



# The Resilience Development for the Entrepreneurs Tourism Sector (RDETS) from the 2019 Coronavirus crisis in Thailand

Natpatsaya Setthachotsombut\*  
College of Logistics and Supply Chain  
Suansunandha Rajabhat University, Thailand  
E-mail: [natpatsaya.se@ssru.ac.th](mailto:natpatsaya.se@ssru.ac.th)

Gritsada Sua-iam  
Department of Civil Engineering, Faculty of Engineering,  
Rajamangala University of Technology Phra Nakhon, Thailand  
E-mail: [gritsada.s@rmutp.ac.th](mailto:gritsada.s@rmutp.ac.th)

Corresponding author\*

## Abstract

The purpose of this research was to study the relationship between the resilience development for the entrepreneur's tourism sector (RDETS) and business performance (BP) from the Coronavirus crisis in Thailand. Using a mixed-methodology research model, data was collected from entrepreneurs in tourism in Thailand, thus a sample of 400 people from a population of 35,381,210 people, were analyzed with descriptive statistics and advanced statistics including confirmatory factor analysis (CFA) and structural equation modeling (SEM). The results showed that firstly the resilience development for the entrepreneur's tourism sector (RDETS) has a direct and indirect positive impact on business performance (BP). Secondly, the recovery (RV) has a direct and indirect positive impact on RDETS, so that all factors are important to RDETS. The most important factors are resource mobilization (RM), crisis management (CM) and consequence mitigation (CM), respectively. Third, all factors of financial strength (FS) have a direct positive impact and are important to RDETS. The most important factors are insurance (IN), financial reserve and liquidity (FRL) and price margin (PM), respectively. Fourth, the two factors of capacity (CP) have a direct and indirect positive impact on RDETS, which are communication (CM) and reserve capacity (RC). The last, business performance (BP) which has a positive effect when using RDETS adapted for entrepreneurs tourism, found that it can enhance owner-return (OR), financial outcomes (FO) and reduce operation disruptions (ROD). Therefore, entrepreneur tourism should plan to manage a crisis by preparing resources or create a specific organization flowchart and consider using the recovery model of the RDETS in a comprehensive manner in a detailed approach for good business performance to be sustained in tourism.

**Keywords:** Resilience, Tourism Sector, Coronavirus 2019, Crisis, Thailand

## Introduction

Tourism is important to the Thai economy, as it is to most countries, since tourism revenue is distributed to other regions that help the Thai people to have a better life (Setthachotsombut & Sua-iam, 2020). In 2019, Thailand had 39 million tourists, with a total spending of about 2 trillion Baht. As of 2020, the Thai government has set a target of tourism income for about 3.38 trillion baht and seeks to be ranked as one of the top six countries with the highest tourism revenue in the world (Bangkokbiznews, 2020). However, the current situation of tourism in Thailand faces a major problem since the outbreak of a novel Coronavirus (2019-nCoV) at the end of December 2019 in Wuhan, China. The Chinese government announced the closure of the city to control the spread of the disease and prohibited tour companies from all over the country in promoting tourism activities there. It stopped selling of plane tickets and hotel reservation, while many airlines cancelled flights to China (Prachachat, 2020). The crisis has



seriously affected the tourism sector in Thailand and other countries because China is a very large group of foreign tourists that travel to Thailand and spend the most money accruing to tourism in Thailand.

From this problem, the study and advance of the model of the resilience development for the entrepreneurs tourism sector from the Coronavirus 2019 crisis in Thailand is made to help the entrepreneurs in the tourism sector handle the crisis and recover their businesses after facing a devastating epidemic, In addition, this model could conceivably also be used to handle other critical situations which threaten business operations.

## Research objectives

1. To study the relationship between the resilience development for the entrepreneur's tourism sector (RDETS) and the business performance (BP).
2. To study the results of business performance (BP) after using the RDETS model.

## Hypothesis

*H1: The resilience development for the entrepreneur's tourism sector (RDETS) has a direct positive impact on business performance (BP)*

*H2: Recovery (RV), financial strength (FS) and performance capacity (CP) has an indirect positive impact on business performance (BP).*

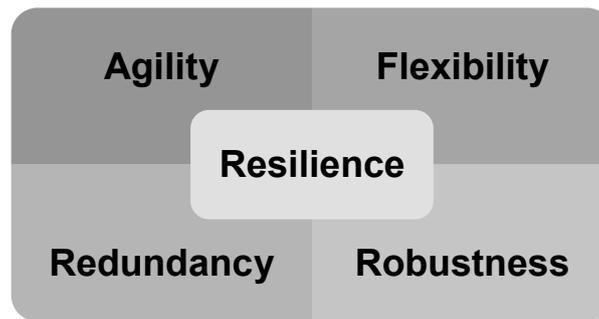
## Literature review

### Resilience

From a literature review of resilience, many researchers have defined which mainly focuses on risk management and coping with disruption. Pettit et al. (2013) defined it as the ability to help companies expect and overcome disruptions as well as being able to seize opportunities to create competitive advantages or a strategy used to handle high-risk and high-impact situations (Wieland, 2013). Carvalho et al. (2011) defined it as the system's ability to return to its original state or change to a more satisfactory state after experiencing chaos and avoiding failures. Resilience has the robustness to deal with the identified risks of disruption for business continuity (Charles et al., 2010), and the deployment and implementation are more important than the maintenance and improvement of economic policy packages that have existed for over 10 years (de Azevedo & Soares Terra, 2009).

Merriam-Webster (2007) defined it as a body's ability to recover size and shape after an abnormality, the complex system performance to survive, adapt and grow in the face of turbulent changes (Fiksel, 2006), the ability of the system to return to its original state or change to a more desirable state after being disturbed (Christopher & Peck, 2004) and the ability to recover from disturbance while still maintaining the diversity, completeness, and all the current processes (Folke et al., 2004).

From the review of the literature, the researchers can conclude that resilience is inter alia the ability of a company to respond and handle unexpected interruptions, restore operations to normal, recover from disturbances and return to its original state or change to a more desirable state. It strives to move forward and be stronger than before by increasing the ability to work with complex and high-risk situations enabling it to survive, adapt and grow in the face of turbulent changes. The data has summarized the principles and concepts of resilience as shown in Figure 1.



**Figure 1.** The principles and concepts of resilience

However, there are some examples of resilience concepts, with the emphasis on efficiency, quality, and cost. It is used to manage risks, especially for high-risk supply chain operations. But if the supply chain is designed to increase cost-efficiency, it is often less flexible (Christopher & Peck, 2004). Most resilience applications are found in production, procurement, and complex risk management in supply chains (Ghadge et al., 2012; Colicchia & Strozzi, 2012) such as the hospital industry (Bharwani & Mathews, 2012), the automotive and electronics industry (Blos et al., 2009), the global financial crisis that makes product demand was lower and many distributors went bankrupt (Jüttner & Maklan, 2011), the international financial crisis, such as Brazil which faced financial fragility when foreign investors adjusted investment channels by moving money to safer zones (de Azevedo & Terra, 2009), face of the economic crisis (Burkett et al., 2011), product design (Lin & Zhou, 2011), the provision of resources and facilities in disaster recovery (Chang et al., 2012; Warren, 2010; Lettieri et al., 2009; Stewart et al., 2009).

It also found that the lack of resilience supply chain design would not protect the business. Therefore, the resilience concept is applied at the strategic and operational levels by adding capabilities from the existing organization. Resilience capacity may be based on risk and vulnerability factors (Pettit et al., 2013; Blos et al., 2009). Resilience relies on cooperation, sensitivity, adaptability, recovery capability, modification of performance process and preparation (Pettit, 2008; Christopher & Peck, 2004; Wieland & Wallenburg, 2012). Resilience is now widely used and evolving.

### **Recovery**

Recovery is the ability to quickly return to normal operating conditions. According to a literature review, many researchers view recovery as the essence of resilience, while others see recovery as the only goal that doesn't need to be costly. However, recovery is essential when an unexpected change occurs.

The cost of recovery may not be high or is more proactive than reactive, so recovery also includes the ability to quickly mobilize resources, communication recovery, crisis management and disruption mitigation (Pettit, 2008). The conclusion of recovery is the resilience of recovery that requires crisis management, resource mobilization, and consequence mitigation.

### **Financial strength**

Financial strength means the ability to absorb fluctuations in cash flows. It is a financial strength that creates resilience, which includes insurance, financial reserves and liquidity, and price margins.



- *Insurance* is a business that offers various forms of insurance to prevent significant losses by providing coverage through a contract that the insurance company will compensate the other party. The specified loss type accounts for the premium paid and different types of insurance. Also, trade insurance protects against disruption in the supply chain, even when there is no physical loss or damage to assets by terrorism or other events such as epidemics, navigation, air transportation or natural disasters.

However, the financial strength and benefits that are expected to be received when buying insurance may fail when a very low probability situation exists (Ganderton et al., 2000) that makes decision management seem confusing and it may even overlook or cancel this low probability but high damage assessment exists. Ganderton et al. (2000) found evidence of the negative effects of repeated encounters, so the a company must determine the appropriate type and level of insurance it requires to keep itself safe.

To mitigate the effects of disruption using an example of a computer parts manufacturer in 2012 which insured asset insurance and business interruption insurance, resulting in receiving compensation for damage from major flooding which occurred in 2011, was 41.5 million U.S. Dollars and in 2014 the company received compensation for business interruption insurance of 43.3 million U.S. Dollars. The business interruption insurance is subject to a 20% tax which provides tremendous relief to business losses due to hard work and good preparation for the damage claim process that makes the company successful as it received payments from insurance companies, accounting for more than 95%, which is very high. In summary, insurance means the company ensures its protection and in important business aspects such as property, facilities, equipment, products, and personnel and it also has insurance to prevent business interruption.

- *Financial reserves and liquidity* have importance to sustainable operations in times of disruption because revenue will decrease due to customer interruption and accounts receivable are decreased as a result of suppliers unable to pay in time or the extra expenses incurred during the recovery of operations (Hamel & Valikangas, 2003). Currently, some hotel operators are faced with the risk of canceling bookings from higher overseas customers from China and profitability is likely to decrease, causing some companies to require higher cash reserves and liquidity to cope with this risk.

From a liquidity assessment in 2018, the company has a liquidity ratio of 1.27 times lower than the previous year, while a famous hotel has set up an allowance for doubtful accounts for debts that are overdue within 90 days and they have a current ratio of 3 times current liabilities. Cash reserves increased by 20 percent from 112 million U.S. Dollars to 151 million U.S. Dollars in 2019. In summary, reserves and liquidity mean the company has a good financial reserve and has good liquidity, such as operating reserves. In times of disruption, liquidity is 1.5-4 times or higher of current liabilities or cash reserves higher than 20% of net profit.

- *Price margin* that is the price reserved when compared to the price of selling. The new travel product launch will help capture market share and often make a profit at a higher price. Also, the profit price of the product is part of financial strength (Pettit et al., 2013). Some hotels and hospitals have new tourism products and services for many groups of customers such as Chinese, Middle East, United States of America, Europe, and domestic customers and medical tourists.

Therefore, the profit is set considering different types of customers. In summary, the profit margin means that the company can set a high profit, such as selling products and services at a high price. The launch of new tourism products has made it profitable at a higher price. There are new innovative products that help capture market share.



## Capacity

Capacity is the availability of assets to ensure a sustainable level of operations by taking the form of redundant capacity and backup capacity. These capabilities can be measured by the maximum amount of production or service resources such as process facilities, workstation or pieces of equipment to achieve the objectives within the specified time. In summary, capacity refers to the ability to create resilience, which consists of reserve capacity, redundancy, and communication.

## Business Performance

Business performance is a business continuity of the company that will have measurements in different aspects such as finance, products, markets, and returns on shareholders (Richard et al., 2009). However, some hotels pay dividends to shareholders based on the principles of considering long-term growth concerning the growth of shareholders' interests which will not pay dividends to all shareholders. Because part of the work is required, for example, to make a reservation before receiving reimbursement from an insurance company from a catastrophic event (Fugate et al., 2010). For solid business performance in operating a business a company needs to have positive performance, which consists of financial outcomes, shareholder-return and operational disruptions reduce to a bare minimum.

## Coronavirus 2019

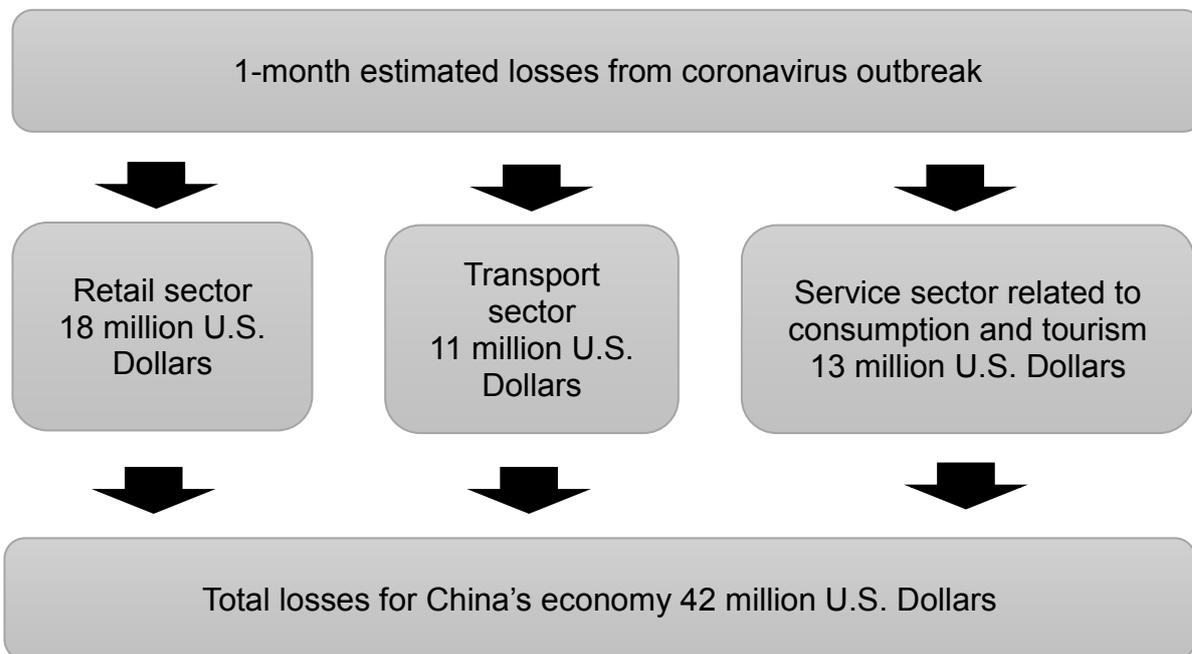
China officially reported on Friday 3 January 2020, the New Novel Coronavirus 2019 that resulted in inter alia pneumonia in Wuhan, the major city of Hubei province in central China. This virus is caused by a new species of coronary virus and can spread from person to person. There have been many deaths and infections within China and abroad and it is spreading quickly. China issued an order to close the city of Wuhan, with a population of over 14 million, to prevent the coronavirus outbreak from spreading. Wuhan City announced the cessation of all public transport network services including banning all flights departing from the city, resulting in the population not being able to travel out of Wuhan. But before the announcement was made, the city had a population of around 5 million, which had previously departed from Wuhan thus the likelihood of the virus spreading is great.

More than 30000 people from Wuhan come to visit during the Chinese New Year and spend a lot of money in Bangkok, Thailand. Now, Thailand has begun screening patients traveling from Wuhan, while President Xi Jinping has ordered tour companies around the country to stop tourism activities, selling plane tickets and hotel reservations.

Tours that have already been organized require careful thought and taking into account the general tourist health situation (Prachachat, 2020). In Thailand, 19 cases of infection were found on 1 February 2020. While the Dow stock market plummeted to more than 600 points, the Thai stock market moved in a range of 1,515-1,535 points and remained volatile due to the market being sensitive to the viral epidemic. Crude oil prices dropped more than 1% after the WHO announces global emergencies.

The coronavirus death toll has risen to over 2000 people while the infection has soared infecting about 72000 people. There are people infected in Asia and Europe. The Coronavirus infection is spreading faster than Severe Acute Respiratory Syndrome (SARS) and many airlines declare that they will to stop flying to China (Bangkokbiznews, 2020). Coronavirus, in addition to affecting sanitation and people's lives, still causes a significant negative impact on the tourism sector. However, there are expectations that if the invention of a vaccine is successful then tourism measures will be more relaxed.

**Figure 2.** China's economic losses from coronavirus outbreak (K-Research, 2020)



However, the situation of the outbreak of the new strain coronavirus on 30 January 2020 is still ongoing chaos. Initial impact on the Chinese economy only within 1 month may reach 42 million U.S. Dollars as presented in Figure 2, which may drag China's economic growth in 2020 to 5.5-5.9 percent lower than previously estimated and the impact of closing the city covering 18 other cities in Hubei Province, suspending business operations and group tour management by operators that travel to China both at home and abroad. Ordering tourist attractions promoted to other cities of China is expected to have many tourists still travelling to places such as the Great Wall of China and Shanghai Disneyland. The business sectors that have been hit heavily are retail, transportation, and service sectors related to consumption and tourism (K-Research, 2020).

### **Tourism situation in Thailand**

The tourism situation in Thailand found that the coronavirus devastated tourism business which worsened the economy's tourism revenue which missed out on 108 billion U.S. dollars, thus a big impact was felt of the Thai tourism industry. Chinese people travel to Thailand the most and the negative situation will continue to have negative effects which may take as long as 6 months to recover. Initially, it will reduce Chinese tourists in 2020 by about 1-2 million people and foreign tourists may be reduced by not less than 2% of the target of the government which wants foreign tourists to increase to 41.8 million people in 2020, increasing revenue to 70 billion U.S. dollars. Thailand is ranked No.1 of the 6 countries that generate the most tourism income in the world.

The Thai economy is increasingly dependent on the service and tourism sectors. The spread of the new strain of the coronavirus has therefore affected the economy at a more severe level than the SARS epidemic 17 years ago (Thairath, 2020). Assessing the two impacts on the Chinese tourist market in Thailand in the year, in the first case it was expected that the outbreak of the virus within a period of not more than 1 month, would result in lost revenue in the budget of 1.6 billion U.S. dollars and the second case has a long-lasting effect of 6 months,



and the losses will be higher. In 2019 the number of tourists to Thailand was 39 million people spending around 64 billion U.S. dollars (Bangkokbiznews, 2020).

## **Methodology**

A mixed-method was used including quantitative research and qualitative research. Quantitative research used an online questionnaire which could store a large amount of data in a short time in all areas and qualitative research used in-depth interviews with relevant stakeholders.

## **Population and Sample**

The sample group was the tourism entrepreneurs in Thailand, specifying the size of the research sample of 400 people from a total population of 35,381,210 people (Ministry of Tourism and Sports, 2017). The sample was chosen by using Yamane's model (Yamane, 1967).

## **Data Collection**

Quantitative methods used questionnaires to collect data online while qualitative methods used in-depth interviews which were conducted with a sample of 24 respondents, using the criteria for choosing specific interviews with a hotel and accommodation business.

## **Research Instruments**

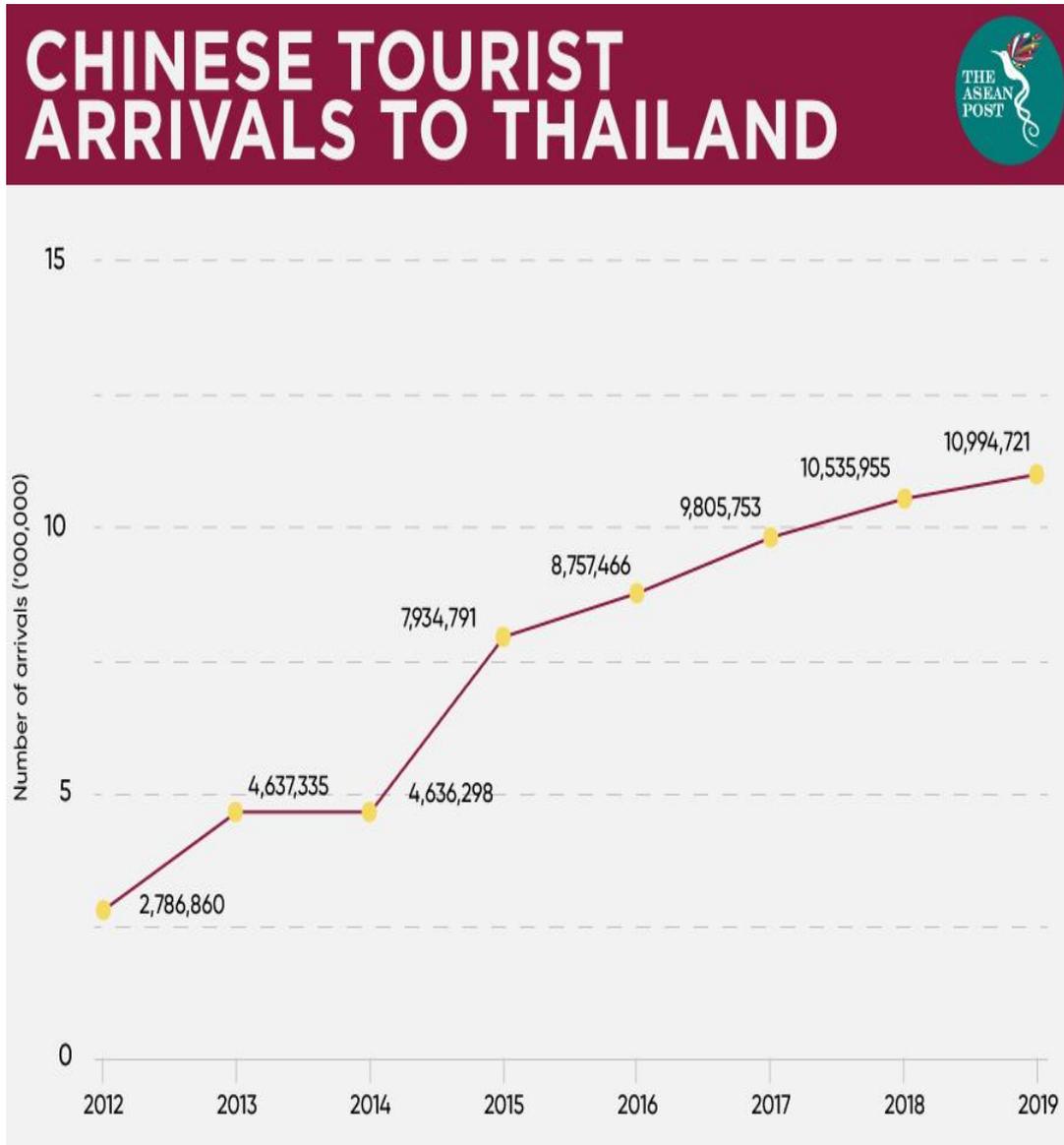
The questionnaire was tested by 5 experts, 3 were academic experts and 2 were tourism and hotel experts. The questionnaire was checked for content validity and index of item objective congruence (IOC) and got an IOC of 1.0 for every question.

## **Data Analysis**

Quantitative data analysis was descriptive basic and advanced statistics in confirmatory factor analysis (CFA) and structural equation modeling (SEM), while qualitative data analysis used the interview data recorded and checked the consistency with the data from the questionnaire.

## **Results**

The results were analyzed using the statistical program and data analysis results with structural equation modeling (SEM) and are summarized as shown in Tables 1 and 2 and Figure 3 on the following pages.



Source: Thailand Ministry of Tourism and Sports  
(<https://theaseanpost.com/article/coronavirus-what-about-thailands-tourism>)



**Table 1.** The fit indexes of the components.

Components	No. of Items	Cronbach's Alpha	Composite Reliability	Average Variance Extracted	$\chi^2/df$	P-Value	GFI	CFI	NNFI	SRMR	RMSEA	IFI	AGFI
Resilience Development for Entrepreneurs Tourism Sector (RDETS)													
Recovery (RV)	4	0.9272	0.93	0.306	0.05	0.52	0.99	0.99	0.98	0.0150	0.000	0.99	0.96
Financial Strength (FS)	4	0.9262	0.93	0.402	0.24	0.62	0.91	1.00	1.00	0.0011	0.000	1.00	1.00
Capacity (CP)	3	0.8334	0.83	0.460	0.02	0.89	1.00	1.00	1.00	0.0001	0.000	1.00	1.00
Business Performance (BP)													
Financial Outcomes (FO)	4	0.8911	0.89	0.611	0.18	0.67	1.00	1.00	1.00	0.0020	0.000	1.00	1.00
Owner-Return (OR)	3	0.8803	0.88	0.305	0.02	0.88	1.00	1.00	1.00	0.0009	0.000	1.00	1.00
Reduce Operation Disruptions (ROD)	3	0.9330	0.93	0.258	0.04	0.83	1.00	1.00	1.00	0.0008	0.000	1.00	1.00

**Table 2.** The standardized estimate of the secondary components.

Components	Secondary components	Standardized Estimate	t-value
Resilience Development for Entrepreneurs Tourism Sector RDETS	Recovery (RV)	1.00	30.78
	Financial Strength (FS)	0.98	28.95
	Capacity (CP)	0.78	17.65
Business Performance (BP)	Financial Outcomes (FO)	1.02	17.93
	Owner-Return (OR)	0.93	18.42
	Reduce Operation Disruptions (ROD)	-0.78	-16.93

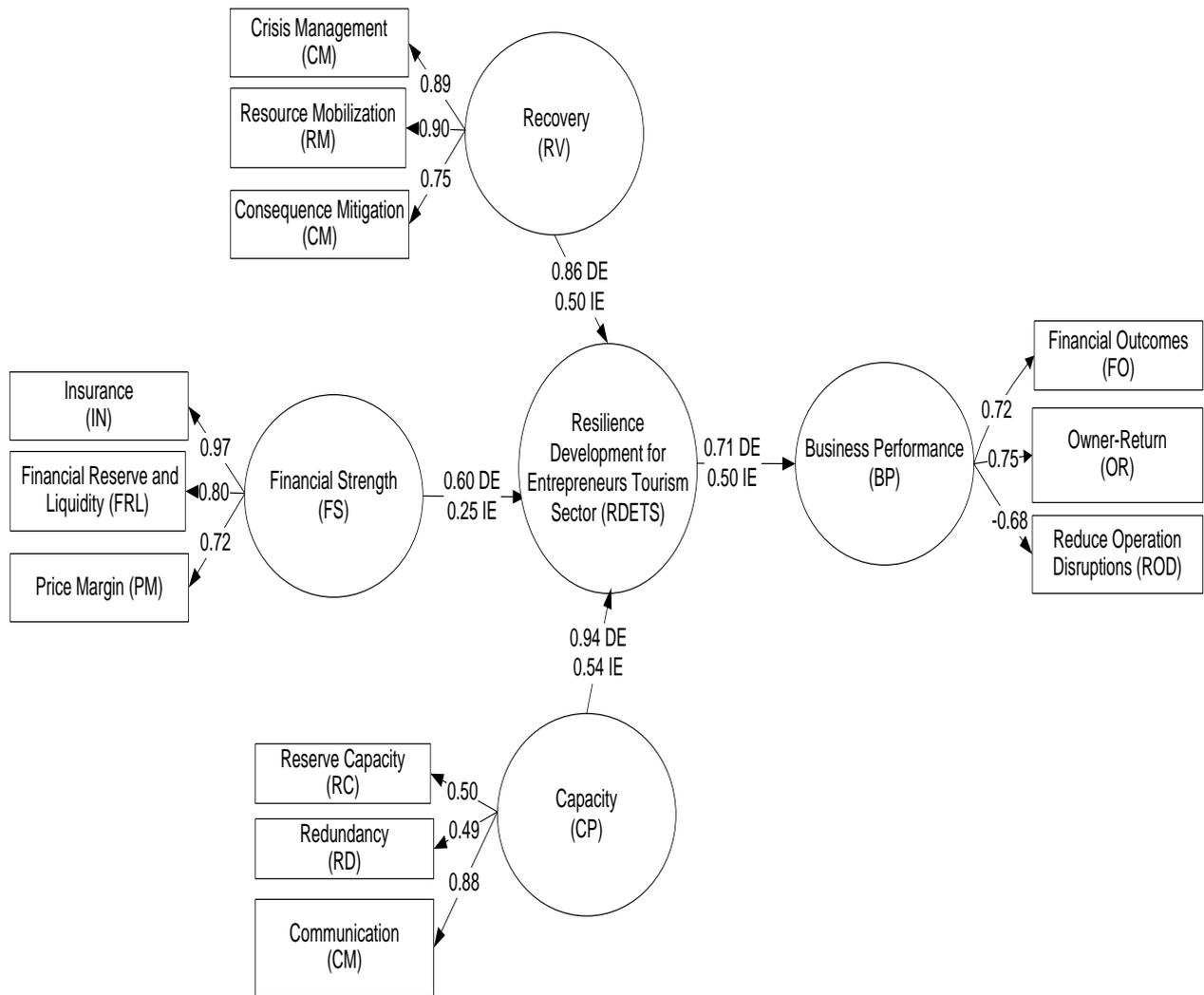


Figure 3. Data analysis results with SEM

## Discussion and Conclusions

The research findings and discussion can be summarized as follows:

1. *The resilience development for entrepreneurs tourism sector (RDETS)* has a positive direct and indirect impact on business performance (BP) with weights of 0.71DE and 0.50IE, which means developing a resilience capability that includes recovery (RV), financial strength (FS), and capacity (CP) and then applying it to tourism entrepreneurs and this will likely have good results in abnormal situations of unusual circumstances.

2. *Recovery (RV)* has positive direct and indirect effects on RDETS with a weight of 0.86 DE and 0.50 IE. All factors are important to RDETS. The most important factors are resource mobilization (RM) with weight 0.90, crisis management (CM) with weight 0.89 and consequence mitigation (CM) with a weight of 0.75, respectively. This result corresponds to the qualitative results from the interview which found that crisis management (CM) in the event of the spread of disease in tourists, affects the conducting of the business by tourism entrepreneurs. Entrepreneurs have very little protection before the incident, and there are hardly any warning signs, and in the event of a disaster or a terrible incident, the Coronavirus



2019 virus will immediately and severely impact revenue. The mobilization of resource mobilization (RM) resources is slow and complicated due to not having prepared plans in advance when the foreign tourists cancel their rooms or those tourists who stay are ill causing the mobilization of resources to be delayed and ineffective. Consequence Mitigation (CM) found that tourism operators with Small and Medium entrepreneurs have very few mitigation channels because they do not have insurance. They may have to contact the bank to pay their debts during the said period and some entrepreneurs have to shut down the business from facing a single crisis with serious damage. The small-sized entrepreneurs will mitigate the impact better than medium-sized ones according to Gani and Singh (2020), who found that crisis and disaster management or post-disaster recovery for tourism must be done quickly and effectively to respond to the disaster effectively.

3. *Financial strength (FS)* has no indirect effect on RDETS but has a direct positive impact with weight 0.60 DE and it was that found that all factors are important to RDETS. The most important factors are insurance (IN) with weight 0.97, financial reserve and liquidity (FRL) with weight 0.82 and price margin (PM) with a weight of 0.72, respectively. The results matched the quality results from an interview in case the insurance (IN) found that small entrepreneurs have some insurance against certain goods and assets but do not have insurance to protect businesses in the event of a disaster or disruption due to the insurance premiums are costs that undermine the profits and capital. Financial reserve and liquidity (FRL) found that the problems in funding sources exist and sometimes liquidity is lacking when income does not circulate every day to affect the purchasing of products, hiring staff and service preparation resulting in not having enough goods to serve tourists. Price margin (PM) found that small entrepreneurs do not have high bargaining power, that it is difficult to set a high-profit margin on both room service and goods prices according to Maphanga and Henama (2019) who studied the Ebola outbreak in West Africa and found it has harmed the affected economy because tourism is an important economic driver. The crisis from a tourism perspective, including flight stopped in the affected countries and countries of departure, and warning to destinations affected by Ebola. Therefore, tourism businesses need crisis management and reviews on how to deal with disease occurrences with good planning.

4. *Capacity (CP)* has a direct and indirect positive impact on RDETS with a weight of 0.94DE and 0.54IE. The results found that two factors affected most were communication (CM) and reserve capacity (RC) with a weight of 0.88 and 0.50, respectively. This matches the qualitative results from an interview that found that communication (CM) is very important in the face of disasters and crises to know the correct guidelines such as communicating with public health agencies when tourists are suspected of being infected with the Coronavirus or communication with room cleaning staff for disinfecting and cleaning so as to prevent the spread of a virus. Second, reserve capacity (RC) was found to be important such as employees stop working and owners allow this during the crisis in order to reduce costs, while redundancy (RD) is insignificant because it can't be done in real life situations such as building a second hotel that is safe from germs to support tourists but some redundancy may happen for example as having a power supply for a hotel that is located on a mountain.

5. *Business performance (BP)* has a positive effect when applying resilience development for the entrepreneur's tourism sector (RDETS) to tourism entrepreneurs. It was found that the owner-return (OR) with a weight of 0.75, financial outcomes (FO) with a weight of 0.72 and reduce operation disruptions (ROD) with a weight of -0.68 matches the qualitative results from an interview which found that financial outcomes reduced but for a short period. But, if the liquidity is not good this will result in permanent business closure. The owner-returns are found to decrease in the short term about 1-2 quarters. If the entrepreneurs have the financial strength or can reserve a working capital for 3-6 months, it will affect them in the short term and reduce operation disruptions which are affected by external factors such as Chinese tourists reduced travel to Thailand or the situation of screening people into a city. In this



situation, small entrepreneurs may temporarily stop the business since if the business is opened the income is not worth the expense of opening. On the other hand, they can recover to be available again when the situation returns to normal.

### Contributions

1. Using these research findings in the short-term (< 1 year). Small and medium-sized tourism entrepreneurs need to do proper accounting, such as revenue - expense accounting cost accounting and use accounting information in planning for preparation. If incomes fall out or face a crisis such as the spread of Coronavirus they need to be prepared. The temporary employment contract should be done or there should be a special agreement to stop during the crisis that does not allow tourists to stay in hotels. This may stop short-term work without any obligation to pay any compensation.

2. Using these research findings in the medium-term (2-3 years). One should plan to manage the crisis, prepare an organization's specific flowchart when taking the resilience development for the entrepreneur's tourism sector (RDETS) model in consideration. Consideration of a comprehensive recovery approach is needed. Crisis management, resource mobilization, and consequence mitigation apply. Also, consideration of detailed financial strength practices is needed. Insurance, financial reserves, and liquidity, price margins, capacity, reserve capacity, and communication all play a part.

3. Using these research findings in the long-term (> 3 years). If it is necessary to stop the business for some time to prepare for the return of tourists. The issues of readiness and quality of service is also important. The study may re-enable the service and resilience will make it even better.

### Future research direction

Future research should study the management of crisis in the tourism industry in many countries to compare the most effective methods of dealing with it. The evaluation research and follow-up should be used to implement the resilience development for the entrepreneur's tourism sector (RDETS) model in the tourism industry in Thailand.

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