scores, with z-scores lower than -3 or higher than 3 (indicating more than three standard deviations from the mean) considered outliers. This left a final sample size of 419 available for this study. The relevant data pertaining to the research objectives are shown in Table 1.

Table 1 *Descriptive Statistics of Independent and Dependent Variables*

Independent Variables (Relationship marketing)	**Mean**	**Standard Deviation**	**Interpretation**
Trust	4.29	0.74	Slightly important
Commitment	4.29	0.75	Slightly important
Communication	4.26	0.74	Slightly important
Service Quality	4.32	0.74	Slightly important
Products	4.33	0.75	Slightly important
Pricing	4.31	0.73	Slightly important
Customer Courtesy	3.86	1.04	Slightly important
Technology	4.23	0.69	Slightly important
Social Network	4.31	0.71	Slightly important
Dependent Variable			
Customer Loyalty	4.29	0.74	Somewhat agree

The mean values for each element of relationship marketing (Independent variable)—trust, commitment, communication, service quality, products, pricing, customer courtesy, technology, and social network—showed a level of slightly important. The highest mean value among all elements was 4.33 for products. The item with the lowest mean value was 3.86 for customer courtesy. However, the standard deviation value of customer courtesy was 1.04, which was the highest value among the variables. Of all elements, the customer courtesy factor is considered less important when compared with the other factors. This table also presents the mean value of overall customer loyalty (4.29), which is at the somewhat agree level.

Hypothesis Test

The results of hypotheses testing in accordance with the research objectives are shown in Tables 2 and 3.

Data in Table 2 addresses H_1 (Relationship marketing has a positive effect on customer loyalty of millennial customers). All elements except consumer courtesy had significant effects on millennial customers. Among the other factors, communication, service quality, products, technology, and the use of social networks were significant at or less than the 1% level.

Table 2 *Coefficients—Relationship between Relationship Marketing on Customer Loyalty*

Independent Variables	Beta Coefficients	*t*-value	*p*-value
Constant		-2.68	.008
Trust	.08	2.25	.025*
Commitment	.13	-2.91	.004**
Communication	.14	4.22	.000***
Service Quality	.46	12.09	.000***
Products	.42	14.61	.000***
Pricing	-.08	-2.30	.022*
Customer Courtesy	.02	1.87	.062
Technology	.32	9.05	.000***
Social Network	-.21	-5.35	.000***
a. Dependent Variable: Loyalty—R^2 = .98; *F* = 2099.97; Sig. *F* = .000			

Note. *p-value < .05; **p-value < .01, ***p- value extremely significant

The standardized coefficients or beta coefficients (β) are used to investigate the relative strength of each element to the dependent variable. The data showed that service quality (β = .46) had the highest effect on customer loyalty, followed by product (β =.42), and technology (β = .32). The coefficient of determination (R^2 = .98) indicated that the overall elements of relationship marketing could explain up to 97.9% of the variation among millennials customers.

Table 3 presents a summary of the demographic factors involved in testing the H_2 hypothesis (i.e., There is a difference in loyalty of the millennial customers with different demographic characteristics). The data showed that there was no significant difference in customer loyalty of millennials with respect to gender and marital status ($H_{2.1}$ and $H_{2.3}$). However, there were extremely significant differences in customer loyalty of millennials associated with different educational levels, income, and occupation ($H_{2.2}$, $H_{2.4}$, *and* $H_{2.5}$).

Table 3 *Differences in Loyalty of Millennial Customers with Different Demographic Characteristics*

Demographic Factors	Testing	*p*-value	Result
($H_{2.1}$) Gender	*t*-test	.893	Not significant
($H_{2.2}$) Educational Level	One way ANOVA	.000***	Significant
($H_{2.3}$) Marital Status	One way ANOVA	.078	Not significant
($H_{2.4}$) Income	One way ANOVA	.000***	Significant
($H_{2.5}$) Occupation	One way ANOVA	.000***	Significant

Note. ***p-value extremely significant

Discussion

The results of this study provide empirical evidence about relationships between the elements of relationship marketing on millennial customer loyalty, since they reveal that almost all elements of relationship marketing had significant effects on millennial customer loyalty. The relationships included trust, commitment, communication, service quality, products, pricing, technology, and social network. However, there was one factor that had no significant effect on millennial customer loyalty, namely customer courtesy. Though theoretically customer courtesy is a key part of relationship marketing (Gronroos, 2004), one reason why this may not be significant is that customer courtesy may not be noticeable to customers. They may view this factor as a standard service that a hotel should always provide, and therefore it may not influence their decisions. A previous study mentioned that customer courtesy and satisfaction do not automatically lead to loyalty; steps and processes must be taken to cultivate relationships that eventually lead to customer loyalty (Arantola, 2000).

Additionally, the findings indicated two elements that had negative effects on millennial customer loyalty. These were pricing and the use of social networks. Price is one element of the marketing mix that affects the purchase decisions of consumers. A reasonable price can make customers satisfied. On the contrary, a high price with low quality of product/service can lead to customer dissatisfaction and can easily lead to brand switching. Therefore, price can have a negative influence on customer loyalty in some cases. As for social networks, one possibility is that they may have a negative influence on customer loyalty in those customers who place a high value on social networking and social media. They may also be more extensive Internet users. Hence, they are more likely to seek out deals on the Internet rather than choosing to remain loyal to a hotel. The result of this study is somewhat consistent with the work of Abtin and Pouramiri (2016), who studied the impact of relationship marketing on the enhancement of customer loyalty. Their data revealed a significant relationship between loyalty as a dependent variable and relationship marketing (trust, satisfaction, management, communication, and competence) as independent variables. Such results are also consistent with those obtained in the study conducted by Husnain and Akhtar (2015) concerning relationship marketing and customer loyalty in the Pakistani banking sector. The data indicated that relationship marketing (trust, commitment, communication, and conflict handing) had a significant effect and predicted a good proportion of variance in customer loyalty.

From the research results, it is evident that hotel management should recognize the importance of millennial customers. They might make efforts to understand the unique characteristics and preferences of this generation, so that they can use the information to develop a marketing strategy that responds to the needs of millennial customers. Moreover, hotel management should implement relationship marketing to create good relationships with their millennial guests and cultivate customer loyalty among them. For instances, hotels need to ensure that customers get room types according to their needs and on the exact date that they want through online booking systems (preferred by millennials). This will enhance their trust in the hotel's online reservation system. Moreover, hotels could set up a membership program for younger customers to create commitment among them. They might set up a LINE official account to directly and continuously communicate with the Y Generation. To enhance guest experiences, the hotel could implement innovations, for example, an orange squeezing machine that enables the hotel guests to make fresh orange juice by themselves. Additionally, hotel management can use Facebook as a medium to launch reviews completed by celebrities or other guests connected with their experience in the hotel in an effort to create trust and customer loyalty among millennials.

The results of this study have contributed to the notion that relationship marketing can be used to cultivate customer loyalty. Future research is recommended to focus on creating customer satisfaction and customer loyalty among customers of different generations, such as Generations X and Z. They might also employ other independent variables that could affect customer loyalty, such as social networking, celebrity endorsement, and mobile-marketing.

Limitations and Implications

Many elements of relationship marketing have been studied in prior research. The components of relationship marketing investigated in this study probably do not cover all elements that affect millennial customer loyalty. Moreover, this research was conducted in the Bangkok area; therefore, to apply its finding to other areas or the entire of country of Thailand might not be reasonable. Additionally, the target group used for this study was only millennial hotel customers. Hence, the findings might not be applicable to other generations. The limited representativeness of the sample, due to restrictions in the source of data, might make it inappropriate to apply our conclusions to all millennial hotel customers.

Conclusions

The world population has been classified into generations by their year of birth and the significant events they share. Generation Y (the Millennials) were born from the early 1980s to the mid-1990s or to the early 2000s. This cohort of people is expected to comprise three-quarters of the global workforce by 2025. Since Millennials will outnumber other generations in the near future, to cultivate their loyalty will help hotels to retain their potential customers.

In order to create customer loyalty among millennials, hotel management must understand the factors affecting them. This study aimed to examine the effect of relationship marketing and demographic characteristics on consumer loyalty of millennials.

The findings indicated that almost all elements including trust, commitment, communication, service quality, products, pricing, technology, and social network had significant effects on the loyalty of millennial customers. However, customer courtesy did not have a significant effect on customer loyalty. Additionally, there was no significant effect of gender and marital status on millennial customer loyalty. By contrast, there were significant effects of educational level, income, and occupation on customer loyalty.

From the research findings, the authors recommend that hotel management should recognize the importance of millennial customers and make efforts to understand their unique characteristics and preferences. They can use the information obtained from this study to develop marketing strategies that responds to the needs of millennial customers. Moreover, hotel management should implement relationship marketing to create good relationships with millennial clients and cultivate customer loyalty among them. As for future research, this might focus on factors affecting customer loyalty in different generations, such as Generations X and Z. Future researchers may employ different independent variables, such as social network, online marketing, and mobile marketing.

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Factors Influencing Viewing Behavior of Streaming Self-produced Movies Among Shanxi Province Chinese College Students

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Abstract

College students are the core movie consumption group. Based on the theory of planned behavior, movie-viewing preferences and behaviors of 430 college students in Shanxi Province were studied against the background of the rapid rise of original content movies made by streaming media platforms—streaming self-produced movies. Multiple regression analysis was carried out on the factors influencing college students' movie-viewing behavior. A model was constructed applicable to the movie-viewing behavior relevant to streaming self-produced movies in college students in Shanxi Province. The main results showed that three movie-viewing behaviors of college students (paid viewing, first selection, and recommendation to others) were affected by eight factors to different degrees, namely, film traits, social environment, internet word-of-mouth, perceived cost, perceived usefulness, perceived quality, attitudes to enterprise image, attitudes to movie product. This paper is expected to provide an important reference for development trends and investment decisions adopted for streaming self-produced movies.

Keywords: *Viewing behavior, streaming self-produced movies, Chinese students*

Introduction

The global film industry as we know it is in downturn and movie consumption in traditional cinemas is in free-fall (Economic Daily, 2018). According to Tvoao (2019), while the global box office hit a record high in 2018 ($41.1 billion) and increased by 7% year-on-year, the market outside North America ($29.2 billion) declined by 1%. As the world's largest motion picture industry, the box office in North America amounted to just $11.1 billion, down 2% year-on-year in 2017 (Yuqi, 2018). Audiences have hit the lowest ebb since 1995 (1.24 billion) and attendance rates dropped (by 6%) slumping to a decade-long nadir (Tvoao, 2019). The key to this decline has been the rise of movie streaming and, with it, growing moves towards "original content" film production (Yuqi, 2018). In addition, the spread of COVID-19 has had an impact on theatrical movies, forcing fans to rely more on online viewing. In this unusual circumstance, original content movies made by streaming media platforms (including self-produced movies) are gaining prominence.

While the streaming of self-produced movies (SSMs) is still in its infancy, some have made a global impact. "Beasts of No Nation," an American-Ghanaian war drama movie that premiered on Netflix in 2015 is considered the inaugural production of its type. The modus operandi of streaming media giant Netflix is long-term development: from the original DVD rental to television subscriptions to movie production, from a focus on the technical quality to content quality to original content production (Quico, 2019). Through the generation of personalized content, the company has constantly pioneered alternative distribution strategies, releasing entire seasons of original television contemporaneously and high-quality SSMs, giving rise to the addictive viewing phenomena known as binge-watching (Jenner, 2015), which has led the way in streaming original content production. In 2019, epic drama Roma produced by Netflix won three Oscars at the 91st Academy Awards (Blatt, 2019), which made SSMs a big hit again.

Nonetheless, the reception of SSMs may not be positive elsewhere. For instance, online movies on three main Chinese streaming media enterprise BAT (iQIYI, Youku, and Tencent video) have vulgar content, lowbrow style, and bloody violence, leading to the lack of Chinese high-quality SSMs (Chang, 2020). As Kjus (2016) noted, when movie distribution shifts to digital it follows a one-way street; at present, video streaming has been enjoying a period of rapid development in the world, and SSMs in

North America have taken up more than half of the whole film market (Burroughs, 2019). However, China only ranked 18th in global streaming video penetration in 2019, just behind tiny Norway, Finland, and Sweden, and far behind the United States and Canada (Statista, 2019). The reason can be found in terms of original content. China is still at a stage where profit estimates are optimistic and basic content weak. The biggest problem is quantity over quality (Lu, 2019) and products lack appeal, affinity, impact, and credibility of all its media content (Chang, 2020).These features have direct implications on the performance of streaming videos, particularly because preference, choice, and behavior of movie viewers are directly related to the benign situation of the box office performance (McKechnie & Zhou, 2003), the normalization of the film market, and even the life and death of the movie (Garlin & McGuiggan, 2002). Similarly, for SSMs, it is undoubtedly the key to maximize the audience's viewing desire to identify the varying preferences and behaviors of different audiences and make targeted production and marketing (Wang et al., 2018).

Literature Review

Existing literature related to our research topic mainly focuses on the following three aspects: quantitative research on movie-viewing behavior, quantitative research on streaming media consumption behavior, and theoretical research (small numbers) on streaming self-produced movies. Based on our survey of relevant literature, there is no research on the movie-viewing behavior of streaming self-produced movies.

Previous quantitative research on movie-viewing behavior has categorically considered the Chinese college student cohort. For example, Cui and Tang (2012) established a multiple regression model that screened out five factors related to “film traits” that had a significant impact, including film content, film genre, actors, ticket price, and country of origin. Later Huang and Xu's (2019) survey findings showed the most important factors affecting college students’ viewing behavior included the sub-factor of “perceived Behavior control,” “perceived cost,” and the sub-factor of “subjective norm”–“word of mouth” based on the theory of planned behavior (TPB). Li and Wang (2016) collectively found “room for improvement” in viewing satisfaction, and hence demand, especially from ethnic minority students in the Liangshan region. They pointed out that the important influencing factors in “film trait” were film genre and country of origin. Other researchers cast their gaze towards the movie-viewing behavior of one particular genre. Fan (2016), for example, investigated so-called (Marvel) superhero movie audience preferences and concluded that “film traits” had a significant impact on movie-viewing behavior. Xiao (2017) meanwhile studied customer purchase intentions of web fiction intellectual property (IP) film and television products during their period of incubation (initial phase of consumer behavior before expansion and explosion—Cummins et al. 2013) and discovered consumer perception of enterprise image (that is, “attitude to enterprise image”) to be the most important factor influencing movie-viewing behavior. From a purely economic perspective, researchers put forward revised prediction models (Lee & Chang, 2009) or proposed entirely new models (Nelson & Glotfelty, 2012; Ru et al., 2019).

In terms of quantitative research on streaming media consumption behavior, most scholars study users’ payment behavior based on the TPB model. Bigne-Alcaniz et al. (2008) found that online shopping information dependency (i.e.,"Internet word-of-mouth”) and easy-of-use perception (i.e., “perceived usefulness”) have a direct and positive influence on consumer online shopping intention. Based on the TPB model, Dutta (2012) studied the factors influencing the intention to continue to pay for online content and found that “attitude” and “subjective norm” were significant predictors of paying intention whereas “perceived behavioral control” was not. Cheng et al. (2019) added the factor of “comparative advantage” (i.e, “perceived quality”), “perceived risk” (i.e., “perceived cost”) based on the TPB model, and concluded that besides “attitude” and “perceived behavioral control,” there was a significant correlation between them and online video users’ intention to pay.

However, at present, for academic research on Chinese SSMs, the authors found only 16 related articles through Google Scholar and China CNKI. Most of them analyzed streaming company management (Burroughs, 2019), examined the technology and distribution channel in the film industry (Evans & Matthews, 2018, November 1), or studied the film content purely from an artistic perspective. Nonetheless, quantitative analysis of the impact of movie-viewing behavior is insufficient. Based on the data of clicks and comments of Chinese movies on YouTube from 2015 to 2017, Wang et al. (2018) explored factors that influenced Chinese film being streamed on overseas media transmission networks. However, the research was not conducted from the perspective of the audience and hence did not identify the internal thoughts affecting movie-viewing behavior.

Research Hypothesis and Model Building

Planned behavior theory was developed based on the Theory of Reasoned Action (Ajzen, 1991) and has been regarded as an effective theory for predicting human behavior intention and behavior in many consumer behavior theories. Many studies have confirmed the effectiveness of the TPB model (Bray et al., 2011; Zhang et al., 2017). At present, new variables are introduced to construct a TPB extension model based on the original model for different research objects, so as to increase the scientific nature and diversity of the research (Zhang et al., 2017). This paper added the "film traits" variable, based on the TPB model, to study movie-viewing behavior of streaming self-produced movies.

Movie-viewing Behavior

In this study, the movie-viewing behavior of the audience was set as the dependent variable, which refers to the relevant behavior of the audience in choosing to watch the streaming self-produced movies (Ajzen, 1991). We quantified the dependent variable by using three measurement indicators proposed by other scholars, namely "paid purchase" (Dutta, 2012), "preferred choice" (Wand, 1968), and "word-of-mouth recommendation" (Fan, 2016). Therefore, we decided to research the dependent variable using three components: paid viewing behavior (M_1), first selection behavior (M_2), and the recommendation to others behavior (M_3).

Expansion of the "Film Traits" Variable

A movie is both an art and a product, its attributes—film traits—including film genre, film content, actors, country of origin and so on. Many scholars believe those film traits have an important impact on the audience's movie-viewing behavior (Cui & Tang, 2012; Fan, 2016; Li & Wang, 2016). Therefore, the following hypotheses were proposed:

H_1: Film traits have a significant influence on the movie-viewing behavior of SSMs.
H_{1a}: Film traits have a significant influence on paid viewing behavior.
H_{1b}: Film traits have a significant influence on first selection behavior.
H_{1c}: Film traits have a significant influence on the recommendation to others.

Other Variables Based on the TPB

The TPB model expression formula is: BI = $w\ S\ N + w\ P\ B\ C + w\ A\ A$, among them, BI represents behavioral intention, which is simultaneously positively affected by three factors: subjective norm (SN), perceived behavioral control (PBC), and behavioral attitude (AA) (Ajzen & Madden, 1986). Due to the good explanatory ability of the TPB model, it is often used as the theoretical basis for movie-viewing behavior and many scholars have also verified that the TPB model has good explanatory power and predictive power in film field research (Cheng et al., 2019; Dutta, 2012; Huang & Xu, 2019).

Subjective Norm. When watching streaming self-produced movies, opinions from others, sharing in social circles, bullet subtitles, or movie reviews can be seen everywhere. It is reasonable to predict the social environment (movie-viewing behaviors from relatives and friends or the support and encouragement for college students' viewing behaviors) (Dutta, 2012) and Internet word-of-mouth (Nelson & Glotfelty, 2012) can influence the behavior of college students to implement viewing. Therefore, the following hypotheses were proposed:

H_2: Subjective norm has a significant influence on the movie-viewing behavior of SSMs.
H_{2a1}: Social impact has a significant influence on paid viewing behavior.

H_{2a2}: Social impact has a significant influence on first selection behavior.
H_{2a3}: Social impact has a significant influence on the recommendation to others.
H_{2b1}: Internet word-of-mouth has a significant influence on paid viewing behavior.
H_{2b2}: Internet word-of-mouth has a significant influence on first selection behavior.
H_{2b3}: Internet word-of-mouth has a significant influence on the recommendation to others.

Perceived Behavioral Control. Combining with the 4P theory of marketing, and college students special group, it was proposed: (a) that the lower price of watching movies (Cui & Tang, 2012) the more movies can meet self-needs (Xiao, 2017) and (b) the higher the felt quality of movies (Fan, 2016), the more viewers will like the movie products and the more participants consciously can control their movie-viewing behavior. Therefore, the following hypotheses were proposed:

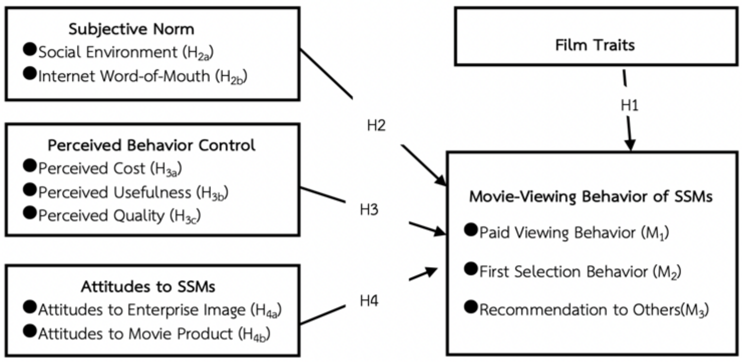
H_3: Perceived behavioral control has a significant influence on the movie-viewing behavior of SSMs.
H_{3a1}: Perceived cost has a significant influence on paid viewing.
H_{3a2}: Perceived cost has a significant influence on first selection behavior.
H_{3a3}: Perceived cost has a significant influence on recommendation to others.
H_{3b1}: Perceived usefulness has a significant influence on paid viewing behavior.
H_{3b2}: Perceived usefulness has a significant influence on first selection behavior.
H_{3b3}: Perceived usefulness has a significant influence on the recommendation to others.
H_{3c1}: Perceived quality has a significant influence on paid viewing behavior.
H_{3c2}: Perceived quality has a significant influence on first selection behavior.
H_{3c3}: Perceived quality has a significant influence on the recommendation to others.

*Attitudes to SSMs.*The audience's preference or satisfaction with movies is directly affected by the enterprise image and the film product itself (Ajzen & Madden, 1986). Audiences believe that if streaming self-produced movies can enable and cultivate a large number of young talent, they will be more interested in the movie product and their movie-viewing behavior will be promoted (Cui & Tang, 2012; Nelson & Glotfelty, 2012). Therefore, the authors put forward the hypotheses:

H_4: Attitudes to SSMs has a significant influence on the movie-viewing behavior of SSMs.
H_{4a1}: Attitudes to enterprise image has a significant influence on paid viewing behavior.
H_{4a2}: Attitudes to enterprise image has a significant influence on first selection behavior.
H_{4a3}: Attitudes to enterprise image has a significant influence on the recommendation to others.
H_{4b1}: Attitudes to movie product has a significant influence on first selection behavior.
H_{4b2}: Attitudes to movie product has a significant influence on paid viewing behavior.
H_{4b3}: Attitudes to movie product has a significant influence on the recommendation to others.

Research Model. To sum up, the authors established the proposed TPB extended model of SSMs, as shown in Figure 1.

Figure 1 *Proposed TPB Extended Model of SSMs*



Research Methodology

The questionnaire paradigm was that prepared by Churchill (1979), which contained 45 measurement items. After repeated revision of the measurement items, we finally determined the formal questionnaire. After 430 valid data were collected, reliability and validity tests of the questionnaire were carried out again, and factor analysis was used to indicate that each dimension could reflect most of the original variables (Kaiser, 1974; Rovinelli & Hambleton, 1977; Turner & Carlson, 2003). All the indicators of the questionnaire met the evaluation standards, and hence the quality of the questionnaire was adequate and it was ready for use.

The research population of this study consisted of college students who have watched self-produced movies and were currently studying at universities in Shanxi Province. We used Cochran's sample size formula to calculate the minimum sample size required for this study, which was 400.

To make the research sample representative where respondents could give more opinions on the topic, this study adopted a purposive sampling method at the Communication University of Shanxi and Shanxi University (located in the capital of Shanxi Province). The reasons were: (a) the main group of film consumption is the post-90s generation, and the main force of this group is composed of modern college students, (b) students majoring in media, film production, and other arts at the Communication University of Shanxi had a deeper understanding of media, (c) Shanxi University is the largest comprehensive university in Shanxi Province, at which more views could be collected from more professional college students.

On October 12, Solstice 21, 2019, 450 paper questionnaires were distributed at the above two universities, and 430 valid questionnaires were received, with an effective return rate of 95%, which met the requirements of a minimum sample size.

Analysis of Viewing Preferences

This study investigates college students' habits of watching online movies and their preference for streaming self-produced movies using the following criteria (Table 1).

1. Viewing frequency. Viewing time from "18:00 to 22:00" accounted for the highest proportion (54.2%) of participants, and those accustomed to watching from "8:00 to 11:00" were the least, accounting for only 28.4%. In terms of the frequency of paying for movies, the vast majority of respondents payed for movies "occasionally," accounting for 51.2%, followed by "frequently" (162), accounting for 37.7%, "rarely" and "never" (7.2% and 4.0%, respectively).
2. Preference of movie traits. In terms of film genre, "Comedy" (55.6%), "Romantic Films" (53.5%), and "Art-house Films" (53.3%) were highly popular, while "Costume Dramas" (16.7%) were the least popular. As regards to country of origin, films from the "United States" were the most popular (16.7%); 63.7% of respondents had watched SSMs, and they had knowledge of American popular SSM titles (Beast of No Nation 59.1%, Bright 54.0%, Roman 53.5%, Manchester by the Sea 51.4%, Bird Box 50.5%) compared to Chinese SSM titles (Trailer 47.0%, Killing Innocent 49.5%, Four Big Names 47.9%, Wedding Dress 33.7%).
3. Ways of viewing. Most of the respondents used "mobile devices" (83.7%). "Free online" viewing was represented among 57.7% of respondents, while 45.6% opted for "online payment" viewing and37.0% opted for "free download" viewing. In terms of viewing platforms often used, "Tencent video" was used most frequently accessed, reaching 58.60% of respondents, followed by "Aiqiyi," "Youku Tudou," "Sohu Video," "Mango TV," "LeTV Video," and "Mobile Video Player (Apple/ Huawei video, etc.)," accounting for 55.6%, 49.5%, 45.6%, 45.4%, 41.4%, and 31.9%, respectively.

To sum up, the majority of respondents liked American movies, which included comedy, romantic film, and art-house film. Their habitual watching time was approximately between 18:00 and 22:00, with respondents using mobile devices for free, online, viewing platforms, such as Tencent Video. SSMs were watched by 63.7% of respondents. College students knew more about American popular SSM titles than Chinese popular SSM titles, and they generally tended to pay for viewing.

Table 1 *Viewing Preferences of Respondents*

Profile	Group	Frequency	Percent (%)	Profile	Group	Frequency	Percent (%)
			Viewing Frequency				
Viewing Time	8:00-11:00	122	28.4	Paid Viewing Frequency	Frequently	162	37.7
	11:00-18:00	196	45.6		Occasionally	220	51.2
	18:00-22:00	233	54.2		Rarely	31	7.2
	22:00-24:00	230	53.5		Never	17	4.0
	After 24:00	228	53.0				
			Preference for Movie Traits				
Film Genre	Comedy	239	55.6	Country of Origin	China	262	60.9
	Romantic Films	230	53.5		Hong Kong and Taiwan	199	46.3
	Art-house Films	229	53.3		United States	314	73.0
	Action	212	49.3		Japan and South Korea	93	21.6
	Thriller	82	19.1		Europe	75	17.4
	Documentary	204	47.4	Whether Have Watched SSMS	Yes	274	63.7
	Suspense	190	44.2		No	156	36.3
	Animation	212	49.3	SSM Title	Roman	230	53.5
	Science Fiction	190	44.2		Green Book	196	45.6
	Costume Drama	72	16.7		Beast of No Nation	254	59.1
SSM Title	Manchester by the Sea	221	51.4		Trailer	202	47.0
	Bright	232	54.0		Killing Innocent	213	49.5
	Okja	172	40.0		Four Big Names	206	47.9
	Icarus	181	42.1		Wedding Dress	145	33.7
	Bird Box	217	50.5				
			Ways of Viewing				
Viewing Platform Often Used	Aiqiyi	239	55.6	Viewing Channels	Cinema	182	42.3
	Youku Tudou	213	49.5		TV	134	31.2
	Tencent Video	252	58.6		Mobile Devices	360	83.7
	Sohu Video	196	45.6		Computer	220	51.2
	Letv Video	178	41.4		Free Download	159	37.0
	Mango TV	195	45.4	Viewing Ways for Online Movies	Online Free	248	57.7
	Mobile Video Player	137	31.9		Online Payment	196	45.6

Hypotheses Testing, Results, and Discussion

Taking college students' movie-viewing behaviors of "paid viewing," "first selection," and "recommendation to others" as independent variables, and eight explanatory factors [film traits (FT), social environment (SE), internet word-of-mouth (IWM), perceived cost (PC), perceived usefulness (PU), perceived quality (PQ), attitudes to enterprise image (AEI), and attitudes to movie product (AMP)] influencing them as independent variables, a multiple regression model was used for analysis, as shown in Table 2.

Table 2 *Regression Analysis Results*

	Paid Viewing（M_1）			First Selection（M_2）			Recommendation to Others（M_3）		
	B	*SE*	Sig.	B	*SE*	Sig.	B	*SE*	Sig.
(Constant)	-.132	.357	.712	.645	.264	.015	.506	.252	.045
FT	.159	.054	.003**	.057	.040	/	.038	.038	/
SE	.196	.058	.001*	.157	.043	.000***	.112	.041	.007**
IWM	.094	.045	.037*	.085	.033	.010*	.101	.032	.002**
PC	.070	.061	/	.194	.045	.000***	.090	.043	.037*
PU	.069	.070	/	.028	.052	/	.146	.049	.003**
PQ	.157	.075	.036*	.088	.055	/	.173	.053	.001**
AEI	.099	.073	/	.080	.054	/	.147	.052	.004**
AMP	.190	.073	.010*	.154	.054	.005**	.086	.052	/

Note: *Sig < .05, **Sig < .01, ***Sig = .000, / no significant effect

From the regression analysis results, the standard regression equation for movie-viewing behaviors can be obtained:

$$M1 = -0.132 + 0.159*FT + 0.196*SE + 0.094*IWM + 0.157*PQ + 0.190*AMP$$

$$M2 = 0.645 + 0.157*SE + 0.085*IWM + 0.194*PC + 0.154*AMP$$

$$M3 = 0.506 + 0.112*SE + 0.101*IWM + 0.09*PC + 0.146*PU + 0.173*PQ + 0.147*AEI$$

Meanwhile, the results showed that the assumed eight factors had different effects on the three movie-viewing behaviors, specifically as follows:

1. The influence of film traits on movie-viewing behavior. According to Table 2, film traits significantly affected paid viewing behavior (Sig = .03 < .01), which has been confirmed by previous research, such as Li and Wang (2016), Fan (2016), and Cui and Tang (2012). Although theatrical movies have a mature production mode, SSMs have more movies available for choice, for example, there are more romantic film and art-house films popular among college students on streaming platforms, which greatly promoted their desire to watch and pay for them. It can be observed that film genre, content plots, actors, and other film traits have criteria for college students to judge viewing value. This is consistent with the research hypotheses.

At the same time, film traits had no significant influence on the first selection viewing behavior (Sig = .156 > .05) and recommendation to others (Sig = .326 > .05). The reason for this is that college students regard SSMs as the preferred way to watch movies, mainly because of its convenience (anytime, anywhere, free pause, advance, and exit, etc.), rather than the common movie traits (film genre, film content, actors, etc.) Therefore, film traits are not a necessary condition to influence the first selection and recommendation of others. This, however, is inconsistent with Fan's (2016) research.

2. The influence of subjective norm on movie-viewing behavior. Regarding the two observation factors of subjective norm, social environment and Internet word-of-mouth, both reached a significant level of .001 and .05 for movie-viewing behaviors (paid viewing, first selection, and recommendation to others), which was also confirmed by the previous work of Dutta (2012) and Nelson and Glotfelty (2012). As can be seen from Table 3, the coefficients of the social environment and the three behaviors are all larger than that of Internet word-of-mouth, indicating that college students are more influenced by their relatives and friends. This is because young people in this period are more active in interpersonal communication and more interested in making friends, contacting friends, and expressing themselves. This is also consistent with the hypotheses proposed for this study.

3. The influence of perceived behavior control on movie-viewing behavior. According to the results of the regression analysis, three explanatory factors based on perceived behavior control, perceived cost, perceived usefulness, and perceived quality, reached the significant levels of .05, .01, and .01,

respectively, for recommending to others, indicating that college students are willing to recommend to others SSMs that are affordable, self-satisfying, and of high-quality, which are consistent with the hypotheses of this study and Xiao's (2017) research results.

However, paid viewing had no significant influence on perceived cost (Sig.= .252 > .05) and perceived usefulness (Sig. = .326 > .05), which was inconsistent with the research hypotheses (Cui & Tang, 2012). Since the cost of watching a movie is generally low, the impact of its cost of payment is negligible. Similarly, under the premise of low price, whether movies can satisfy college students' own needs will not directly affect their paid behavior.

At the same time, the first selection had no significant influence on perceived usefulness (Sig. = .589 > .05) and perceived quality (Sig. = .110 > .05). For audiences who are new to SSMs, convenience and low price are the key factors, while useful value demand and quality become secondary factors, outcomes that were supported by Cui and Tang (2012) and Fan (2016). Even when self-demand and quality are slightly less than expected (this phenomenon is common in "bullet subtitles"), they still preferred to choose SSMs.

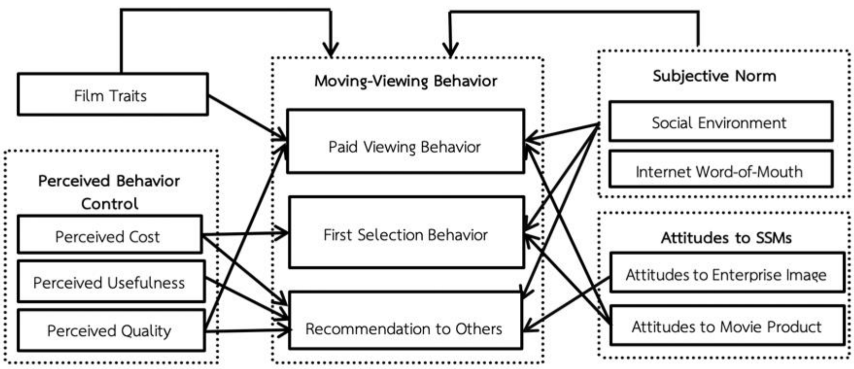
4. The influence of attitudes to SSMs on movie-viewing behavior. Attitudes to corporate enterprise image reached the significant level of 0.01 (Sig. = .004 < .01) for recommending to others, attitudes to movie product reaches the significant level of 0.05 and 0.01, respectively, for paid viewing (Sig. = 0.01 < 0.05) and the first selection (Sig. = .005 < .01), results which are consistent with the research conducted by Cui and Tang (2012) as well as Nelson and Glotfelty (2012).

This shows that streaming media enterprise can cultivate young film talents through SSMs, which will direct the development of streaming media enterprises, and then promote college students' behavior in recommending SSMs to others. On the whole, compared with cinema movies, college students prefer SSMs, especially those produced by familiar streaming media platforms, which can encourage them to pay for viewing and choose SSMs as their first choice when they want to watch movies.

Research Result Model

After testing the hypotheses by using multiple regression analysis, the standard regression model among variables was obtained, and then the final model diagram was constructed to present the correlation between variables more clearly, as shown in Figure 2.

Figure 2 *Viewing Behavior Model of SSMs in Views of College Students in Shanxi Province*



Concluding Remarks

Before we discuss suggestions for the steaming media, it should be noted that the sample size of this study was limited to college students from two undergraduate universities in Shanxi Province, which may reduce the universality of the research conclusions. In future research, data from diverse populations should be collected, in order to explore college students' views and behaviors of SSMs to form more generalizable results.

Based on the TPB model, an in-depth analysis was conducted of the factors influencing college students to watch streaming self-produced movies. Such a group has significant advantages in acceptance of new things and movie-viewing behavior. From the overall analysis, it can be seen that college students have a high degree of liking for SSMs, which represents a market potential. Therefore, if the characteristics of college students' demands and behaviors for viewing are grasped, it will surely bring profitable returns to investment enterprises and inject fresh vitality into China's film industry.

The following suggestions are proposed for the streaming media industry:

1. Improve the impact of the social environment and promote paid movie-viewing behavior. This study showed that the social environment has the most influence on the behavior of paid viewing. As for movies, their consumption and experience proceeds at the same time. Once purchased, they are not refundable or exchangeable, which determines that college students will be more influenced by the surrounding environment when they choose to pay, especially opinions coming from their relatives and friends. Therefore, attention should be given to people, especially those in colleges, to support promotional activities or sharing with their friends.

2. Set reasonable viewing prices to win the first selection of customers. The study also showed that the perceived cost had the greatest influence on college students' first choice of watching streaming self-produced movies. College students have a high degree of familiarity with the Internet. However, watching movies online is not the only option for their entertainment consumption, as each big theater may launch a variety of ticket discounts. Nevertheless, COVID-19 has influenced their behavior, making them more dependent on online entertainment and more sensitive to the price of watching movies. This means that winning their first selection is particularly important. Therefore, setting a lower viewing fee for college students is the best measure to attract them to watch streaming self-produced movies. This would avoid the hurdle of a high perceived price and would diminish the preference for other forms of entertainment, or the temptation to shift to cinema movies.

3. Improve movie quality and enterprise image and expand the range of potential users. The results of the study revealed that recommendations made to others are influenced by perceived quality and attitude to enterprise image. At present, China's online streaming platforms may contain vulgar content, lowbrow style, and violent movies, which greatly affects the quality of streaming self-produced movies and the enterprise image of the platforms.

Therefore, if streaming enterprises want to tap potential users through existing viewers' word of mouth, they must produce streaming self-produced movies that contain high-quality content and diverse cultural elements. Improving product quality involves introducing new film talent, breaking the monopoly of the cinema enterprise and celebrities in the film industry, and providing a development platform for newer and unknown film talent. This not only helps to increase college students' cognition of the streaming enterprise image, but it also can cultivate the competitiveness of the movie product itself. More importantly, it can enhance the international popularity of Chinese streaming SSMs and promote Chinese culture.

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1.2. Manuscripts should be written in correct and standard academic English.
1.3. Manuscripts should be single-spaced.
1.4. Manuscripts should use Calibri font size 11.
1.5. Manuscripts should contain minimal formatting (bold and italics commands are acceptable).
1.6. Manuscripts should not contain editorial controls of any kind.
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3.2. Manuscripts must adhere to the journal guidelines; failure to comply with these may result in the rejection of a submission.
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5. Numbers in APA Style

5.1 In general, round decimals to two places with the exception of *p*-values (three decimal places is the limit—p < .01 or .001). Percentages are expressed as whole numbers or to one decimal place.
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5.3 When a statistical expression cannot exceed the value of 1, then the number reported is NOT preceded by a zero (e.g., with p-values—p < .01, also applies to correlations, Cronbach's alpha).
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5.5 Further information can be gained by consulting. James Cook University, Singapore. (n.d.). Numbers in APA. See https://www.jcu.edu.sg/__data/assets/pdf_file/0009/680085/Numbers-in-APA.pdf; Guadagno, R. (2010). Writing up your results – Guidelines based on APA style. Retrieved from https://ich.vscht.cz/~svozil/lectures/vscht/2015_2016/sad/APA_style2.pdf

6. Recommended Verb Tenses for APA Style Articles (p. 118)

Paper Section	Recommended Tense	Example
Literature review (or whenever discussing other researchers' work)	Past Present perfect	Quinn (2020) presented Since then, many investigators have used
Method Description of procedure	Past Present perfect	Participants completed a survey Others have used similar methods
Reporting results	Past	Results were nonsignificant Scores increased Hypotheses were supported
Discuss implications of results	Present	The results indicate
Presentation of conclusions, limitations, future directions, etc.	Present	We conclude Limitations of the study are