

Factors Affecting the Selection of Logistics Service Providers of Electronic Commerce Entrepreneurs in the Upper Southern Part of Thailand

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Abstract

This research aims to study 1) the behavior of logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand and 2) the influence of marketing mix factors and service quality factors affecting the services of logistics service providers in the upper southern part of Thailand. Questionnaires were distributed to 370 e-commerce entrepreneurs in the upper southern part of Thailand, which has a 0.93 reliability value. The statistics used to analyze data were frequency, percentage, mean, standard deviation, and multiple regression analysis. The research result indicated that 1) Most of the e-commerce entrepreneurs in the upper southern part of Thailand chose logistics service providers with the fast delivery services, which deliver the products are shipped 1 - 3 times/week, during 1.01 - 4.30 p.m., and the average expenses are 301 - 500 baht/time; and 2) Marketing mix factors had affected on the decision to choose a logistics service provider, such as products, place, physical evidence, and process. In terms of service quality, factors had affected choosing a logistics service provider at the statistical significance, with a prediction coefficient of 40.2 and 46.6%, respectively. This research shows that logistics service providers should pay attention to rapid delivery for e-commerce entrepreneurs to be impressed and come back to use the service again.

Keywords: Selection decision making, Logistics service providers, Electronic commerce entrepreneur, Marketing mix, Service quality, Upper southern part of Thailand

Introduction

Technology is now increasingly playing a role in human life: as can be seen in the statistics of internet network usage for communications of people aged 6 years and older, during 2016 - 2020, it was found that the number of internet users increased from 47.5% (29.8 million) to 77.8% (49.7 million) (National Statistics Office, Ministry of Digital Economy and Society, 2021). It shows that over the past 5 years, technology has become essential to human life, especially in business management. Technological advances create income opportunities, making the younger

generation more interested in small businesses with a different business model. Entrepreneurs can run a business with a small investment under the supervision of the business owner through the advancement of technology and the Internet, creating a new business models called Electronic Commerce (e-Commerce).

E-commerce is a conducting business using electronic media to achieve the business goals, such as trading goods and services and advertising through electronic media, whether it is phones, televisions, or internet. It aims to increase corporate efficiency and reduce location, building, and personnel costs. Nowadays, Thailand is increasingly trading in e-commerce, especially in retail and wholesale businesses, which are the highest value in the industry (Electronic Transactions Development Agency, 2020). During the COVID - 19 pandemic, retail and wholesale operators, both large and small, have increasingly adapted to compete in the online marketplace, while consumers have also changed their online shopping habits, resulting in the growth of the transportation business in line with online trading flows, The Department of Business Development forecasts that the transport business is currently worth at least 155,618 million baht and has an average growth of 10 - 20 percent per year. (Department of Business Development, Ministry of Commerce, 2020). As a result, competition in this type of business is quite intense, whether it is competition between Thai postal companies and private logistics companies or competition between private logistics companies.

Thailand Post Co., Ltd. was the first freight forwarder in the country, established on August 14, 2003 as a separate company from Thailand Post Co., Ltd. and CAT Telecom Public Co., Ltd. It is a state-owned enterprise under the Ministry of Information and Communication Technology, which has 1,283 offices, which are divided into 19 postal centers, 6 postal centers, 1,200 post offices, 5 branch post offices, and 53 car post offices. Nowadays, Thai Post Co., Ltd. has adapted to change under the Thailand 4.0 strategy with The Thai Post Network 4.0, focusing on the rapidly expanding transportation and logistics services sectors in line with the e-commerce and digital business driven by 3 big things: 1) e-Logistics, fast delivery at your fingertips; 2) e-Payment, easy life, easy pay; and 3) e-Commerce, online store, quick sell & buy, etc., which according to the Thai postal adjustment, has increased revenue and continues to dominate the logistics company with the largest selection of e-commerce entrepreneurs (Thailand Post, 2020).

A private logistics service provider is a company that develops a service model by applying technology to create a convenient, fast and efficient service system to meet consumers' needs. The private logistics services that enter the transport market have different strengths and are often developed to meet customers' needs regularly, such as cash on delivery, receiving goods from the shipper, and having a barcode number for tracking goods. Examples of private logistics companies in Thailand are Kerry Express (Thailand) Co., Ltd., Flash Express Co., Ltd., SCG Yamato Express Co., Ltd., DSL Express International (Thailand) Co., Ltd., J&T Express Co., Ltd. and Nim Express Co., Ltd., etc.

As mentioned above, both types of logistics providers are ready to provide services to e-commerce entrepreneurs, so researchers are interested in studying the logistics service usage behavior of e-commerce entrepreneurs and the factors that affect the decision to choose a logistics

provider of e-commerce entrepreneurs in the upper southern part of Thailand, which is important in the operation of e-commerce businesses.

Research objectives

1. To study the behavior of logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand.
2. To study the influence of marketing mix factors and service quality factors on logistics service providers' services in the upper southern part of Thailand.

Literature review

E-Commerce concepts

E-commerce is a transaction of trading or exchanging goods and services on the internet using websites or applications as a medium to offer goods and services, and contact between buyers and sellers, making it easy and accessible to merchants from anywhere in the world in 24 hours (Electronic Transactions Development Agency, 2020). E-commerce is trading goods and services on websites or mobile applications between individuals through an internet network, or between business organizations. The Internet plays a significant role in driving commerce and as an important strategy for business competition. The opportunity to successfully conduct e-commerce should be with digital goods such as games, video files, or data because of its low production costs. If every trading step starts from the ordering process, then shipping payments in digital format will reduce costs even more. Therefore, the chances of success will be greater, too, such as a photo sales business promoting image items that can be downloaded via e-mail and paid by electronic credit card, which the seller produces with a single shot but can also be sold in an unlimited number of times (Udomphan, 2017).

Logistics concepts

Logistics is the process of planning, implementing, and controlling the flow of goods to and from back and forth, storing materials and finished goods as well as relevant information to be efficient and efficient from the point of manufacture to the point of use to meet the needs of customers with accuracy and suitability according to the time, quality, quantity, cost and place specified (Division of Logistic, Department of Industrial Promotion, 2019). Logistics is the design and management of a system to control the movement or flow of goods and information from the origin to the company and the company to the customer efficient and effective. It covers all activities and processes of moving goods at all levels and operating procedures by a systematic approach in which the company will link the production system activities within the company together. Instead of separating each activity as usual and accepting contact and coordination between the company and external organizations, logistics is also viewed as a systematic and continuous process known as a supply chain model that links processes in a chain which is the main activity of logistics (Pickett, 2014).

Purchasing decision model

Kotler (2011) illustrated the consumer decision-making process, which is divided into five stages: 1) Need recognition/Problem recognition - the perception of internal needs that may occur on their own or be caused by an internal and external stimulus, which cause an action of a person; 2) Information search - after the consumers have been aware of this problem, they will search the solution from both internal and external information, such as people who are linked with advertising, relevant agencies, and users of that product or service directly; 3) Evaluation of alternatives - It is a process where consumers use the knowledge stored in their memory as well as externally acquired resources to define criteria for assessing/comparing the pros and cons of products and services to help narrow down their choices; 4) Purchase decision - After evaluating the best options at this stage, the consumer is ready to take the purchase action: ready to exchange money or promise to use the money to acquire the product or service; and 5) Post purchase behavior - After the consumer has purchased the product or service, the consequences after the decision may be satisfied or dissatisfied.

Consumer behavior concepts

Consumers refer to a person who takes the income received to buy goods and services to obtain maximum satisfaction every time he/she engages in consumption. Consumers should decide to consume goods or services based on various factors determining the consumption, such as income, advertisement, and education of consumer, etc. (Pimonrattanakan, 2014). Consumer behavior is any action of a consumer directly related to the selection, purchase, use of goods and services, and the decision-making process that guides or determines such action. To meet the necessity and needs of consumers to be satisfied. The questions used for finding consumer behavior (6W1H) are 1) Who is in the target market? This question asks about the characteristics of the target group. 2) What do consumers buy? This question asks about what consumers want to buy. 3) Why do consumers buy? This question asks about the purpose of the consumer's purchase. 4) Who is involved in the purchase decision? This question asks about the role of different groups in influencing purchasing decisions. 5) When do consumers buy? This question asks about buying opportunities. 6) Where do consumers buy? This question asks about the channels or sources that consumers go to buy. Moreover finally, 7) How do consumers buy? This question asks about the knowing process of making a purchase decision (Teepaparn, 2014).

Concept of marketing mix factor

Wongmontha (2016) said that a marketing mix is to provide products that meet the needs of target customers at a price that consumers are willing to pay because they see that it is worthwhile and distribute the products in line with the purchasing habits of convenience by trying to incentivize preferences and behave correctly, in which Kotler and Keller (2014) discussed marketing mix as a variable or a marketing tool that can be controlled. Companies are often used together to meet the satisfaction and needs of their target customers. Initially, the marketing mix consisted of only 4 variables (4Ps): product, price, place, and promotion. Later, there were 3 additional variables, people, physical evidence, and process, to comply with the

concept for making the theory relevantly important in modern marketing, especially in the service business.

Concept of quality services

Quality of service is a service that meets the expectations and needs of the service recipients, both in the quality of the production process, the delivery process, and the care after the service, which makes the service recipient satisfied (Hawhan, 2016). For the quality assessment criteria of the service, the so-called "SERVQUAL" is an accepted criterion consisting of 5 dimensions: 1) Tangibles refer to the physical characteristics that appear in the facilities. 2) Reliability refers to the ability to meet the promises provided to service recipients. 3) Responsiveness refers to the readiness and willingness to provide accessible, convenient, thorough, fast, and timely service. 4) Assurance refers to the ability to gain customers' trust. The service provider must demonstrate the skills, knowledge, and ability to respond to the clients' needs with politeness, good manners, effective communication, and ensuring that the client will receive the best service. And lastly, 5) Empathy means the ability to take care of the service recipient according to the different needs of each service provider (Zeithaml et al., 1990).

Research methodology

This study used quantitative methodology to investigate factors affecting the selection of logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand. To achieve the objectives set, the researchers identified the population as e-commerce entrepreneurs in the upper southern part of Thailand, totaling 2,477 (Department of Business Development, Ministry of Commerce, data as of December 26, 2019). The sample size was calculated according to Taro Yamane's formula with an error value of 0.05. A total of 345 samples were obtained, and the researcher increased the sample size by 5% to prevent incomplete questionnaire responses. A total of 370 samples were collected by calculating the proportion of e-commerce entrepreneurs in each province by stratified random sampling method. The details are as follows:

Table 1 Population and sample of e-commerce entrepreneurs in provinces of the upper south part of Thailand

Provinces in the upper southern part of Thailand	Number of e-commerce entrepreneurs	Number of samples of e-commerce entrepreneurs
1. Krabi	325	48
2. Chumphon	155	23
3. Phang Nga	112	17
4. Phuket	1,058	158
5. Ranong	53	8
6. Surat Thani	333	50
7. Nakhon Si Thammarat	441	66
Total	2,477	370

Source: Department of business development, data as of December 26, 2019.

The questionnaire was used in this research to collect data both manually and online (due to COVID-19 situations); experts tested the quality of the questionnaire, and the values of the Index of Item Objective Congruence (IOC) ranged between 0.68 - 1.00, and Cronbach's alpha coefficient of 0.93. The statistics used to analyze data include frequency, percentage, mean, standard deviation, and multiple regression analysis.

Results

Researchers collected data using questionnaires with e-commerce entrepreneurs in the upper southern part of Thailand 370 cases were researched as follows:

Table 2 Frequency and percentage regarding the nature of e-commerce business in the upper southern part of Thailand

E-commerce business characteristics	Frequency	Percentage
1. Types of e-commerce business		
Apparel/Accessories	112	30.3
Mother & Baby Care Products	9	2.4
Sports Equipment	10	2.7
Medical/Health/Beauty	94	25.4
Communication Tools/Mobile	12	3.2
Consumer Good	18	4.9
Supplies Agricultural Products & Equipment	10	2.7
Education/Stationery/Books	4	1.1

E-commerce business characteristics	Frequency	Percentage
Food/Bakery/Beverage	51	13.8
Cameras/Electronics	5	1.4
Computers/IT Equipment	9	2.4
Games/Toys/Souvenirs	6	1.7
Building Materials/Construction Equipment	4	1.1
Home Furnishings/Office	9	2.4
Automotive & Parts	3	0.8
Arts/ OTOP Products	12	3.2
Tools Industrial/Chemicals/Packaging	2	0.5
2. Model of e-commerce business registration		
Ordinary Person	356	96.2
Limited Partnership	6	1.6
Company limited	8	2.2
3. Registered capital or the amount of capital used in commercial business on a regular basis		
Less than 10,000 Baht	0	0
10,000 – 50,000 Baht	170	46.0
50,001 – 100,000 Baht	107	28.9
100,001 – 500,000 Baht	66	17.8
500,001 – 1,000,000 Baht	13	3.5
More than 1,000,000 Baht	14	3.8
4. E-commerce business establishment period		
Less than 1 Year	64	17.3
1 – 5 Years	246	66.5
6 – 10 Years	47	12.7
More than 10 Years	13	3.5

According to Table 2, e-commerce entrepreneurs in the upper southern part of Thailand 370 individuals were found to be the majority engaged in apparel/accessories business were 30.3%, with 96.2% of the e-commerce business registered as an ordinary person, registered capital, or the number of funds regularly used in commercial business from 10,000 to 50,000 baht representing 45.9 and 66.5% of the e-commerce business was established between 1 - 5 years.

From Objective 1: To study the behavior of logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand. The findings of the research were as follows:

Table 3 Frequency and percentage of the behavior of logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand

Item	Frequency	Percentage
1. Reasons for choosing the logistics service provider		
It is reliable and safe	182	19.8
Close to home/work place	157	17.0
There's a fast service process	103	11.2
Fast delivery service	191	20.7
Friends/relatives/acquaintances recommended	12	1.3
There's a cheap transportation rate	105	11.4
There are various services such as, there are many payment method, there is a service to receive products to the establishment	75	8.1
2. Frequency of use of logistics provider services per week		
1 - 3 times/week	224	60.5
4 - 6 times/week	138	37.3
7 - 9 times/week	8	2.2
3. Time period for using logistics service providers		
Morning time (before 11.00 a.m.)	122	33.0
Noon time (11.00 a.m. - 1.00 p.m.)	91	24.5
Afternoon time (1.01 p.m. - 4.30 p.m.)	142	38.4
Evening time (Starting from 4.30 p.m.)	15	4.1
4. Average expenses per time using a logistics service provider		
Less than 100 Baht	32	8.6
100 - 300 Baht	112	30.3
301 - 500 Baht	124	33.5
501 - 700 Baht	62	16.8
701 - 900 Baht	26	7.0
More than 900 Baht	14	3.8

Note: No. 2 Reasons for choosing the logistics service provider (e-commerce entrepreneurs can choose more than one answer)

According to Table 3, most of the e-commerce entrepreneurs in the upper southern part of Thailand chose logistics service providers with the fast delivery services, which deliver the products are shipped 1 - 3 times/week, representing 60.5%, during 1.01 - 4.30 p.m. accounted for 38.4%, and the average expenses are between 301 - 500 baht/time representing 33.5%, etc.

From the second objective: To study the influence of marketing mix factors and service quality factors affecting the services of logistics service providers in the upper southern part of Thailand.

The importance of marketing mix factors and service quality factors in selecting logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand, the results of the research were as follows:

Table 4 The importance of marketing mix factors in selecting logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand

Marketing mix factors	\bar{x}	S.D.	Priority	Ranking
1. Product	4.44	0.31	High	2
2. Price	4.40	0.35	High	5
3. Place	4.41	0.33	High	4
4. Promotion	4.30	0.38	High	7
5. People	4.45	0.33	High	1
6. Physical Evidence	4.36	0.36	High	6
7. Process	4.42	0.31	High	3
Total	4.40	0.25	High	

According to Table 4, the importance of marketing mix factors for selecting logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand considering the mean (\bar{x}) and standard deviation (S.D.). The results showed that the mean values for any measurement factors were not distinguishably different. Overall, the marketing mix factors' importance was at a high level ($\bar{x} = 4.40$); when considering each factor, it was found that the most important aspect was the people factor ($\bar{x} = 4.45$), followed by the product factor ($\bar{x} = 4.44$) and the least important aspect was promotion factor.

Table 5 Priority of service quality factors in choosing logistics providers of e-commerce operators in the upper south part of Thailand

Service quality factors	\bar{x}	S.D.	Priority	Ranking
1. Tangibles	4.33	0.37	High	5
2. Reliability	4.40	0.31	High	3
3. Responsiveness	4.40	0.33	High	3
4. Assurance	4.41	0.32	High	1
5. Empathy	4.41	0.30	High	1
Total	4.39	0.27	High	

According to Table 5, the priority of service quality factors for selecting logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand using the mean (\bar{x}) and standard deviation ($S.D.$). It was found that the overall importance of service quality factors is shown in the high level ($\bar{x} = 4.39$). Considering each aspect, finding that e-commerce entrepreneurs was the most importance on assurance factor ($\bar{x} = 4.41$) and empathy factor ($\bar{x} = 4.41$), followed by reliability factor ($\bar{x} = 4.40$), responsiveness factor ($\bar{x} = 4.40$) and tangibles factor ($\bar{x} = 4.33$), respectively.

Hypothesis 1: Marketing mix factors affected choosing a logistics service provider for e-commerce entrepreneurs in the upper southern part of Thailand.

Table 6 Testing of marketing mix factors had effected the decision to choose a logistics service provider for e-commerce entrepreneurs in the upper southern part of Thailand

Marketing mix factors	B	Beta	t	P-value
Constant	1.786		10.267	0.000***
Product (X_1)	0.109	0.141	2.575	0.010**
Price (X_2)	0.049	0.071	1.286	0.199
Place (X_3)	0.069	0.096	1.822	0.069
Promotion (X_4)	0.003	0.005	0.107	0.915
People (X_5)	0.031	0.043	0.764	0.446
Physical Evidence (X_6)	0.085	0.129	2.455	0.015**
Process (X_7)	0.245	0.323	5.547	0.000***
F = 34.790	Sig. = 0.000***			
R = 0.634	R ² = 0.402			
Durbin – Watson = 1.990				

* p-value < 0.10, ** p-value < 0.05, *** p-value < 0.01

From Table 6, the decision coefficient (R^2) is 0.402, meaning that marketing mix factors influence the decision to choose logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand with 40.2% each, the remaining 59.8% is due to other influences. In addition, the table shows the Durbin–Watson test result of 1.990, which is between 1.50 and 2.50, indicating that the tolerances are independent. For hypothesis testing with an F-test from a one-way analysis of variance, it was found that the marketing mix factors had a statistical significance (p-value) of less than 0.01; this means that there were at least one marketing mix factors affecting the decision to choose logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand at statistically significant 0.01. The test found that process factor (X_7) (p-value < 0.01) was the most influencing factor in choosing a logistics provider, followed by product factor (X_1) (p-value < 0.05), physical evidence factor (X_6) (p-value < 0.05) and place factor (X_3) (p-value < 0.10). The coefficients of the variables in the standard score form

(Beta) were 0.323, 0.141, 0.129, and 0.096, respectively, and the raw score (B) was 0.245, 0.109, 0.085, and 0.069, respectively. The results of e-commerce entrepreneurs in the upper southern part of Thailand in the form of raw and standard scores are as follows:

Prediction equation in raw score form

$$Y = 1.786 + 0.109X_1 + 0.069X_3 + 0.085X_6 + 0.245X_7 \quad \text{-----(1)}$$

The equation in standard score format

$$Z = 0.141X_1 + 0.096X_3 + 0.129X_6 + 0.323X_7 \quad \text{-----(2)}$$

Hypothesis 2: Service quality factors affected choosing a logistics service provider for e-commerce entrepreneurs in the upper southern part of Thailand.

Table 7 Testing of service quality factors had affected the decision to choose a logistics service provider for e-commerce entrepreneur in the upper southern part of Thailand

Service quality factors	B	Beta	t	P-value
Constant	1.740		11.632	0.000***
Tangibles (X_1)	0.095	0.149	3.057	0.002***
Reliability (X_2)	0.087	0.114	1.952	0.052
Responsiveness (X_3)	0.077	0.107	1.756	0.080
Assurance (X_4)	0.220	0.296	5.001	0.000***
Empathy (X_5)	0.116	0.149	2.470	0.014**
F = 63.561	Sig. = 0.000***			
R = 0.683	$R^2 = 0.466$			
Durbin – Watson	= 2.212			

* p-value < 0.10, ** p-value < 0.05, *** p-value < 0.01

From Table 7, the decision coefficient (R^2) is 0.466, meaning that the service quality factors influence the decision to choose logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand at 46.6%, the remaining 53.4% were attributable to other influences. In addition, the table shows the Durbin-Watson test value of 2.212, which is between 1.50 and 2.50, indicating that the tolerances are independent. For hypothesis testing with an F-test from a one-way analysis of variance, it was found that the service quality factors had a statistical significance (p-value) of less than 0.01, meaning there was at least one service quality factor that affected the decision to choose logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand at statistically significant at 0.01. It shown that assurance factor (X_4) (p-value < 0.01) was the most influencing factor in choosing a logistics provider, followed by empathy factor (X_5) (p-value < 0.05), tangibles factor (X_1) (p-value < 0.01), reliability factor (X_2) (p-value < 0.10) and responsiveness factor (X_3) (p-value < 0.10). Which all three factors have variable coefficients in standard score (Beta) of 0.296, 0.149, 0.149, 0.114, and 0.107, respectively, and raw score (B) of 0.220, 0.116, 0.095, 0.087, and 0.077, respectively. Forecasts of e-commerce

entrepreneurs' decision-making in choosing logistics service providers in the upper southern part of Thailand in raw and standard scores are as follows:

Prediction equation in raw score form

$$Y = 1.740 + 0.095X_1 + 0.087X_2 + 0.077X_3 + 0.220X_4 + 0.116X_5 \quad \text{-----(3)}$$

The equation in standard score format

$$Z = 0.149X_1 + 0.114X_2 + 0.107X_3 + 0.296X_4 + 0.149X_5 \quad \text{-----(4)}$$

Discussion and summary of research results

1. According to the logistic service usage behavioral issue of e-commerce entrepreneurs in the upper southern part of Thailand, the results showed that e-commerce entrepreneurs would choose to use the logistics service providers with fast delivery service, reliable and close to home/work place, with e-commerce entrepreneurs ship items 1 - 3 times/week, with the most frequent delivery times being in the afternoon (1.01 p.m. - 4:30 p.m.) and the average expenses for delivery of goods between 301 - 500 baht/time. The results of this research are consistent with the research of Pinijchob (2017); it was found that a group of e-commerce entrepreneurs ship items 1 - 2 times a week, and average costs does not exceed 500 Baht per time. In addition, this is also consistent with the findings of Sariphan and Kittilap (2019), who found that most wholesalers ship their products 2 - 4 times/week, and the delivery time begin 2.00 p.m. to 5.00 p.m.

2. The significance of marketing mix factors in choosing logistics providers for e-commerce entrepreneurs in the upper southern part of Thailand is high. When considering each aspect, it is found that the highest average aspect is the people factor, showing that employees are vital to the service business, the behavior of employees will affect the perception of the service users to satisfy the service users, so good employees, in addition to having knowledge, ability, service mind, should also have good manners. In other words, good employees should combine gestures and words by not being rude, funny, fussy, or delusional in front of the service users. In addition, they should learn to apologize and thank them as a habit. According to research done by Choeicharoen and Maskasin (2017). It was found that service personnel was the most influencing factor in choosing the express mail service (EMS) at the Central Post Office (Special) in Lak Si District, Bangkok. In addition, this is also consistent of Kanjanapa (2016), as personality, appearance, attitude, and behavior of the staff are crucial the affect the perception of the customers which leads to customer satisfaction and repurchase.

3. The importance of service quality factors in selecting logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand is of great importance. Considering each aspect, the assurance aspect and empathy aspect were in the highest mean, indicating that ensuring the e-commerce entrepreneurs and caring is important. Therefore, logistics providers should provide a warranty in case of delivery errors or damage to the product to develop confidence in e-commerce entrepreneurs and reduce any risks between shipping. In addition, logistics providers should take care of all customers equally and can solve the problem for the customers. The results of this research are consistent with the research of Ponto (2016), which found that the quality factor of assurance had the most influence on the purchase decision

of building materials in modern building materials retailers. Furthermore, consistent with the research of Jampakeaw (2018), it was found that the overall customers' satisfaction of CIMB THAI BANK, Chiang Rai Branch in high level, which the highest mean aspect was the empathy factor.

4. The influence of marketing mix factors affects choosing logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand. The results found that product, place, physical evidence, and process were factors affecting the choice of logistics service providers of e-commerce entrepreneurs in the upper southern region of Thailand with statistically significance, which is consistent with the research of Pinijchop (2017), which found that product factor, place factor, physical factor and process factor influenced the customer's satisfaction toward logistic provider of e-commerce entrepreneurs in Bangkok.

5. The influence of service quality factors affects choosing logistics service providers for e-commerce entrepreneurs in the upper southern part of Thailand. The results showed that the tangibles factor, reliability factor, responsiveness factor, assurance factor, and empathy factor affected the decision to choose a logistics service providers for e-commerce entrepreneurs in the upper southern region of Thailand statistically significantly, which is in line with the research of Chienwattanasook and Thungwa (2019), the results found that tangibles factor and assurance factor influenced the customers' decision to repurchase the service Thai Post Co., while reliability factor and empathy factor influenced the customers' decision to repurchase the service Kerry Express (Thailand) Co. significantly at 0.05. In the case of SCG Yamato Express Co., Ltd., the service quality in terms of responsiveness, and empathy factors influenced the customers' decision to repurchase the service significantly at 0.05.

Suggestions for applying the research results

1. Most e-commerce entrepreneurs choose logistics service providers that offer fast delivery, so logistics service providers should have an effective plan to ensure that the delivery will be quick and efficient. Logistics service providers should have a service plan to satisfy e-commerce entrepreneurs by increasing service points to make them more accessible to e-commerce entrepreneurs or providing additional counters that open in the afternoon, which is when e-commerce entrepreneurs often use services the most.

2. Logistics service providers can use the research results to manage marketing and service strategies to differentiate and gain business competitiveness. The product, place, physical evidence, process, and all service quality are the critical factors that influence the selection of logistics service providers, and logistics service providers should increase their services to cover all the needs of e-commerce entrepreneurs. There are a variety of service models. There is a warranty if the delivery error occurs. In addition, logistics service providers should take into account the safety and arrange the decoration of the service location, the convenience of the parking location, and the service of the staff, which must be willing to provide services to all customers equally; including employees to apply their knowledge and expertise in their duties and ready to solve problems promptly for customers. Most importantly, logistics service providers should create

awareness for e-commerce entrepreneurs to communicate online and offline for convenience in obtaining access to a variety of resources that meet their business/personal needs.

Suggestions for the next research study

The research should continue based on the factors affecting the loyalty of the logistics service providers of e-commerce entrepreneurs in the upper southern part of Thailand. If researchers can find a way to build loyalty between users and logistics companies, they can use the data to plan strategies to maintain their existing customers and can be used as a way to expand their new customers in the future.

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