ปัจจัยในการเลือกร้านอาหาร การรับรู้ความเสี่ยงจากการติดเชื้อ COVID-19 และการป้องกันตนเองของลูกค้าในร้านอาหาร

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Restaurant selection factors, COVID-19 risk perceptions, and customer's self-protection

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บทคัดย่อ

งานวิจัยนี้นำเสนอข้อมูลเชิงลึกเกี่ยวกับความสัมพันธ์ระหว่างการรับรู้ความเสี่ยงในการแพร่ระบาดของ COVID-19 ของลูกค้าร้านอาหารกับปัจจัยในการเลือกร้านอาหาร ความตั้งใจที่ในการป้องกันตนเองและการป้องกันตนเองท่ามกลางการแพร่ระบาดของไวรัสโควิด-19 โดยใช้ทฤษฎี Protection Motivation เป็นกรอบการวิจัย จากการศึกษาของชาวภูเก็ตจำนวน 456 คน ผลการวิจัยยืนยันอิทธิพลของปัจจัยสำคัญ 3 ประการในการเลือกร้านอาหารและการรับรู้ความเสี่ยง ได้แก่ ความสะอาดและสุขอนามัย ความรู้เกี่ยวกับโควิด-19 และการรับรู้ความรุนแรงของไวรัสโควิด-19 ที่มีต่อการป้องกันตนเอง และนำเสนอการอภิปรายผลการศึกษาในทางวิชาการและข้อเสนอแนะในการจัดการร้านอาหาร

Abstract

This research offers insights into the relationships between restaurant customer's pandemic risk perception and restaurant selection factors, willingness to apply self-protection and self-protection practices amid the COVID-19 pandemic using modified protection motivation theory as the research framework. Based on 456 residents of Phuket as the subjects of the study, the results confirm the influence of three key factors of restaurant selection and risk perception factors including cleanliness and hygiene, knowledge about COVID-19 and perceived severity of COVID-19 on self-protection intention. Academic and practical implications of the study are discussed.

1. Introduction

Restaurant businesses have been adversely affected by the COVID-19 pandemic worldwide. The demand for dining out has substantially declined due to government restrictions on movement and diner's concerns of the infection risk while dining out in public as masks must be removed while eating (Ryu et al., 2023). The infection risk perception of diners has resulted in significant drop in restaurant visits and financial difficulties (Jeong et al., 2022). The pandemic circumstances have forced restaurant operators to implement changes in order to comply with government's restrictions such as social distancing and other pandemic control requirements and attract patrons in order to continue their businesses (Kim et al., 2021).

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Although the pandemic has caused concerns to restaurant patrons, many people accept that they have to continue their lives including dining out, but in a new normal way (Ryu et al., 2023). Understanding what determines restaurant diners' choice of restaurant to dine out and the diner's intention to conform to pandemic rules and restriction is essential to restaurant business operators to succeed amid the new normal practices. The literature on the topic is still limited and thus requires further investigation in order to better understand the new normal behaviours of restaurant diners during the pandemic. This research aims to contribute to the body of knowledge by offering insights into restaurant diner's risk perception, restaurant selection, willingness to apply self-protection and actual self-protection behaviour during the pandemic using modified protection motivation theory as the study framework. The objectives of the study are two-fold. First, it seeks to examine the influence of restaurant selection and COVID-19 risk perception factors based on modified PMT on self-protection intention. Secondly, it attempts to investigate the influence of self-protection intention on self-protection practices of restaurant diners amid COVID-19 pandemic.

Phuket, a UNESCO Creative City of Gastronomy, was chosen as the location for the study due to its wide range of cuisines and restaurants on offer. Although the restaurant businesses in Phuket normally relied on international tourists, the lack of international tourists during the pandemic has forced restaurant practitioners to target local residents instead (Ryu et al., 2023). Therefore, this study offers more understanding into resident's dining risk perception and behaviors amid the pandemic, which enables restaurant businesses to correctly adjust their operations and services to meet the changes of restaurant diner's needs, perceptions and behaviours during the new normal situation of pandemic.

2. Literature

2.1 Protection Motivation Theory

According to Protection Motivation Theory (PMT), individuals are motivated to protect themselves against perceived health risk such as COVID-19 pandemic (Roger, 1975). Choi et al. (2019) explain that self-protection against health threat is induced mainly due to four factors. These factors include the severity of the risk, the degree of vulnerability or the likelihood of the occurrence of the risk, the level of perceived efficacy of available preventive practices, and the level of self-efficacy.

The risk perception literature in the hospitality and tourism context has widely utilized PMT as a study framework especially in the travel health risk situations (Ruan et al., 2020; Wang et al., 2019). Within the restaurant context, several studies have adopted PMT in their investigation. For example, Ryu et al. (2023) adopted PMT factors to investigate restaurant visit frequency and restaurant protection practices during the COVID-19 pandemic. In addition, PMT has been used to study restaurant diners' self-protection intention against hygiene risk amid the pandemic (Yasami et al., 2020; Yasami, 2021). These studies general confirmed the influence of PMT factors and self-protection motivation and practices when dining out during the pandemic.

2.2 Restaurant selection factors

Previous research has regularly identified key factors influencing customer's decision-making within the restaurant context in the normal situations to include two important groups of factors including the quality of food and service (Liu et al., 2018), and atmosphere and facilities (Kivela, 1997). Then, during the COVID-19 outbreak, additional factors influencing restaurant selection have been identified in the literature due to required changes in response to customer's risk perception of COVID-19 infection. These additional factors include cleanliness and hygiene (Jeong et al., 2022) and new normal facilities and practices (Zapata-Cuervo et al., 2023) which play significant roles in reducing customer's risk perception and

fear of the pandemic. Cleanliness and hygiene considerations include examples such as serving sterilized cutlery in a sealed package and staff wearing mask and gloves (Jeong et al., 2022). In addition, new normal practices include actions that emerge during the pandemic to prevent the infection and promote safety among the customers. These include examples such as social distancing, and the use of contactless services and facilities (Yasami et al., 2022).

2.3 Hypothesis development

Hypotheses of the study were developed based on previous literature by proposing the influence of the modified PMT factors (Ryu et al., 2023; Xiao et al., 2016; 2014; Ruan et al., 2020) and restaurant selection factors (Jeong et al., 2022; Yasami et al., 2022; Liu et al., 2018) on self-protection intention and self-protection practices. The restaurant selection factors identified in the literature include (1) atmosphere and facilities, (2) food and service, (3) cleanliness and hygiene, (4) restaurant new normal facilities. The modified PMT factors include (1) knowledge about COVID-19, (2) worry of COVID-19, (3) likelihood of COVID-19 infection, (4) severity of COVID-19. The hypotheses are derived as follows:

H1 Restaurant selection factors influence on customer's self- protection intention in restaurant dining

H1a: Atmosphere and facilities have a significant influence on self-protection intention in restaurant dining.

H1b: Foods and services have a significant influence on self-protection intention in restaurant dining.

H1c: Cleanliness and hygiene have a significant influence on self-protection intention in restaurant dining.

H1d: Restaurant new normal facilities have a significant influence on self-protection intention in restaurant dining.

H2 COVID-19 risk perception factors influence on customer's self-protection intention in restaurant dining

H2a: Knowledge about COVID-19 has a significant influence on self-protection intention in restaurant dining.

H2b: The worry about COVID-19 infection has a significant influence on self-protection intention in restaurant dining.

H2c: The likelihood of COVID-19 infection has a significant influence on self-protection intention in restaurant dining.

H2d: The severity of COVID-19 has a significant influence on self-protection intention in restaurant dining.

H3 Customer's self-protection intention influences on self-protection practices in restaurant dining

3. Methodology

This study adopted quantitative method for collecting the data from residents in Phuket during April and May in 2022. The questionnaires were developed from extensive literature reviews and theories of travel risk perception and restaurant selection criterions (Ryu et al., 2023; Xiao et al., 2016; 2014; Ruan et al., 2020; Jeong et al., 2022; Yasami et al., 2022; Liu et al., 2018). The questionnaire comprised questions/items regarding restaurant selection factors, COVID-19 perception factors, self-protection intention and practices in restaurants due to the new normal life during the COVID-19 pandemic. Before commencing the survey, the questionnaire was pre-tested with 30 residents in Phuket for accuracy and ease of understanding. Four popular restaurants based on Tripadvisor.com agreed to permit the researchers to conduct survey onsite with their restaurant customers who were all Phuket residents during the time of the data collection. Face to face survey at the four selected restaurants was conducted. Participants were asked to complete online survey in order to comply with social distancing and contactless rules during the pandemic.

3.1 Research design

The questionnaire consists of four parts. The first part was designed to collect the information about the demographic characteristics of the participants. The second part included items to determine the respondent's risk perception towards COVID-19 pandemic based on risk perception on dining out based on modified PMT and restaurant selection factors, and the third part of the questionnaire included questions about preventive intention and practices while dining out in the restaurant

3.2 Data collection

The target group for this study was residents ~~only Thai Citizens~~ in Phuket including both local Thai citizens and foreigners during the COVID-19 pandemic in 2022. The size of the target population was calculated from the number of Phuket residents. The questionnaire was prepared in both English and Thai languages.

3.3 Sampling design

In total, 488 questionnaires were collected. 32 questionnaires were excluded from the study due to their excessive missing values and incomplete responses. Finally, 456 were valid and included in the analysis.

3.4 Data analysis

First, exploratory factor analysis was employed to identify underlying dimensions of restaurant selection, risk perception and modified PMT attributes. Then, multiple regression was performed on the factors discovered from the factor analysis result on self-protection intention. The purpose for this analysis was to examine the influence of the discovered restaurant selection and risk perception factors on self-protection intention. Finally, regression analysis was conducted to examine the influence of self-protection intention on self-protection practices.

4. Result

4.1 Restaurant selection factors and COVID-19 perceptions factors

Thirty-six items of the restaurant's attributes were analyzed with exploratory factor analysis to identify their underlying dimensions. Principle component analysis with extraction method and varimax with Kaiser normalization with rotation method were used. To determine the number of factors, only factors that meet the minimum eigen value of 1.0 or higher were identified (Pallant, 2020). After removing nine items that reported cross loading (mobile payment, health check, plates with lids, health certificate, chair arrangement, politeness of staff, access to the menu, certificate of organic food, good appearance), only twenty-seven remaining items were retained for further analysis (Pallant, 2020). The exploratory factor analysis on the remaining twenty-seven items of restaurant's attributes extracted four factors. These four dimensions include (1) Atmosphere and facilities, (2) Food and services, (3) Cleanliness and hygiene, (4) Restaurant new normal facilities.

Details of these factors are reported in Table 4.1.1. An examination of the Kaiser-Meyer Olkin measure of sampling adequacy suggested that the sample was adequate (KMO = 0.935) and Bartlett's test of Sphericity was significant (x^2 (351) 9146.251, p <0.01) (Pallant, 2020). Cronbach's alpha of each dimension was computed to confirm the reliability of the measurement of each factor. As shown in Table 4.1.1 the factor analysis conducted on the twenty-seven restaurant's attributes items extracted into four factors. The dimensions reported below accounted for over 67% of the total variance.

Table 4.1.1

Factor analysis of restaurants attributes

Factor	Loading	Eigen value	% of variance explained	Cronbach's alpha
Factor 1 - Atmosphere and facilities		**11.004**	**40.754**	**0.928**
Design & architecture & décor	0.830			
Take photos of food and atmosphere	0.824			
Menu design & style	0.818			
Wireless internet	0.796			
Music	0.786			
Check in area	0.756			
Advance reservation system	0.738			
Image & reputation	0.679			
Promotion & discount	0.591			
Credit card payment	0.409			
Factor 2 - Food and services		**3.723**	**13.788**	**0.917**
Quality of food	0.839			
Taste of food	0.814			
Value for money	0.807			
Displayed of price tags	0.735			
Location is convenient to travel	0.651			
Parking area	0.634			
Speed of the service	0.615			
Healthiness of food	0.607			
Factor 3 - Cleanliness and hygiene		**2.343**	**8.680**	**0.924**
Staffs use masks, gloves and maintain physical distances	0.851			
Staffs are knowledgeable about hygiene and cleaning practices	0.850			
Fork/Knife/Spoon in a sterile package	0.837			
Clean hygienic toilet and restaurant	0.826			
Alcohol or gel provided on the table	0.812			
Temperature check	0.707			
Factor 4 – Restaurant new normal facilities		1.197	4.432	0.800
Sensor or touchless door	0.820			
Open kitchen	0.807			
Available of private area	0.693			
The total percentage of variance explained			**67.653**	

To assess the impacts of restaurant's factors (as predictor variables) on self-protection intention (as the outcome variable), a multiple regression was conducted. The assumptions of the multiple regression based on (Pallant, 2020). The regression model presented in the Table. 4.1.2 below is significant with a value of 25% of the total variance explained ($R^2 = 0.251$. $F = 19.285$, p = <0.01) for the self-protection intention. Cleanliness and hygiene (β = 0.37, t = 7.36, p <0.01) was found to have the highest and positive influence on self-protection intention and knowledge about COVID-19 (β = 0.15, t = 3.34, p <0.01) had the second highest influence on the outcome variable.

Table 4.1.2

Factors influencing self-protection intention

DV: Self-protection intention				
Factors	β	t	Std Errors	p
Constant		6.07	0.24	0.00
Atmosphere and facilities	0.03	0.48	0.05	0.63
Foods and services	0.10	1.69	0.06	0.09
Cleanliness and hygiene	0.37	7.36	0.05	0.00
Restaurant's new normal facilities	-0.06	-1.09	0.04	0.28
Knowledge about COVID-19	0.15	3.34	0.04	0.00
Worry about COVID-19 infection	-0.07	-1.69	0.01	0.09
Likelihood of COVID-19 infection	0.05	1.16	0.04	0.25
Severity of COVID-19	0.11	2.42	0.04	0.02
Adjusted R^2	0.251			
F	19.285			
p	0.00			
df	8/429			

4.2 The influence of self-protection intention on self-protection practices

The regression result of the influence of self-protection intention on self-protection practices is presented in table 4.2.1. The regression model was significant with a low value of the total variance of 23% ($R^2 = 0.236$. $F = 19.285$, $p = <0.00$). Self-protection intention ($\beta = 0.486$, $t = 11.811$, $p <0.01$) was found to have a significant influence on self-protection practices ($p<.01$).

Table 4.2.1

The influence of customers self-protection intention on self-protection practices

DV: Self-Protection Practice				
Factors	β	t	Std Errors	p
Constant		9.215	0.188	0.000
Self- protection intention	0.486	11.811	0.044	0.000
Adjusted R^2	0.236			
F	19.285			
p	0.00			
df	1/452			

5. Discussion and Conclusion

This research contributes to the body of knowledge by offering insights into the relationships between restaurant customer's pandemic risk perception and restaurant selection factors, willingness to apply self-protection and self-

protection practices during the COVID-19 pandemic utilising modified protection motivation theory as the research framework. Using residents of Phuket as the subjects of the study, the results of the study offer restaurant operators insights and guidelines to appropriately modify their operations and services to meet the changing needs, perceptions and behaviours of restaurant customers during the new normal situation of the COVID-19 pandemic.

The results of the study confirm the influence of three key factors of restaurant selection and risk perception factors on self-protection intention. These factors include cleanliness and hygiene, knowledge about COVID-19 and perceived severity of COVID-19. Furthermore, the study is also able to confirm the positive influence of customer's self-protection intention on self-protection practices in restaurant dining during the COVID-19 pandemic. The hypothesis test results are summarized in Table 5.1.

Table 5.1

Summary of hypothesis test results

Hypothesis	Result
H1 Restaurant selection factors influence on customer's self- protection intention in restaurant dining	
H1a: Atmosphere and facilities have a significant influence on self-protection intention in restaurant dining.	Not supported
H1b: Foods and services have a significant influence on self-protection intention in restaurant dining.	Not supported
H1c: Cleanliness and hygiene have a significant influence on self-protection intention in restaurant dining.	Supported
H1d: Restaurant new normal facilities have a significant influence on self-protection intention in restaurant dining.	Not supported
H2 COVID-19 risk perception factors influence on customer's self-protection intention in restaurant dining	
H2a: Knowledge about COVID-19 has a significant influence on self-protection intention in restaurant dining.	Supported
H2b: The worry about COVID-19 infection has a significant influence on self-protection intention in restaurant dining.	Not supported
H2c: The likelihood of COVID-19 infection has a significant influence on self-protection intention in restaurant dining.	Not supported
H2d: The severity of COVID-19 has a significant influence on self-protection intention in restaurant dining.	Supported
H3 Customer's self-protection intention influences on self-protection practices in restaurant dining.	Supported

As perceived severity is the only factor under PMT that was confirmed with positive influence on self-protection intention of the restaurant customers, severity is suggested to be the most significant factor within the PMT framework. This result confirms the vital role of severity as discovered in previous research such as Ryu et al. (2023) who found

threat appeal particularly severity to be the most dominant factor in PMT. Furthermore, the study results highlight the stronger influence of cleanliness and hygiene, and knowledge about COVID-19 more than any PMT factors. This indicates that customers will have stronger intention to conform to the pandemic rules and regulations if they have more knowledge about the pandemic and understand the severity of the coronavirus. It is also imperative to note the significance of cleanliness and hygiene in customers' self-protection intention. The result suggests that customers pay particular attention to cleanliness and hygiene of the restaurant and will be more likely to apply self-protection intention and practices.

The results discovered in the study offer a number of implications to the restaurant industry to operate during the pandemic period. Firstly, it is necessary for restaurant operators to remind and display communication to customers about the ongoing pandemic, pandemic rules and protection practices. Secondly, restaurants should ensure the cleanliness and hygiene of the operations and offer cleanliness and hygiene cues to signal to the customers to boost their dining out confidence. These practices include examples such as ensuring all staff members wear masks and gloves at all times, serving covered food and sealed cutlery, and sanitizing tables and chairs.

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