

The Impact of Thaichana Application on Customer Purchasing Behavior in Clothing Stores

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Abstract

The COVID-19 pandemic has direct impact on many industries including clothing business. During this time, Thai government has created Thaichana, a contact tracing application, as a part of COVID-19 safety and preventative measures. The features and concept of the application has an influence on customer's satisfaction and their purchasing behavior in clothing stores. The purpose of this study is to examine impacts of the application resulting in the decrease of in-store customer visits. A questionnaires are distributed via Google Forms to 121 respondents and surveys are conducted at 2 department stores in Bangkok and Pathum Thani. The finding shows that the application has an impact on the majority of participants' purchasing behavior. Therefore, it is suggested that the application developer should improve Thaichana by sending notifications or feedback to users and reassuring them of the privacy terms and conditions.

Keywords: Clothing Stores, Customer Satisfaction, Purchasing Behaviors, Thaichana Application

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ผลกระทบของแอปพลิเคชันไทยชนะต่อพฤติกรรมการซื้อของผู้บริโภคในร้านเสื้อผ้า

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โรคระบาดโควิด-19 สามารถส่งผลโดยตรงต่อร้านขายเสื้อผ้า ดังนั้นรัฐบาลไทยจึงสร้างแอปพลิเคชันไทยชนะขึ้น เพื่อปฏิบัติตามมาตรการป้องกันการแพร่ระบาดของโรคโควิด-19 อย่างไรก็ตาม ลักษณะและแนวคิดของแอปพลิเคชันไทยชนะ สามารถส่งผลต่อความพึงพอใจของผู้บริโภคและพฤติกรรมการซื้อในร้านขายเสื้อผ้า จุดประสงค์ของการศึกษานี้ เพื่อทดสอบผลกระทบของแอปพลิเคชันที่อาจจะส่งผลให้ผู้บริโภคเข้าร้านค่าน้อยลง แบบสอบถามสร้างขึ้นจากกูเกิลฟอร์มโดยมีผู้เข้าร่วมทำแบบสอบถามทั้งหมดจำนวน 121 คน มีการแจกจ่ายแบบสอบถามภายในห้างสรรพสินค้า 2 แห่ง สถานที่หนึ่งคือห้างสรรพสินค้าในกรุงเทพมหานคร และอีกแห่งหนึ่งในเขตปริมณฑล จากการสำรวจพบว่า แอปพลิเคชันไทยชนะมีผลต่อพฤติกรรมการซื้อของผู้ตอบแบบสอบถามเป็นส่วนใหญ่ ดังนั้นคำแนะนำคือผู้พัฒนาแอปพลิเคชันไทยชนะควรพัฒนาโดยส่งการแจ้งเตือนกลับมายังผู้ใช้และให้ความมั่นใจต่อเงื่อนไขความเป็นส่วนตัวของผู้ใช้งานเช่นกัน

คำสำคัญ: ความพึงพอใจของผู้บริโภค พฤติกรรมการซื้อ ร้านเสื้อผ้า แอปพลิเคชันไทยชนะ

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Introduction

During the COVID-19 pandemic, people have adopted new life measures to avoid possibility of virus infection. A study shows that social distancing is a measure intended to reduce physical contact among people (Bedford et al., 2020). Thailand has been implementing Thaichana application to track and monitor infection in public areas such as department stores, restaurants, hair salons, and parks. According to WHO Thailand, the number of Thaichana users is 5,077,978 people, and 67,904 stores have registered on Thaichana official website (Thai Ministry of Public Health, 2020).

Thaichana has become a new norm that people have to use when going to public places. It is an application designed to help medical workers, government agencies, and the public to trace spread of COVID-19. Users have to submit information to the application about their health status and location to help the government and medical workers trace spread of virus (Hicks, 2020). Thaichana was developed to coordinate both public and private sectors to provide necessary information to the Department of Disease Control. However, Thaichana can be inconvenient for some users since it requires cooperation of consumers before entering the stores. Every store is obligated to limit the number of customers in their shops (Thai Government Public Relations Department, 2020). Customers are required to scan a QR code placed in front of the stores, and to complete a questionnaire about the COVID-19 control measures for check-in and check-out (Thai Ministry of Public Health, 2020). Since using of Thaichana application was initially implemented during the COVID-19 outbreak, neither customer satisfaction nor attitudes towards the Thaichana application have been studied. Consequently, it has remained unclear whether Thaichana is one of the factors affected consumer visits to clothing stores. Investigation is needed to determine if introduction of the application has led to the decline in sales, and a change in customers' behavior in clothing stores.

This study aims to investigate Thai customer behavior towards Thaichana in clothing stores. The apparel market in Thailand has been growing and improving to meet new customers' behaviors. Both sales of Thai menswear and womenswear are expected to reach 2.6 billion USD and 3.5 billion USD in 2021 (Thailand Board of Investment, 2020). Understanding customer behavior towards Thaichana would be beneficial for stakeholders and shop owners in running their businesses, especially in the apparel industry during the

pandemic. This study contributes to clothing stores and to other business sectors, like restaurants, hair salons, and beauty stores. Additionally, Thaichana developers can improve the application to be more user-friendly, convenient, and secure to reduce any possibility of a downturn in the business sector. Furthermore, this research can be a case study for similar situations in the future and would improve tracking applications and make them more effective. The study will answer three research questions: (1) Are customers satisfied with Thaichana application? (2) What are the customers' attitudes towards Thaichana application? (3) Does Thaichana application affect customer purchasing behavior?

Literature Review

Many studies are reviewed to learn about details that might influence customer behavior in retail stores. The review of literature is shown on the following topics:

1. Customer Behavior in Retail Stores

Consumer behavior can be defined as individual acts in obtaining goods and services (Engel & Blackwell, 1982). According to Marshallian theory of consumer behavior, consumers will buy goods and services that best suit their needs and satisfaction (Marshall, 1890). Therefore, retail stores need to fulfill customers' satisfaction in order to attract them to purchase their products and services.

One study claimed that people still spend more money at brick-and-mortar stores than online. The survey found that 71 percent of people spend more than 50 dollars in-store and 54 percent spend more than 50 dollars online (Jezerc, 2019).

At brick-and-mortar stores, 89 percent of women and 78 percent of men would sometimes or always add additional items to their purchase. However, only 77 percent of women and 67 percent of men add additional items to their carts online. Retailers need to make sure that they offer products that consumers need at the right price points, as well as management in brick-and-mortar stores where consumers are willing to spend more (Digital Signage Today, 2019). Therefore, any possible marketing strategies and ways to attract consumers into brick-and-mortar stores should be adopted since brands are still receiving a significant portion of their income from in-store purchases.

Currently, as Thailand seems to have spread of virus under control, people have started to go out shopping in department stores subject to strict safety measures. Since



online and in-store shopping can give people a totally different shopping experience, one research showed that gender has an impact on self-control levels of each consumer when shopping in-store. The findings showed that men have more self-control than women in-store (with means of 5.26 over 4.91). However, on a mobile device or on online shopping, it found that gender does not have an impact on self-control levels of each consumer (Lerkpollakarn & Khemarangsan, 2012). Therefore, the in-store ratio is still important for brands to focus on, and it could be concluded that targeting women in-store tends to generate more income than targeting men in-store. In addition, the survey has indicated that 35 percent of women shop for apparel once a week or more (Kesten & Mildred, 1981). This demonstrates that people, especially women, still enjoy the in-store shopping experience.

A high volume of customer visits can result in a big cluster of people in front of a store when scanning Thaichana QR code. One study showed that the presence of other shoppers attracts consumers to a store but reduces consumer's intention to shop there (Hui, Bradlow & Fader 2009). This can be one of the reasons for change in consumer attitudes before entering the stores. At the same time, more research showed that from the consumer's perspective, when an experience is consumed over a long period of time, it will result in a diminution of impatience (Goodman, Malkoc & Rosenboim, 2019).

2. Customers Perspective Towards their Data Privacy

Customers are required to scan QR code of Thaichana before entering a store in order to provide necessary information including their personal data and telephone numbers (Thaichana, 2020). Normally personal information is collected by a particular cellular service provider and cannot be disclosed to the third party without users' permission (Advanced Info Service Company Public Limited, 2019). However, it interests that Thaichana can access to users' personal information from any cellular service provider directly, without user consent and without prior notice (Youngrok, 2018). This can lead to data vulnerability for Thaichana users. Cha and Pak (2018) also found that customers concern about whether any store might make use of their personal information given. Therefore, this can lead to the downturn of brand's sales due to distrust of data privacy. If the application does not show enough transparency about issue, it can potentially more or less affect many businesses.

Methodology

1. Participants

121 participants are 18-40 years old in Bangkok who completed a survey. They have experience using Thaichana application. 10 participants using Thaichana application are purposely interviewed in order to receive in-depth information about their opinions with application.

2. Research Instruments

In this research, the combination of Quantitative and Qualitative approaches is used to investigate and analyze the findings. Online questionnaires and interviews are implemented to collect information.

1) Online Questionnaire

A questionnaire used in this study is developed and adapted by Mahasintunan (2015) and Chattong (2018) into online questionnaire on Google Forms to collect information regarding impact of Thaichana on customer behavior in clothing stores. The survey is divided into 3 parts: personal information, customers' perspective, and customers' satisfaction towards Thaichana application. The first part elicits personal information such as gender, age, and shopping behavior. The second part measures the customers' perspective towards Thaichana application by using a 5-Likert scale (1 for strongly agree; 5 for strongly disagree). The third part measures customers' satisfaction towards Thaichana application using a 5-Likert scale (1 for very unsatisfied; 5 for very satisfied).

2) Interview

The interview questions are adapted by Mahasintunan (2015) and Chattong (2018). The questions aim to get in-depth interviewees' opinion about Thaichana application and their trust towards the application.

3. Setting

This study is conducted in 2 department stores in Pathumwan, Bangkok and Rangsit, Pathumthani to find impact of Thaichana application on customers' behavior in clothing stores.

4. Data Collection and Data Analysis

The data are collected from October 8th to November 5th, 2020. The quantitative data are collected by using Google Forms. The data are analyzed with SPSS: Statistical Package

for Social Science. The program is used to analyze responses into percentage. Moreover, content analysis is also used to analyze qualitative data.

Results and Discussion

1. Demographic Characteristic of Respondents

Table 1: Age of participants

	Frequency	Percent
<18	1	0.8%
18 - 30	60	49.6%
31 - 40	3	2.5%
>40	57	47.1%
Total	121	100%

Table 2: Gender of participants

	Frequency	Percent
Male	40	33.1%
Female	76	62.8%
Unidentified	5	4.1%
Total	121	100%

Among 121 respondents, the majority is female (62.8%) with 49.6 percent is between ages of 18 - 30 years old, and 47.1 percent are over 40 years old.

Table 3: The places where people go shopping for clothes

	Frequency	Percent	Percent of Cases
Department Store	97	40.6%	80.2%
Flea Market	39	16.3%	32.2%
Walking Street	27	11.3%	22.3%
Online	76	31.8%	62.8%
Total	239	100%	197.5%

a. Dichotomy group tabulated at value of 1.

Table 4: How often do participants use Thaichana application?

	Frequency	Percent
Daily	6	5%
1 - 2 times per week	37	30.6%
3 - 4 times per week	18	14.9%
Once a month	60	49.6%
Total	121	100%

Most of participants (80.2%) go shopping at department stores to purchase clothes, 49.6 percent normally uses Thaichana application once a month.

1) Research Question. Do customers satisfy with Thaichana application?

Table 5: Customers' satisfaction

No	Questions	Consumer's satisfaction				
		Very satisfied	Satisfied	Neutral	Unsatisfied	Very unsatisfied
		(5)	(4)	(3)	(2)	(1)
1	Customers' satisfaction when using Thaichana	8.3%	18.2%	47.1%	13.2%	13.2%
2	Customers' satisfaction towards application design interface	13.2%	19.8%	47.9%	14%	5%
3	Thaichana design is appealing to use.	15.7%	20.7%	35.5%	14.9%	13.2%
4	Customers' satisfaction towards data privacy on Thaichana application.	9.9%	9.9%	29.8%	24%	26.4%

According to Google Form surveys, participants (47.1%) feel neutral when using Thaichana application. For the application design interface, majority of respondents (47.9%) feel neutral. However, in terms of data privacy, 26.4% of participants feel very unsatisfied, and 24% of participants feel unsatisfied. According to the study, customers desire that their information is only used for what is necessary to complete process (Bélanger & Crossler, 2011). In this study, 35.5% of people feel neutral toward design of

the application. According to the previous research, using visual aids can improve ability for user to understand process of application (Yazid & Jantan, 2017).

2) Research Question. What are customers' attitudes towards Thaichana application?

Table 6: Customers' attitudes towards Thaichana application

No.	Questions	Consumer's attitudes				
		Strongly agree (5)	Agree (4)	Moderate (3)	Disagree (2)	Strongly disagree (1)
1	Does Thaichana make customers feel more safe and secure when shopping at clothing stores during outbreak?	11.6%	15.7%	28.1%	15.7%	28.9%
2	Thaichana is user -friendly and easy to use.	24%	24.8%	29.8%	14%	7.4%
3	Users can use Thaichana application without any assistance.	61.2%	19.8%	15.7%	0.8%	2.5%

According to online survey, majority of participants strongly agree (28.9%) that Thaichana application does not make them feel safe and secure when they shop at clothing stores. However, 24.8 percent of participants indicate that features of Thaichana are user-friendly and easy to use, 61.2 percent indicates that they can use the application without any assistance. It can be concluded that Thaichana application is user-friendly but is not safe or secure from customers' perspective. According to previous research (Sebastian & Wyl, 2020), the unnotified feedback to users could be one of the reasons why people do not feel safe and secure when using the application. On the other hand, there is an application developed by Google and Apple called "Exposure Notification" or "GAEN" designed to send notification to smartphone when their users have been exposed to one or more COVID-19 infected people who are also using the app, via Bluetooth LE [Low-Energy] (Sebastian & Wyl, 2020).

2.1) Data privacy

Table 7: Do you agree that Thaichana is trustworthy in terms of privacy and conditions?

	Frequency	Percent
Strongly Disagree	43	35.5%
Disagree	17	14%
Neutral	23	19%
Agree	20	16.5%
Strongly Agree	18	14.9%
Total	121	100%

35.5 percent of participants states that they strongly agree that Thaichana is not the most reliable application in terms of privacy and conditions.

In terms of data privacy, whenever Thaichana users enter a clothing store they must scan Thaichana QR code and fill out information including their telephone numbers. The data they filled out will be submitted to Thaichana server and that is when their data is collected without permission. After data have been stored in Thaichana server, customers can enter a store. However, they do not receive any further COVID-19 notifications from Thaichana afterwards.

In contrast, Google/Apple Exposure Notification (GAEN) will not collect any user private data online as it uses Bluetooth protocol to operate and trigger the information to other users (Troncoso, 2020). Moreover, GAEN has adopted cryptography encryption into its core system for its notification via Bluetooth LE protocol (Exposure Notification Cryptography Specification Preliminary-Subject to Modification and Extension, 2020). This is also one of the keys that makes GAEN even safer for its users to use and to rely on. To sum up, Thaichana is made to help people keep track of COVID-19 with online data collection including users' telephone numbers, yet it does not provide any further feedback to its users, whereas Google/Apple Exposure Notification (GAEN) also helps people keep track and actively informs them COVID-19 incidents with adoption of Bluetooth LE and offline cryptography notifications sent to nearby users without need for users' private data.

2.2) Participants' Suggestion on Application Improvements

The satisfaction and attitude towards Thaichana application are low. This is result of inadequacy in reliability, quality, and security of Thaichana application. The results are reinforced by suggested improvements and recommendations from participants to Thaichana performance. To illustrate, some of recommendations stated on these issues:

Participant 96 said, "Thaichana makes me feel unsafe more than ongoing pandemic, it's unreliable, ineffective, and each store doesn't implement and force consumers to actually use Thaichana. Personally, it is good as I have mentioned, the application feels unsafe"

Participant 88 said, "During the pandemic, the government should've shown the advantage of how good Thaichana is. When the users do not know what the app could do, they would not scan it because they think if something bad happened, the government wouldn't track the infected people from the app anyway."

Participant 109 said, "There's a repetition when entering the shopping mall and the stores inside."

The responses also contain recommendations to improve Thaichana application to make it more user-friendly and credible. To illustrate, the interviewees have mentioned that:

Interviewee 2 said, "There should be a reward after using Thaichana when you go out for shopping such as a shop discount, point reward to motivate people to use it more."

Interviewee 5 said, "Thaichana doesn't help me that much, as some people forget to logout after they're done shopping. The most fearful part is when I am about to check in to the store or even check out. It is because the store entrance is crowded by people waiting to check in, I think it is more frightening than just walking straight into the store."

Interviewee 8 said, "It is such a waste of time when a new infected case discovered, the application does not provide information for people."

A participant's suggestion on data privacy:

Participant 107 said, "The application should be improved security in terms of data privacy."

3) **Research Question.** Does Thaichana application affect customer purchasing behavior?

Table 8: Thaichana application affect customer purchasing behavior

No.	Questions	Consumer's perspective				
		Strongly agree	Agree	Moderate	Disagree	Strongly disagree
		(5)	(4)	(3)	(2)	(1)
1	Do you agree that Thaichana has impact on your decision to shop at clothing stores?	16.5%	27.3%	23.1%	16.5%	16.5%
2	Is limitation of customers' visits in clothing stores has an impact on customer purchasing behavior?	24%	33.1%	21.5%	12.4%	9.1%

According to responses on Google Forms, most participants (27.3%) agree that Thaichana application has an impact on their decision to shop at clothing stores. Majority of respondents (31.1%) agrees that limitation of visitors in clothing stores has an impact on their purchasing behavior. The result is related to a previous research, “Impacts of Store Crowding on Shopping Behavior”, which found that satisfaction of service is decreased by perceived crowding” (Hui & Bateson, 1991). Customer satisfaction may be affected by unpleasant feelings (Oliver, 1993; Machleit *et al.*, 1994). This study may lead to the assumption that Thaichana does have an impact on customers’ decision to shop at clothing stores, which is agreed by 27.3 percent of participants.

Implication

In this study, the findings show various factors indicating that Thaichana application has an impact on customer behavior and their purchasing behavior. It is certain that studying customer satisfaction towards Thaichana and their purchasing behavior will not only help the government improve the application to comply with preventive measures, but also help those working in clothing industry to adapt to current situation and still generate sales.

The study shows three main aspects (satisfaction, perspective, and purchasing behavior) to Thaichana application. First, customer satisfaction towards their data privacy and design interface can be improved. The data privacy terms should ensure user's trust. Likewise, design interface can be one of the factors making Thaichana application more credible. Second, customer satisfaction can affect attitudes towards application. The customers' perspective towards Thaichana remains unsatisfied. It is suggested that an application developer should improve Thaichana by sending back notifications or feedback to the users, reassuring them of Thaichana privacy terms and conditions. The government should keep users informed about spread of virus in public areas that they visited. To implement, the government may add some features on Thaichana to notify users so they can be aware of risk of infection. Third, customer satisfaction and attitudes can be linked to purchasing behavior. As customers are mostly unsatisfied with the application and customers' perspective towards Thaichana is unpleasant, it can be said that the developers of Thaichana application should improve features of application to encourage purchasing behavior of customers.

Limitation

During the results and discussion, it found that the response related to Thaichana application is limited. Since this research is conducted in October to November 2020, COVID-19 infection in Thailand is significantly reduced and controlled. People are less aware of importance of Thaichana application than at the beginning of lockdown period. This could be reason why satisfaction and attitude towards Thaichana in clothing stores are low. The researchers, therefore, have to focus on time that COVID-19 is spreading.

1. Suggestions for Further Research

This study only focuses on clothing stores. It is needed to investigate impact of Thaichana application on customers' behavior in other businesses such as cosmetic stores, restaurants, and other brick-and-mortar stores.

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