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A Trading Logistics Model from a Change of Customer Behavior in a New Normal Era

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Abstract

Since the situation of Covid-19 began, many prevention methods have been introduced to prevent the spread of the disease such as social distancing, avoid traveling to crowded areas and refrain from social activities as a result, the customer learns and adapts to the change of the new normal lifestyle. A trading logistics model has been changed from traditional commerce to E-commerce model. Meanwhile, some customers still passion for traditional commerce logistics model. Therefore, this research aims to study the customer behaviors and opinions that decide to go to the shopping center after the outbreak of the Covid-19. The research is done by using a questionnaire as a tool to collect the data. The statistical tools that use in the research are a percentage, mean, standard deviation, one-way analysis of variance test and Chi-square test. To answer the first hypothesis testing, one-way analysis of variance test is used and found that the differentiation of age, education level, occupation, income and region of residence lead to the customer opinion significantly different at the 0.05 level. For the second hypothesis testing, Chi-square is used and found that the differentiation of age, education level, occupation, income and region of residence lead to the customer behavior significantly different at the 0.05 level. Approximate distance when travel to the shopping center is less than 10 km. Finally, calculate a proportion of products that customer purchases from shopping center is a perishable product, the product that needs to be touched, requested After-sale service and Ready to bring the product home.

Keywords: Trading Logistics, Customer behavior, Change from Covid-19, retail, online.

1. INTRODUCTION

Since the COVID-19 pandemic began, there are many prevention protocols have been announced to inhibit the spread of this disease such as department store and restaurant temporary closed or limit opening time, social distancing and curfew [1]. This pandemic causes the change of trading commerce logistics model. A sale of the traditional commerce logistics model has declined continuously since 2019 to 2021 as 13%, 2.2% and 2.0% respectively [2]. Meanwhile, the customers change their personal lifestyle and move to buy the product online. Lazada Co, Ltd., announced that the sales of consumer goods in 2022 increased 3 times compare to last year. The sales of E-commerce increase around 81% or 0.3 trillion THB and expect to reach to 0.5 trillion in 2022 [3].

Even though customer change to buy the product online, many of them still passion for traditional commerce logistics model by selecting to buy a product at the shopping center. The reasons that the customers buy product at shopping center are the customers can touch, test the physical product, ask for an information from staff and payment security. It is because the customers trend to find a way to reach for a product or service that can serve to their expectation [4]. Therefore, this research is to find out the influence factors of customer behavior in a shopping center in a new normal era.

2. RESEARCH OBJECTIVE

The main aim of this study is to explore the influencing factors that customer passion for traditional commerce logistics model in a new normal era. Specifically, the study has the following main objectives:

1. To identify the demographic factors that influence a customer's behavior and opinion at shopping center after the situation of COVID-19 in Thailand.

2. To examine the product selected when customers decide to buy at a shopping center and via online after the situation of COVID-19 in Thailand.

3. To explore a trading logistics model when buying a product at a shopping center and via online after the situation of COVID-19 in Thailand

3.CONCEPTUAL FRAMEWORK

Refer to the research objectives are to identify the demographic variable that influences the shoppers' behavior and their opinion when going to a shopping center and to investigate which product that customer selected on each shopping method. Therefore, the conceptual framework of this research is shown as figure 1.

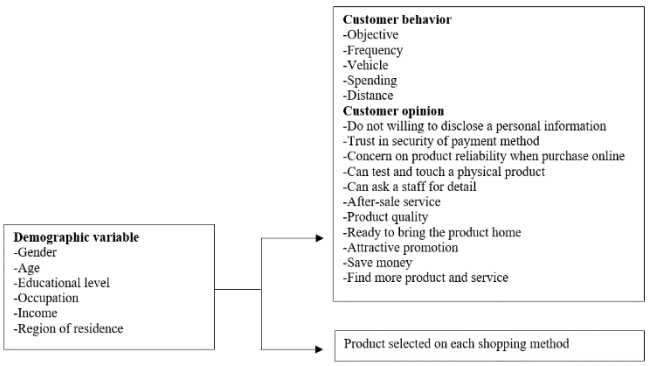


Figure1 conceptual framework

4.LITERATURE REVIEW

In the world today, technology disruption has made a lot impact on customer shopping behavior. Moreover, the situation after Covid-19 led to a new era of online shopping. The model of trading logistics has been changed. The customer has no need to go to a physical store. Meanwhile, the customers can buy the product from home as they do not have to waste their time to go to a real shop or wait for a queue to make a payment. However, some product cannot be sold online due to customer desire to consider a physical product. Therefore, both online and on-site shopping has their own benefit and limitations [5].

Definition of shopping center is a group of retail stores and service establishments with a large parking facility [6].

[7] Compared benefit and drawback between online and on-site shopping. The benefits of the online store are 1. 24/7 availability, while a physical store has business hours. 2. Convenience, an e-commerce website can be accessed anywhere anytime. 3. Saving time, customers do not have to drive to many stores or dealing with the crowd and queue. 4. Increase reach, retailers can find more customer than store area. 5. Decrease costs and expense.

Meanwhile, the benefits of real store are 1. Tangible element, it can give customers more confidence in the purchase because customers can physically feel and try on the merchandise. 2. Immediate availability, the product belongs to the customer immediately after a customer makes a payment for the items. 3. The experience, a real store can provide a pleasant experience due to customer can enjoy going from one store to another and looking at a particular item. 4. Shipping costs, customers do not need to pay extra.

[8] Analyze the significant difference between the online and offline consumer groups in terms of demographic, technology use, availability and attitude of the consumer. The research found the reason that customer chooses offline stores because; prefer to touch product 37%,

better return policy 35%, no product disappointment 8% and discount 8%. The most important criterion when customer buys in Offline Shopping; quality 45%, price 22%, payment facility 18% and salesman advice 15%. The research also found that 87% consumers are willing to travel less than 10 miles and 13% consumers are willing to travel more than 10 miles for offline shopping.

5. RESEARCH METHODOLOGY

This study aims to identify the demographic factors that influencing customer passion for traditional commerce logistics model after the situation of COVID-19 in Thailand. The population of the study was derived from the shopper who goes to a shopping center to use a service or go for shopping. A population is unknown, so Yamane sample size calculation method is used [9]. 413 samples are used as a representation of Thai people who go to a shopping center. A questionnaire is a tool that is used to collect the data. The survey questionnaire is aimed to evaluate the customer demographic and their perception to use a service or buy a product at a shopping center. Finally, to explore a trading logistics model, then a researcher interviews the expert and gather data from questionnaire to find out the model both the traditional and the E-commerce logistics.

Reliability and Construct Validity of the Survey Questionnaire

The Cronbach's alpha is used to measure the internal consistency of the research questionnaire. The result of the study showed the value of Cronbach's Alpha Coefficient is 0.87 which is greater than 0.7 which means the research questionnaire is reliability. At the same time, Index of item objective congruence: IOC is also used to test validity of the research content. 5 experts are used to evaluate the research validity and found that the IOC value is 0.97.

Data Analysis and Statistical Treatment and Tools

In order to find out the result refer to the research objective, the statistical tools are used as following;

Mean which refers to the average value; Standard deviation which describes how much variation the value exists from the mean; a percentage which describes how much variation portion compare to all; t-test which uses to compare mean of two independent samples; f-test which determines the equality of the variances of the two normal populations; $\chi 2$ test which examines the differences between categorical variables in the same population.

Part 1 Percentage analysis is used to analyze a demographic profile of the sample respondents. There are 3 nominal scale variable which are gender, occupation, Region of residence and 3 ordinal scale variable which is age, income, education level

Part 2 Percentage analysis is used to analyze customer's behavior of the sample respondents when go to a shopping center after a pandemic. There are 2 nominal scale variable which is shopping objective, how to go to a shopping center and 3 ordinal scale variable which is frequency of going to a shopping center, how much of spending in one time, average distance to go to a shopping center

Part 3 customer opinion when go to a shopping center. Likert scales are used to measure the level of agreement or disagreement of respondents based on the specific variance or the construct being measured. A 5-point Likert scale represent to 1 point; strongly disagree, 2 point; disagree, 3 point; neutral, 4 point; agree, 5 point; strongly agree.

Part 4 hypothesis test has been used to find an association between demographic variations and customer opinion when visits a shopping center after a pandemic. For this first hypothesis use f-test to find an association. Second hypothesis is to find an association between demographic variables and customer behavior when visits a shopping center after a pandemic by using the Chi-square test.

Part 5 product selection compared between online and at a shopping center to find out the product that customer trend to select to buy which shopping method,

When you submit your final version, after your paper has been accepted, prepare it in two-column format, including figures and tables.

6.RESEARCH RESULT

Part 1 Percentage analysis

It is used to analyze a demographic profile of the sample respondents. There are 3 nominal scale variable which is gender, occupation, Region of residence and 3 ordinal scale variables which are age, income, education level. Table1 shows the greatest number of respondent percentage for each variable

Table 1 Demographic data profile of the sample respondents

	Demographic variable	Number of respondents (n=413)	Percent (%)
Gender	Female	308	74.58
Age	>45years old	199	48.18
Educational level	Bachelor's degree	237	57.38
Occupation	Employee	160	38.74
Income	15,001-30,000 THB	122	29.54
Region of residence	Bangkok	161	38.98

Part 2 Percentage analysis

It is used to analyze a customer's behavior of the sample respondents when go to a shopping center after a pandemic. There are 2 nominal scale variables which are shopping objective, how to go to shopping center and 3 ordinal scale variables which are frequency of going to a shopping center, how much of spending in one time, average distance to go to a shopping center

Table 2 shows the greatest number of respondent percentage for each variable

	Customer's behavior variable	Number of respondents (n=413)	Percent (%)
Objective	Buy a product	201	48.6
Frequency	>2 time/month	124	30.0
Vehicle	Own car	354	85.7
Spending	501-2,000 THB/time	284	68.8
Distance	<10 km	196	47.5

It can be seen from table 1 and 2 that most of a sample is female, middle age lives in Bangkok and get a job. The objective to go to shopping center mainly is to buy a product more than 2 times a month. A private car is the most vehicle use with a distance less than 10 km.

Part 3 customer opinion when go to a shopping center

Likert scales are used to measure the level of agreement or disagreement of respondents based on the specific variance or the construct being measured. A 5-point Likert scale represent to 1 point; strongly disagree, 2 point; disagree, 3 point; neutral, 4 point; agree, 5 point; strongly agree. The mean, Standard Deviation and level of agreement are used to analyze customer's opinion. Level of agreement is interpreted to refer to the mean of each variable 1.00-1.50 = strongly disagree, 1.51-2.50 = disagree, 2.51-3.50 = neutral, 3.51-4.50 = agree and 4.51-5.00 = strongly agree. Table3 shows the mean, S.D., and level of agreement for each variable.

Table 3 Customer's opinion in percentage and standard deviation analysis

Customer's opinion	S.D.	Mean	Level of agreement
Not willing to disclose a personal information	0.79	4.08	Agree
Trust in security of payment method	0.93	3.70	Agree
Concern on product reliability when purchase online	0.84	3.94	Agree
Can test and touch a physical product	0.80	4.24	Agree
Can ask a staff for detail	0.86	4.06	Agree
After-sale service	0.90	4.03	Agree
Product quality	0.93	3.97	Agree
Ready to bring the product home	0.81	4.10	Agree
Attractive promotion	0.87	3.92	Agree
Save money	0.98	3.41	Neutral
Find more product and service	0.81	4.06	Agree
Average	0.89	3.96	Agree

It can be seen from table 3 that Customers who go to shopping center have their opinion level as agree (S.D.=0.89, mean=3.96)

Part 4 Hypothesis test

1.To find out an association between demographic variations and customer opinion when visits, shopping center after a pandemic. F-test is used to test on the first hypothesis.

H0: There is no significant relationship between demographic variable and customer opinion when visits a shopping center

H1: There is a significant relationship between demographic variable and customer opinion when visits a shopping center

Table 4 Association between demographic variable and customer opinion when visiting a shopping center

Customer opinion	Demographic variable					
	Gender	Age	Educational level	Occupation	Income	Region
Do not willing to disclose a personal information		*		*		
Trust in security of payment method		*		*		
Concern on product reliability when purchase online		*		*		
Can test and touch a physical product		*				
Can ask a staff for detail		*		*		
After-sale service		*		*		
Product quality		*	*	*		*
Ready to bring the product home				*		
Attractive promotion		*				*
Save money		*	*	*	*	*
Find more product and service		*		*		

* Significance at the 0.05 level

It can be seen that the differentiation of age, educational level, occupation, income and region of residence lead to the customer opinion significantly different at the 0.05 level.

2. To find an association between demographic variations and customer behavior when visiting a shopping center after a pandemic. Chi-square is used to test the second hypothesis.

H0: There is no significant relationship between demographic variable and customer behavior when visits a shopping center

H1: There is a significant relationship between demographic variable and customer behavior when visits a shopping center

Table 5 Association between demographic variable and customer behavior when visiting a shopping center

Customer behavior	Demographic variable					
	Gender	Age	Educational level	Occupation	Income	Region
Objective			*		*	
Frequency			*	*		*
Vehicle		*		*	*	*
Spending		*		*	*	*
Distance		*		*		*

* Significance at the 0.05 level

It can be seen that the differentiation of age, educational level, occupation, income and region of residence lead to the customer behavior significantly different at the 0.05 level.

Part 5 Product selection comparison between online and at shopping center

After finding the relationship between the demographic variable and customer opinion and also with customer behavior, then it is important

to find out which product that customer considers to buy from shopping center or which product that customer consider to buy it from online. The product list is calculated in term of percentage to compare whether customer considers to buy online or at a shopping center. It can be separated the list of the product into 3 groups which are; 1 customer considers to buy from shopping center more than online, 2 customer considers to buy from online more than at shopping center and 3 customers consider to buy from online and at shopping center equally. Detail of product list shows as table 6

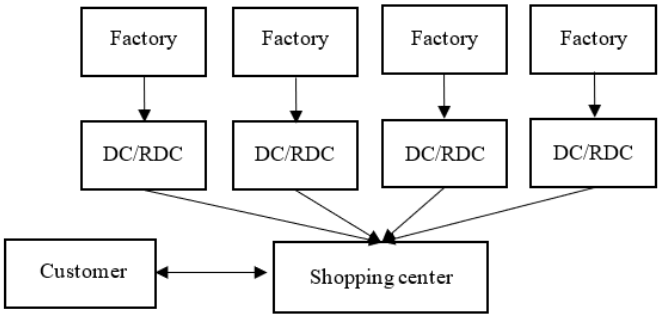
Table 6 Product selection comparison between online and at shopping center

customer considers to buy from shopping center more than online	customer considers to buy from online more than at shopping center	customers consider to buy from online and at shopping center equally
Food Fresh food Stationery Mobile and gadget Furniture Computer and laptop Sanitary ware Jewelry Camera and equipment	apparel shoes cosmetics Lingerie Bag Sport equipment Food supplement Hardware Watch Mother and baby product Game Home appliance Glasses Entertainment media Pet food Novel	Household products Medicine Garden equipment

Part 6 Trading logistics model

To explore the model of trading logistics both Traditional and E-commerce logistics then in-depth interviews from experts is done along with the questionnaire to find out the process of each model. The model of trading logistics both Traditional and E-commerce logistics have been shown as figure 2 & 3.

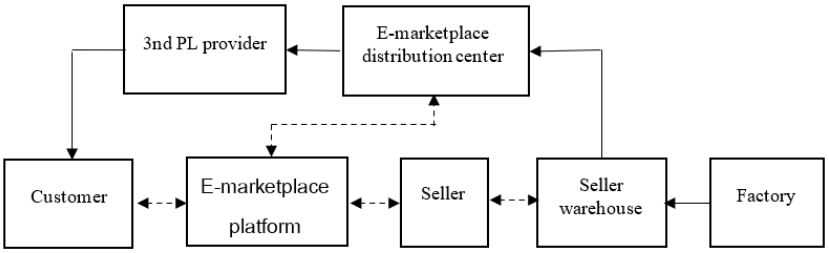
Figure 2 Traditional logistics model



The model of Traditional logistics starts from the customers design to go out from their place to shopping center, which gather many products from many producers. From the questionnaire result, it can be seen that

most of customer design to travel to shopping center with a short distance around 10km to buy a product by their own car. It is related to a new normal lifestyle that people avoid crowded areas for a long time.

Figure 3 E-commerce logistics model



The model of E-commerce starts from customer place an order on the E-marketplace platform. The order data is sent to seller to let their warehouse pick and repack. When the parcel is ready to ship 3rd PL provider comes to collect the parcel and finally send to customer's hand. This model is also related to a new normal lifestyle that people can place an order from anywhere anyplace even they stay at home.

CONCLUSION

From the change of lifestyles due to the COVID-19pandemic. A trading commerce trends to rely on the E-commerce logistics model. On the other hand, the traditional commerce logistics has declined. Therefore, the research objectives are to find out the factors influence customer passion for traditional commerce model by going to a shopping center. It is also to find out the product list the customer considers to buy it, whether from shopping center or online. For the first hypothesis, F-test is used to test an association between demographic variations and customer opinion when visits a shopping center after a pandemic and found that the differentiation of age, educational level, occupation, income and region of residence lead to the customer opinion significantly different at the 0.05 level. For the second hypothesis, Chi-square is used to test an association between demographic variations and customer behavior when visits a shopping center after a pandemic and found that the differentiation of age, educational level, occupation, income and region of residence lead to the customer behavior significantly different at the 0.05 level. To examine the product selected when buying at shopping center and via online after the situation of COVID-19 then percentage comparison has been used to analyze whether customer consider to buy online or at shopping center and found that the product that customer considers to buy at shopping center more than online are the perishable product, the product that need to be touched, requested after-sale service and ready to bring the product home. Most of customer design to travel to shopping center

with a short distance to buy a product by their own car. It is related to a new normal lifestyle that people avoid crowded areas for a long time. The product that customer considers to buy from online are the product that is easy to buy, the product that the customer already knows what they want. This model is also related to a new normal lifestyle that people can place an order from anywhere anyplace even they stay at home.

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